

**FINAL
OE ENGINEERING DESIGN REPORT
FOR
ORDNANCE OPERABLE UNIT (OOU) 6
FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG, SOUTH CAROLINA**

VOLUME I

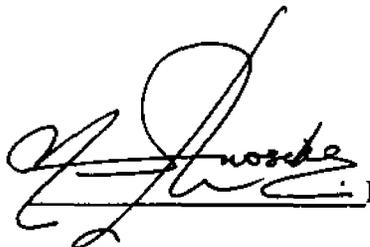
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LIST OF ACRONYMS AND ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
AR	Army Regulation
ARAR	Applicable or Relevant and Appropriate Requirement
ASR	Archives Search Report
BE	base ejecting
CAL	caliber
CCATF	Camp Croft Army Training Facility
CEHNC	Corps of Engineers, Huntsville Center
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPM	Contract Project Manager
CWM	chemical warfare material
DEM	digital elevation models
DERP	Defense Environmental Restoration Program
DoD	U.S. Department of Defense
DRMO	Defense Reutilization Marketing Office
DTIC	Defense Technical Information Center
EE/CA	Engineering Evaluation/Cost Analysis
EOD	explosive ordnance disposal
EPA	U.S. Environmental Protection Agency
ER	Engineering Regulations
ERPP	Environmental Resources Protection Plan
ESE	Environmental Science & Engineering, Inc.
ft-bgs	feet below ground surface
ft	foot

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FUDS	Formerly Used Defense Site
GIS	geographic information system
HE	high explosive
HEAT	high explosive anti-tank
HFA	Human Factors Applications, Inc.
HTRW	Hazardous Toxic and Radioactive Waste
lb/acre	pounds per acre
MCE	Maximum Credible Event
mm	millimeter
NCP	National Contingency Plan
NEPA	National Environmental Policy Act
NOISH	National Institute of Occupational Safety and Health
NTCRAs	non-time-critical removal actions
OE	ordnance and explosives
OE <i>Cert</i>	OE Cost-Effectiveness Risk Tool
OOU	ordnance operable unit
ORS	ordnance-related scrap
OSHA	Occupational Safety and Health Administration
PRSC	post-removal site control
QA/QC	quality assurance/quality control
QuantiTech	QuantiTech, Inc.
RAB	Restoration Advisory Board
RAC	risk assessment code
ROE	right-of-entry
SAR	synthetic aperture radar
SASR	Supplemental Archive Search Report

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SCDPRT	South Carolina Department of Parks, Recreation, and Tourism
SOP	Standard Operating Procedure
SOW	Statement of Work
SRA	Safety Risk Assessment
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
TCRA	time-critical removal action
TEU	Technical Escort Unit
TM	Technical Manual
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
UXO	unexploded ordnance
WP	Work Plan

IDENTIFICATION OF PROJECT PERSONNEL

The following individuals at Parsons Engineering Science, Inc. (Parsons ES) had significant and specific contribution to the implementation of this OE Engineering Design project and/or provided input to the preparation of this document:

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REPORT ORGANIZATION

This Ordnance Operable Unit 6 (OOU6) OE Engineering Design Report is made up of two volumes (Volume I and Volume II). Volume I of this report consists of the main portion of the report including the Executive Summary, four sections (Sections 1, 2, 3, and 4) and six appendices (Appendices A, B, C, D, E, and F). Section 1, Site Characterization, provides detailed historical information on the site and discusses the site characterization efforts and results of the OE Engineering Design field work. Section 2, presents identification and analysis of removal action objectives and alternatives and provides recommendation of removal alternatives for the OOU6 areas/sectors of concern. Section 3, Design Report, presents the design drawings and the specifications for construction effort to implement the recommended removal alternatives. Appendix A contains detailed discussion of the OE Engineering Design Field Activities. Appendix B presents the original survey and mapping data including QC results of the survey data. Appendix C presents the site characterization data (for example, geophysical and intrusive investigations' data). Appendix D presents the OECert analysis report. Appendix E presents the daily journal of all field activities. Appendix F contains the field QC documentation.

Volume II contains Appendix G, the cost estimate for the alternatives evaluated and the selected removal action for each sector.

EXECUTIVE SUMMARY

ES1 The former US Army Camp Croft Training Facility (hereinafter referred to as the "former Camp Croft Army Training Facility or CCATF") Ordnance Operable Unit (OOU) 6 project is an ordnance and explosives (OE) Engineering Design on a Formerly Used Defense Site (FUDS) in Spartanburg, South Carolina. The purpose of the OOU6 OE Engineering Design project is to determine the most appropriate response action to address OE risk at the site. As part of this project this Engineering Design has been performed to address OE contamination in five of eight potentially contaminated areas within OOU6. The five areas include the Roads and Site Operation Building, the Pine Farm, the Landfill and Compost A Areas, the Pond Area, and the Natural Brush/Forest.

ES2 The former CCATF, consisting of approximately 19,000 acres, is located south of the town of Spartanburg, Spartanburg County, South Carolina. The CCATF consisted of firing ranges, impact areas, and troop housing. The Department of the Army used the site between 1941 and 1947 for military training exercises. In 1947 the Army began piecemeal sale of the property to private individuals and businesses as well as transferred a portion of the property for the creation of the 7,088-acre Croft State Park. Previous studies and OE clearance operations have confirmed the presence of OE within the State Park and on privately owned parcels formerly within the training facility. The OOU6 area covers one of the privately owned parcels and contains an area of 397.80 acres, as per the Division of Tract 'A' "Whitestone Tract" boundary survey map, dated January 24, 1994. OOU6 is located east of Croft State Park. The parcels of land within OOU6 are currently used for agricultural and industrial purposes including timber farming and industrial landfills.

ES3 The firing ranges at the former CCATF consisted of pistol, rifle, machine gun, mortar, anti-aircraft, and anti-tank ranges. OE/unexploded ordnance (UXO) that may be encountered at the former CCATF include: 30-caliber (cal) and 50-cal small arms; 105-millimeter (mm) artillery shells; 20-mm hand and rifle smoke, tear gas, and incendiary grenades; 60mm and 81mm high explosive (HE), practice, smoke, tear gas, and illumination mortar rounds; and 2.36-inch high explosive anti-tank (HEAT), smoke, incendiary, and practice rockets. The former CCATF also contained a gas chamber/gas obstacle course area where training was conducted [United States Army Corps of engineers (USACE) 1994].

ES4 In 1984, the USACE conducted a site survey of the former CCATF. 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 CCATF. In 1991, the U.S. Army Corps of Engineers (USACE), Charleston District conducted a Preliminary Assessment Study of the CCATF including the OOU6 area. This study determined that the former CCATF was eligible for further

investigation under the Defense Environmental Restoration Program (DERP) FUDS program. In 1994, the USACE, Rock Island District conducted a site inspection and archives search of the former CCATF (USACE, 1994). The final report, dated April 1994, outlined the nature and degree of OE/UXO contamination to be found at the former CCATF. In 1994 and 1995, Human Factors Applications, Inc. (HFA) performed a Time Critical Removal Action (TCRA) at the former CCATF. At OOU6, the TCRA was planned for a 30 acre area, but the area cleared was only 10-15 acres. The TCRA at OOU6 was conducted on the parcel of land currently owned by Dr. Lowry. The areas cleared included access roads into and out of the site and a work area where asphalt recycling equipment was to be installed. At the time, future development areas proposed by Dr. Lowry were also included. The objective of the TCRA was to remove surface and subsurface OE to a depth of four feet within the work areas and to conduct geophysical mapping of the planned site. Three potentially hazardous OE items (one live 105 mm with fuse and two 60mm HE with fuse) were recovered during this effort. In 1995 and 1996, Environmental Science and Engineering, Inc. (ESE) performed an Engineering Evaluation/Cost Analysis (EE/CA) at the former CCATF (ESE, 1996a). The purpose of this EE/CA was to analyze removal alternatives to reduce the risk of public exposure to OE/UXO at sites previously identified in the 1994 Archives Search Report (ASR) (USACE, 1994). ESE was directed by Corps of Engineers, Huntsville Center (CEHNC) to investigate four areas within the boundaries of OOU6, including the planned "compost B" area, the "poppy field," the proposed location of "landfill No. 2," and one unnamed area. These areas were designated as Grids 61, 62, 88, and 87, respectively. Significant UXO findings included four 60mm and seven 81mm mortar, nine 105mm smoke canisters, and numerous fragments in Grid 87. No UXO was found in Grid 88. The investigation at Grids 61 and 62 was not completed and there was no report of any UXO discovery at these grids. Other studies included one by ESE in March 1995, to prepare a Supplemental Archives Search Report to locate possible additional firing, bombing, and strafing ranges at the former CCATF and another study in October and November 1996 to perform a site reconnaissance of 134 sites within the former CCATF.

ES5 OE Engineering Design field investigations were conducted at the former Camp Croft Army Training Facility, OOU6, between December 1996 and February 1997. The purpose of this OE Engineering Design field investigation is to determine the nature and extent of OE contamination prior to evaluating and determining the most appropriate response action to reduce the public safety risk posed by OE at the site. A geophysical investigation identified 2,310 anomalies. One HE 105mm projectile and 14 inert 105mm illumination/smoke projectiles were recovered from some of the locations where these anomalies were detected. On the basis of the results of the OE field effort, the primary area of concern is the Pond Area where a single live OE item (105mm HE) and several inert ordnance items were recovered. This Pond Area lies in an area regarded as the overshoot of the target (area within EE/CA Grid 87). No potentially hazardous OE items or any OE-related items (other than small fragments) were found in the Landfill and Composting Areas and the Natural Brush/Forest. No live OE items were recovered within the Pine Farm, but potentially hazardous OE items were recovered.

ES6 A streamlined risk evaluation was performed to determine the risk of exposure to the public or individuals coming into contact with any remaining OE items. Separate risk assessments were conducted for each of five areas investigated at OOU6. The risk assessment was based on the results of previous OE investigations at the site and the current and future anticipated use of the properties. Both a qualitative and quantitative risk assessment were performed on each of the areas to determine the level of risk present. The risk evaluations concluded that the greatest risk of exposure to OE exists in the Pond Area. A lower level of risk of exposure to OE was determined for the Landfill and Compost A Areas, the Pine Farm, and the Natural Brush/Forest Area A. No risk of exposure was found for the Roads and Site Operation Building Area.

ES7 The results of the OECert Analysis of the site indicate that the Pond Area poses the greatest threat to public safety of any of the sectors of the site. The annual exposure estimate of 18 under the No Action alternative for this sector is 40% of the total exposures for the entire site based on the sampled density estimate. This level of annual exposures is nearly 2.5 times the amount of the next highest sector on the site which is the Natural Brush/Forest A. Lower numbers of annual exposure to OE were identified for the Pine Farm, and the Landfill and Compost A Areas. No exposures were identified for the Roads and Site Operations Building and the Natural Brush/Forest B. Using the sampled density estimate, the highest risk of exposure to OE and the resulting safety hazard exists in the Pond Area sector of the site. A more limited risk of exposure to OE exists at the Pine Farm sector, the Landfill and Compost A Areas sector, and the Natural Brush/Forest A sector.

ES8 The objective of the proposed removal action is to minimize the safety hazard posed to the public by OE items remaining on the OOU6 site. (Specifically, at the Pond Area, Landfill and Compost A Area, Pine Farm, and the Natural Brush/Forest Area.) The potential removal alternatives at the site are in four major categories; no further action, institutional controls, surface OE clearance, and subsurface OE clearance. Eight specific alternatives were developed from these major categories and include:

- no further action;
- institutional controls;
- surface clearance only of OE;
- surface clearance of OE and institutional controls;
- surface clearance of OE with selected areas being cleared to a depth of one foot;
- surface clearance of OE with selected areas being cleared to a depth of four feet;
- complete surface and subsurface clearance of OE to a depth of one foot across the entire site; and
- complete surface and subsurface clearance of OE to a depth of four feet across the entire site.

ES9 Each of the eight alternatives above has been developed for the entire OOU6 site and then applied independently to sectors, as applicable, in this OE Engineering Design. Because of specific considerations in two small areas in two of the sectors, the

Pine Farm and the Natural Brush/Forest Area A, the no further action alternative for these sectors include a limited action using presumptive remedy to address OE contamination at these two proposed future land use areas. A screening of the eight alternatives was performed to ensure they meet the removal action objectives and the minimum requirements in overall effectiveness and implementability of the response action. After screening, one alternative remained for the Roads and Site Operation Building Area, three alternatives remained for the Pine Farm, one alternative remained for the Landfill and Compost A Areas, three alternatives remained for the Pond Area, and three alternatives remained for the Natural Brush/Forest A and one alternative for the Natural Brush/Forest B. Following this exercise, the remaining alternatives were ranked against each other in terms of overall effectiveness, implementability, and cost. This evaluation was performed independently on each area (sector) of concern. Upon completion of the ranking process, the recommended removal alternative for the Roads and Operation Building, Pine Farm, Natural Brush/Forests A and B was no further action. The no further action alternative for the Pine Farm and the Natural Brush/Forest Area A includes a limited removal action designed to enable clearance of a small portion at each of these sectors. The portions of concern are the proposed future storage barn within the Pine Farm and Compost B within the Natural Brush/Forest Area A. The recommended removal alternative for the Landfill and Compost A Areas is surface clearance of OE with subsurface clearance of selected areas to a depth of four feet. The recommended removal alternative for the Pond Area is surface clearance of OE with subsurface clearance of entire area to a depth of one foot.

ES10 These alternatives satisfy the removal action goal of reducing the explosive threat associated with OE by minimizing the OE exposure and safety hazards to the public. Table ES 1 summarizes the recommended removal alternative for each area, the associated reduction of OE exposures per year and the estimated cost to implement the OE remedial action for each site. Finally, a design report was prepared to provide detailed drawings and specifications for construction activities to implement OE remediation work at OOU6.

ES11 A review of the recommendations of this OE Engineering Design report with the former CCATF Restoration Advisory Board (RAB) and the Corps of Engineers warranted reconsideration of the recommendations based on the following factors:

- Type of ammunition (105mm projectiles) discovered/recovered at OOU6;
- Penetration potential (down to 4 feet below land surface) of the ammunition; and
- Potential future land use with regard to intrusive activities to depth below two feet.

ES12 Subsequently, the Corps of Engineers have opted to implement removal action (OE clearing) to a depth of four feet below land surface at the recommended portion(s) of each sector. In this regard, all OE clearing work specified in the recommendations provided will involve subsurface clearance of OE items to a depth of four feet at OOU6.

Table ES.1
Summary of Recommended Removal Alternatives for OOU6 Sectors
Former CCATF OE Engineering Design

AREA/SECTOR	RECOMMENDED REMOVAL ALTERNATIVES	REDUCTION OF EXPOSURES PER YEAR ⁽¹⁾	ESTIMATED COST ⁽³⁾	ESTIMATED COST ⁽⁴⁾
1	Roads and Site Operation Bldg	Alt 1 - No Further Action	0	0
2	Pine Farm	Alt 1 - No Further Action ⁽²⁾	75K	80K
3	Landfill and Compost A Area	Alt 6 - Surface Clearance of OE with Subsurface Clearance of Selected Areas to a Depth of Four Feet	115K	245K
4	Pond Area	Alt 7 - Surface Clearance of OE with Subsurface Clearance of Entire Areas to a Depth of One Foot.	205K	230K
6A.	Natural Brush/Forests - A	Alt 1 - No Further Action ⁽²⁾	90K	100K
6B.	Natural Brush/Forests - B	Alt 1 - No Further Action	0	0

Note: (1) Per OECert Analysis
(2) Includes limited removal action in a relatively small portion of the Sector due to proposed future land use.
(3) Estimated cost based on recommendations of the OE Engineering Design Report.
(4) Estimated cost based on OE clearance to depth of 4 ft per reconsideration of recommendations by the Corps of Engineers and the former CCATF Restoration Advisory Board (RAB).

ES-5

SECTION 1

SITE CHARACTERIZATION

1.1 INTRODUCTION

1.1.1 The former US Army Camp Croft Training Facility (hereinafter referred to as the "former Camp Croft Army Training Facility or CCATF") consisted of approximately 19,000 acres of firing ranges, impact areas, and troop housing south of Spartanburg, South Carolina (Figure 1-1). The Department of the Army used the site between 1941 and 1947 for military training exercises. In 1947 the Army began piece meal sale of the property to private individuals and businesses as well as transferred a portion of the property for the creation of the 7,088-acre Croft State Park. Previous studies and Ordnance and Explosives (OE) clearance operations have confirmed the presence of OE within the park and on privately owned parcels formerly within the training facility. The purpose of this OE Engineering Design project is to determine the most appropriate response action to address OE risk at a portion of the site, Ordnance Operable Unit 6 (OOU6). OOU6 contains an area of 397.80 acres, as per the Division of Tract 'A' "Whitestone Tract" boundary survey map, dated January 24, 1994. To accomplish this purpose, the following tasks were completed:

- determine the nature and extent of OE contamination at the site through site investigations;
- perform a streamlined risk assessment of the OE hazards present at the site;
- identify and develop removal action alternatives;
- screen removal action alternatives; and
- compare analysis of remaining removal action alternatives.

This document presents the results of these tasks and provides recommendations for the follow-on removal actions.

1.1.2 This OE Engineering Design study was authorized when the Inventory Project Report (INPR) for the former CCATF was signed by the Chief of the Environmental Restoration Division of the US Army Corps of Engineers (USACE) on July 15, 1993. The need for the OE Engineering Design is based on the previous recovery of OE from the site. This document was prepared in accordance with the National Contingency Plan (NCP), related Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or Superfund guidance, the Defense Environmental Restoration Program (DERP) for Formerly Used Defense Sites (FUDS), and relevant US Army regulations and guidance for OE programs. The guidance contained in the US Environmental

Protection Agency's (USEPA) document EPA 540-R-93-057 entitled *Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA* (August 1993). This report has been prepared by Parsons Engineering Science (Parsons ES) for the US Army Corps of Engineers, Huntsville Center (CEHNC) under Contract Number DACA 87-95-D-0018, Delivery Order No. 0009.

1.1.3 The former CCATF OE Engineering Design project has been performed by the US Army Corps of Engineers under the DERP, 10 USC 2701-2707, and under Section 104 of CERCLA. Under these regulations, the Secretary of Defense is authorized to conduct response actions at sites that were contaminated while under the jurisdiction of the Department of Defense (DoD) or its predecessor agencies. The Secretary of the Army, acting through the US Army Corps of Engineers, acts as the DoD executive agent for the remediation of sites that were contaminated while under the jurisdiction of DoD, but which subsequently have been transferred out of DoD control. Because this project falls under CERCLA, a general exemption exists for compliance with other state and local permits. This exemption is found in the NCP at 40 CFR 300.400(e). Nevertheless, every effort was made to comply with the intent of all applicable federal, state, and local permit requirements during the conduct of the investigation.

1.1.4 The former CCATF project is part of the FUDS program. A FUDS is real property that was formerly owned by, leased by, or otherwise under the operational control of the Secretary of Defense or the military components that predate the DoD. Accordingly, FUDS sites were either areas where real property accountability previously rested with DoD irrespective of current ownership or current responsibility within the federal government; areas previously used by DoD components under lease or other agreements; or areas previously occupied by DoD components over which significant control was exercised without the benefit of a formal real estate instrument or other agreements.

1.1.5 For a site to be listed as a FUDS, the Department of the Army must undertake a two-step process. The first step is to perform a Findings and Determination of Eligibility (FDE). This study entails research of historical real estate deeds and documents to determine if the site was owned, leased, or used by the DoD. The FDE for the former CCATF was developed by the US Army Corps of Engineers and signed on December 17, 1992. The FDE determined that the 19,000 acre site had been acquired by condemnation for use as the Camp Croft Army Training Facility. Of the 19,000 acres, OOU6 covers approximately 398 acres. The FDE determined that the site was formerly used by the DoD, but ownership currently resides with private individuals and businesses. Therefore, the former CCATF met FUDS eligibility due to the public safety threat that exists at the site.

1.1.6 The second step of the FUDS process is to complete an INPR, which is similar to a preliminary assessment. This report identifies potential hazards that may be present at the site as a result of past DoD activities. The INPR for the former CCATF was approved on July 15, 1993. The INPR confirmed that OOU6 was formerly used by the

Department of the Army as an infantry mortar and artillery target facility and a hazard to the public exists from the OE contamination that resulted from the period of Army ownership.

1.2 SITE DESCRIPTION AND BACKGROUND

1.2.1 Site Location

The former CCATF, consisting of approximately 19,000 acres, is located south of the town of Spartanburg, Spartanburg County, South Carolina. Figure 1-1 shows the location of the study area. Ordnance Operable Unit 6 is located east of Croft State Park. Figure 1-2 shows the boundaries and major features of the former CCATF, Croft State Park and OOU6.

1.2.2 Site History

1.2.2.1 Camp Croft was established in January 1941 as an Army training facility. The camp consisted of two general areas: a series of training, firing, and impact ranges (approximately 16,929 acres), and a troop housing (cantonment) area with attached administrative quarters (approximately 167 acres). The firing ranges at the former CCATF consisted of pistol, rifle, machine gun, mortar, anti-aircraft, and anti-tank ranges. OE/UXO that may be encountered at the former CCATF include: 20mm hand and rifle smoke, tear gas, and incendiary grenades; 30-caliber (cal) and 50-cal small arms; 60mm and 81mm high explosive (HE), practice, smoke, tear gas, and illumination mortar rounds; 105-millimeter (mm) artillery shells; and 2.36-inch high explosive anti-tank (HEAT), smoke, incendiary, and practice rockets. The former CCATF also contained a gas chamber/gas obstacle course area where training was conducted (USACE, 1994).

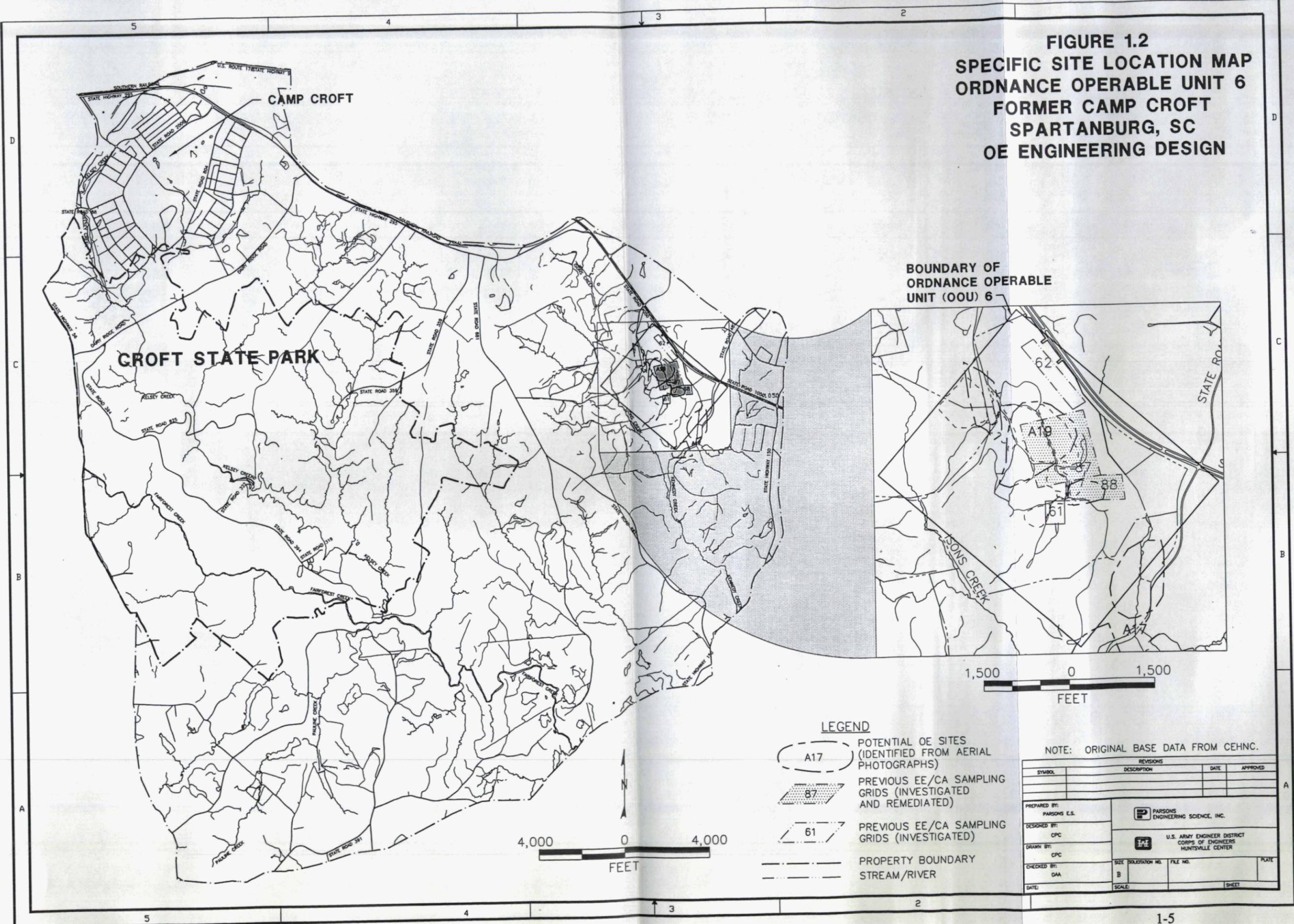
1.2.2.2 In 1947, the entire acreage of the former CCATF was declared surplus by the War Assets Administration. By 1950, the Army sold the land by pieces to organizations and businesses. This sale also included the transfer of 7,088 acres of land to the South Carolina Commission of Forestry for the creation of the Croft State Park. The remaining acreage has been converted to residential housing, churches, and industrial and commercial businesses. The gas chamber and gas obstacle course have been removed, and no ordnance or other evidence of past chemical training are found at the site.

1.2.2.3 OOU6 is located within the boundaries of the former Camp Croft, but outside Croft State Park. It is situated off of Mimosa Lake Road and is adjacent to the south of U.S. Highway 176 Bypass. OOU6 contains an area of 397.80 acres, as per the Division of Tract 'A' "Whitestone Tract" boundary survey map, dated January 24, 1994. The property is privately owned and is used for agricultural and industrial purposes including timber farming and industrial landfills.

1.2.3 Topography

1.2.3.1 The topography of the site consists of rolling hills and small ravines. The elevation of the site ranges from a low elevation of approximately 560 feet above sea level in the extreme western portions of OOU6 near Isons Creek to elevations exceeding

FIGURE 1.2
SPECIFIC SITE LOCATION MAP
ORDNANCE OPERABLE UNIT 6
FORMER CAMP CROFT
SPARTANBURG, SC
OE ENGINEERING DESIGN



**BOUNDARY OF
ORDNANCE OPERABLE
UNIT (OOU) 6**

1,500 0 1,500
FEET

LEGEND

- A17 POTENTIAL OE SITES (IDENTIFIED FROM AERIAL PHOTOGRAPHS)
- 87 PREVIOUS EE/CA SAMPLING GRIDS (INVESTIGATED AND REMEDIATED)
- 61 PREVIOUS EE/CA SAMPLING GRIDS (INVESTIGATED)
- PROPERTY BOUNDARY
- STREAM/RIVER

4,000 0 4,000
FEET

NOTE: ORIGINAL BASE DATA FROM CEHNC.

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

PREPARED BY: PARSONS E.S.	 PARSONS ENGINEERING SCIENCE, INC.
DESIGNED BY: CPC	
DRAWN BY: CPC	 U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS HUNTSVILLE CENTER
CHECKED BY: DAA	
DATE:	SIZE: B SOLICITATION NO.: FILE NO.: SCALE: SHEET:

700 feet above sea level in the northern portion of OOU6 and at Red Hill (former target area).

1.2.3.2 Much of the site is subject to erosion due to storm water runoff. As a result of the dramatic elevation changes, numerous washouts have been carved by storm water erosion leading to Isons Creek and Kennedy Creek.

1.2.4 Geology and Soils

1.2.4.1 The former CCATF is located in the Piedmont Physiographic Province of northern South Carolina. The area is underlain by fine-grained soils, saprolite (bedrock which has been weathered in-place) overlying unweathered bedrock. Bedrock in the area consists of Proterozoic to Lower Paleozoic hornblende gneiss, biotite schist, and granitic pegmatite.

1.2.4.2 Soils at the site consist of red-brown sandy silt to sandy clay. These grade into a moderately dense saprolite, as observed in excavations and road cuts near the current landfill area. The saprolite appears to contain abundant quartz, mica, and kaolinized feldspar; in general the color was dark red-brown to dark brown and dark gray. The saprolite exposures also exhibited remnant layering and color banding. A few subvertical, black-stained fractures were also visible in the exposures.

1.2.5 Meteorology

1.2.5.1 The climate of the study area is characterized by mild winters and warm, humid summers. During the winter and spring, fast-moving cold fronts moving through the area produce large variations in temperature. Average monthly temperatures ranged from 42.8°F in winter to 77.0°F in summer for the period 1986 through 1997 (National Oceanic and Atmospheric Administration, 1997).

1.2.5.2 The total annual precipitation in the Spartanburg area is 48.9 inches, approximately 4.2 inches a month during winter and 4.5 inches a month during the summer. Rainfall rates in the Spartanburg area are highest in late summer and midwinter (National Oceanic and Atmospheric Administration, 1997). The prevailing wind is from the southwest. Thunderstorms and other severe storm events (hailstorms and tornadoes) occur in South Carolina most commonly from March through July (South Carolina Department of Natural Resources, 1997).

1.2.6 Demographics

Spartanburg County, South Carolina has a year-round population of 226,800, according to the 1990 census (U.S. Census Bureau, 1990). The town of Pacolet, South Carolina is located approximately 4 miles southeast of the site and approximately 5 miles southeast of Spartanburg. The OOU6 portion of CCATF is located in a relatively rural area.

1.2.7 Sensitive Populations and Ecosystems

1.2.7.1 The site is characterized by a mixture of upland and wetland vegetation types. Upland forested areas are occupied by hardwoods, mixed pine hardwoods, or old field vegetation. These areas are most common in the floodplains of Isons and Kennedy Creeks or on slopes adjacent to floodplain areas. Common hardwood species include white oak, beech, dogwood, red maple, red cedar, tulip trees, sweet gum, sourwood, red oak, and black oak. Mixed pine hardwoods are characterized by a mixture of slash, scrub, and loblolly pine, as well as the hardwoods listed previously. Extensive portions of the site, especially hilltops and open, south facing slopes, are characterized by old field communities affected by fire from previous shellings. The old field areas are interspersed with slash and/or loblolly pine, and are dominated by typical old field weeds and grasses such as goldenrod, broomsedge, and panic grasses.

1.2.7.2 At the time of the survey, a large area of upland forest had been cleared on the north side of the ravine immediately below the active landfill area. The clearing extended from near Mimosa Lake Road on the top of the ravine all the way to the bottom of the hill and adjacent to the floodplain of Isons Creek.

1.2.7.3 The most extensive vegetation type on the site consists of old field habitat. Most of the hilltop areas, especially on the south side of the site, consisted of old field habitat. Hardwoods were the next most abundant habitat type, and were limited either to the floodplain areas or to slopes adjacent to creek bottoms. One extensive pine forest was observed on the west side of Lake Mimosa Road on a hilltop immediately to the west of the work trailer.

1.2.7.4 Wetlands described in the report correspond to Corps of Engineers jurisdictional areas as determined by the 1987 Corps Manual. However, a wetland delineation was not required for this project. The extent and types of wetlands on the site were determined from Natural Resource Conservation Service soil maps, U.S.G.S topographic maps, U.S. Fish and Wildlife Service National Wetland Inventory maps, aerial photographs, and a field survey during which qualitative observations were made. The majority of wetlands found on the site were found to be palustrine, seasonally flooded forested wetlands that occupy bottoms and slopes of ravines, and floodplain areas associated with Isons and Kennedy Creeks. The bottoms of the steep ravines were characterized by relatively flat sloping areas that supported well-developed emergent and scrub/shrub wetlands. In many cases, wetlands were observed in the uppermost reaches of the ravines, especially on the southern side of the site. These wetlands are supported by abundant seepage of surface and groundwater from upgradient sources. Seepage wetlands were dominated by woody shrubs, emergent sedges and rushes. Floodplain forested areas were dominated by mature red maple and tulip trees located in seasonally flooded areas associated with Isons and Kennedy Creeks. These areas are mature and diverse systems, but have been selectively logged.

1.2.7.5 The site is adjacent to Croft State Park, an extensive natural area that was once used for ordnance training by the U.S. Army. The site was originally part of the

ordnance training area, but was eventually acquired by private landowners. The majority of the remaining and much larger original Camp Croft ordnance training area was acquired by the state and converted into Croft State Park. The site is therefore part of a much larger natural area, Camp Croft State Park, that provides excellent habitat for deer, as well as other mammals, birds, reptiles, and amphibians. However, a portion of the site southwest of Lake Mimosa Road and downgradient of the landfill has been cleared, and provides very low quality, disturbed wildlife habitat. This area represents approximately 10-15% of the total area of the site. The remaining portions of the site provide moderate to good quality wildlife habitat, depending on the area. The property owner has enhanced many upland areas by clearing fields and planting them with winter peas, thus providing edge habitat and a good food supply. The winter pea fields were constructed by the present land owner specifically to provide food for deer, in order to improve hunting conditions. The property is used extensively for deer hunting. Deer stands are located at numerous locations throughout the property, especially in the vicinity of the winter pea fields. These areas will eventually be planted as a mixture of winter peas and fescue, according to the property owner. Other areas, typically in low lying floodplains, have not been cleared and provide more valuable natural habitat for a wide variety of wildlife. These areas have, however, been selectively logged in varying degrees, and are also used for deer hunting.

1.2.7.6 Floodplain areas provide high value habitat for a wide variety of wildlife, and are relatively mature systems. Trees in the floodplains of the two creeks are commonly over 75 feet in height. Some areas have been selectively logged, but the remaining trees are relatively mature.

1.2.7.7 Many other upland areas have been cleared by the owner to form fields, and planted in winter peas to attract deer. Based on the large number of deer tracks observed during the field survey, deer are very abundant on the site.

1.2.7.8 Isons and Kennedy Creeks flow through the western and eastern sides of the site, respectively. The site is located immediately above the confluence of these two streams. Both streams are deeply incised, sandy-substrate streams that meander through the area. Stream riffles are composed of small gravel and cobble (maximum diameter 1-2 inches). The creeks range from 1-2 feet at the headwaters to 10-15 feet in width in the lower elevation floodplains. The immediate watershed and floodplain of the two creeks is largely undisturbed throughout the majority of the site, resulting in good quality aquatic habitat. Both streams are associated with relatively narrow, but well developed floodplains that seasonally overflow.

1.2.7.9 Water in both streams was clear during the December, 1996 biological survey by Parsons ES. The State of South Carolina has not assigned water quality classifications to Isons and Kennedy Creek. Water depth varied from less than one inch to an estimated maximum of 1-2 feet during the survey. The streams would be expected to provide good habitat for aquatic animals as well as wildlife utilizing the streams for food. Raccoon tracks were observed commonly along the streams at numerous locations.

1.2.7.10 A review of the literature was conducted to determine whether federal-state- or Heritage Program-listed species have been observed on the site or in the area. The review included contacting The State of South Carolina Heritage Trust Program to obtain records of actual occurrences in the study area and/or on the study site itself. The State of South Carolina Heritage Program correspondence includes occurrences from adjoining Cherokee and Union Counties, since these species could also potentially occur in Spartanburg County. A field survey was also conducted in December 16-17, 1996, in order to examine the habitats present on the site.

1.2.7.11 Table 1.1 summarizes information on protected species of plants and animals that could occur in the study area. For each species of plant or animal, Table 1.1 provides a description of the preferred habitat and a statement regarding whether the site would provide suitable habitat. Because a large portion of the site is already disturbed by landfilling and clearing, it does not provide suitable habitat in many of the upland areas. However, the remaining wooded uplands, slopes, ravines, and bottomland forest habitats on the site do provide potential habitat for many of these species. The following discussion assesses the potential for these species to actually occur on the project site.

1.2.7.12 Two federally-listed plant species were determined to have significant potential for occurring on the site. These include Dwarf-flowered heartleaf (*Hexastylis naniflora*)(Federal - threatened) and American chaffseed (*Scawalbea americana*)(Federal - endangered)(Table 1.1). The other federal-listed animal species that occur in the area include the bald eagle, red cockaded woodpecker (RCW), and peregrine falcon. However, these would only be occasional migrants in the vicinity of the site and would not utilize the site for nesting. No suitable nesting habitat is present on the site for bald eagles or peregrine falcons. RCWs require 60-70 year old pine trees infected with the tree fungus *Fomes* to nest. No pine trees of this age were observed during the biological survey. The area could provide foraging habitat for RCWs, however.

1.2.7.13 Dwarf-flowered heartleaf occurs most commonly on hillsides, ravines or boggy areas next to creeks, creekheads where shrubs are rare, or bluffs with light gaps (USFWS 1995). It specifically requires Pacolet, Madison gravelly sand loam soils, or Musella fine sandy loam soils. All of these conditions occur on the site. No plants were observed during the 2-day survey. Nevertheless, this species could occur on the site within ravine and wooded areas. These areas are characterized by relatively easy access. The project will therefore not impact this species, since only limited clearing will be required in these areas.

1.2.7.14 American chaffseed occurs in sandy peat and acidic sandy loam, seasonally moist soils. It prefers "open moist pine flatwoods, fire-maintained savannas, ecotonal areas between peaty wetlands and xeric sandy soils, and other open grass-sedge systems" (USFWS 1995). It is dependent on fires, mowing or changing water levels to survive. Surviving populations are known from fire-maintained habitats including, "plantations where fire is a prescribed part of a management regime for quail and other game species, Army base impact zones that burn regularly because of artillery shelling, forest management areas that are burned to maintain habitat for wildlife, and various other private lands that are burned to maintain open fields" (USFWS 1995). The open old

TABLE 1.1
PROTECTED SPECIES FOUND IN SPARTENBURG, CHEROKEE AND UNION COUNTIES, SOUTH CAROLINA'
CAMP CROFT OE ENGINEERING DESIGN

Common Name	Scientific Name	Status ^{1,2,3}	Habitat ⁴	Habitat On Site?
Mammals				
Southeastern myotis	<i>Myotis austroriparius</i>	ST, G3, S2S3	Caves, mine tunnels, hollow trees, buildings, culverts, bridges;	Could migrate through area
Meadow vole	<i>Microtus pennsylvanicus</i>	SC, G5, S4	Low moist areas or high grasslands with rank growths of vegetation; near streams, lakes, swamps, sometimes in forests with little ground cover; orchards with grass undergrowth	Yes
Birds				
Bald eagle	<i>Haliaeetus leucocephalus</i>	FT	Nests in large trees overlooking nearby rivers or lakes in undisturbed areas	No nesting habitat; occasional migrant through area
American peregrine falcon	<i>Falco peregrinus anatum</i>	FE*	Occasional migrant through study area in spring and fall; nests on cliffs, high hills, or tall buildings	No nesting habitat; occasional migrant through area
Red-cockaded woodpecker	<i>Picoides borealis</i>	FE*	Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands ≥30 years of age, preferably ≥10" dbh	No nesting habitat; could utilize site occasionally for foraging
Plants				
Blue monkshod	<i>Aconitum uncinatum</i>	SC, G4, S2	Rich woods	Yes
Nodding onion	<i>Allium cernuum</i>	SC, G5, S?	Meadows and open woods	Yes
Georgia aster	<i>Aster georgianus</i>	SC, G2G3, S?	Woodlands, woodland borders, old fields and pastures	Yes

- * NOT LISTED IN AS BEING PRESENT IN THE STUDY AREA BY THE SOUTH CAROLINA HERITAGE TRUST DATABASE, BUT IS LISTED IN THE LATEST FEDERAL LIST (U.S. FISH AND WILDLIFE SERVICE, 1996).
1. FE = FEDERAL ENDANGERED; FT = FEDERAL THREATENED; NC = OF CONCERN, NATIONAL (UNOFFICIAL); RC = OF CONCERN, REGIONAL (UNOFFICIAL);
 2. G = GOBAL RANK ACROSS ENTIRE RANGE; S = RANK AT STATE LEVEL. BOTH G AND S RANKS = 1-5; "?" FOR EITHER RANK MEANS THAT THE STATUS/RANK IS UNKNOWN AT PRESENT WHERE 1 - MOST RARE/CRITICALLY ENDANGERED (1-5 KNOWN OCCURENCES); 2= 6 TO 20 KNOWN OCCURENCES; 3 = 21 TO 100 OCCURENCES; 4 AND 5 INDICATE THE SPECIES HAS MANY OCCURENCES AND IS APPARENTLY SECURE (STATE OF SOUTH CAROLINA HERITAGE PROGRAM, 1997).
 3. SC = STATE OF SOUTH CAROLINA SPECIES OF CONCERN; SE = STATE ENDANGERED; ST = STATE THREATENED; SX = STATE EXTIRPATED; PE/PT/C = PROPOSED OR CANDIDATE FOR FEDERAL LISTING (STATE OF SOUTH CAROLINA HERITAGE PROGRAM, 1997).
 4. RADFORD ET AL., 1968; BURT AND GROSSENHEIDER, 1976; USFWS 1996

TABLE 11 (Continued)
 PROTECTED SPECIES FOUND IN SPARTENBURG, CHEROKEE AND UNION COUNTIES, SOUTH CAROLINA'
 CAMP CROFT OE ENGINEERING DESIGN

Common Name	Scientific Name	Status ^{1,2,3}	Habitat ⁴	Habitat On Site?
Graceful sedge	<i>Carex gracillima</i>	SC, G5, S?	Rich and low woods	Yes
Plants (Cont'd)				
Drooping sedge	<i>Carex prasina</i>	SC, G4, S?	Seepage slopes in rich woods	Yes
Rough sedge	<i>Carex scabrata</i>	SC, G5, S?	Seepage slopes and springheads in rich woods	Yes
Intermediate enchanter's nightshade	<i>Circaea lutetiana ssp canadensis</i>	SC, G5T5, S1	Rich woods	Yes
Mountain witch-alder	<i>Fothergilla major</i>	RC, G3, S1	Mountains - dry woods and balds	No
Teaberry	<i>Gaultheria procumbens</i>	SC, G5, S1	Xeric to mesic wooded habitats	Yes
Virginia stickseed	<i>Hackelia virginiana</i>	SC, G5, S?	Mountain woods and thickets	No
Smooth sunflower	<i>Helianthus laevigatus</i>	SC, G4, S?	Woodlands and road embankments	Yes
Porter's goldeneye	<i>Helianthus porteri</i>	SC, G4, S1	Granitic flat rocks	No
Dwarf-flowered heartleaf	<i>Hexastylis naniflora</i>	FT, G3, S2	Slope woods	Yes
Hydrangea	<i>Hydrangea cinerea</i>	SC, G4, S?	Shady ledges and cliffs	Yes
Shoals spider lily	<i>Hymenocallis coronaria</i>	NC, G2Q, S2	Low woods and swamp forest borders	Yes
Piedmont quillwort	<i>Isoetes piedmontia</i>	SC, G3, S2	Shallow muddy soils next to seepages adjacent to granitic rocks and pools; pools on granitic flat rocks	No
Butternut	<i>Juglans cinerea</i>	SC, G4, S?	Rich woods	Yes
Georgia rush	<i>Juncus georgianus</i>	SC, G4, S?	Shallow depressions in granitic outcrops	No
Ground juniper	<i>Juniperus communis</i>	SC, G5, S?	Rocky soil	Yes

11-1

- * NOT LISTED IN AS BEING PRESENT IN THE STUDY AREA BY THE SOUTH CAROLINA HERITAGE TRUST DATABASE, BUT IS LISTED IN THE LATEST FEDERAL LIST (U.S. FISH AND WILDLIFE SERVICE, 1996).
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 2. G = GOBAL RANK ACROSS ENTIRE RANGE; S = RANK AT STATE LEVEL. BOTH G AND S RANKS = 1-5; "7" FOR EITHER RANK MEANS THAT THE STATUS/RANK IS UNKNOWN AT PRESENT WHERE 1 - MOST RARE/CRITICALLY ENDANGERED (1-5 KNOWN OCCURENCES); 2= 6 TO 20 KNOWN OCCURENCES; 3 = 21 TO 100 OCCURENCES; 4 AND 5 INDICATE THE SPECIES HAS MANY OCCURENCES AND IS APPARENTLY SECURE (STATE OF SOUTH CAROLINA HERITAGE PROGRAM, 1997).
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 4. RADFORD ET AL., 1968; BURT AND GROSSENHEIDER, 1976; USFWS 1996
- WPARESATL01\PROJECT\730414\EDREPORT\1-1.WW6

TABLE VI (Continued)
 PROTECTED SPECIES FOUND IN SPARTENBURG, CHEROKEE AND UNION COUNTIES, SOUTH CAROLINA'
 CAMP CROFT OE ENGINEERING DESIGN

Common Name	Scientific Name	Status ^{1,2,3}	Habitat ⁴	Habitat On Site?
Yellow honeysuckle	<i>Lonicera flava</i>	SC, G5?, S2	Woodlands and thickets	Yes
Climbing fern	<i>Lygodium palmatum</i>	SC, G4, S1S2	Wet thickets in sandy or acid soil	Yes
Virginia bunchflower	<i>Melanthium virginicum</i>	SC, G5, S?	Bogs, wet woods and savannahs	Yes
Canada moonseed	<i>Menispermum canadense</i>	SC, G5, S?	Low woods	Yes
One-flowered stitchwort	<i>Minuartia uniflora</i>	SC, G4, S?	Granitic flat rocks	No
Sweet pinesap	<i>Monotropis odorata</i>	RC, G3, S1	Mixed deciduous woods	Yes
Nestronia	<i>Nestronia umbellula</i>	SC, G4, S2	Woodlands	Yes
Adder's tongue	<i>Ophioglossum vulgatum</i>	SC, G5, S?	Low loamy woods and marshy valleys	Yes
American chaffseed	<i>Scwhalbea americana</i>	FE*	Savannahs and pine woodlands, especially areas that have been burned, including army bases used for shelling	Yes
Granite rock stonecrop	<i>Sedum pusillum</i>	NC, G3, S2	Granite outcrops	No
Prairie rosinweed	<i>Silphium terebenthinaceum</i>	SC, G4G5, S1	Woodland borders and old fields on basic or circumneutral soils	No
White goldenrod	<i>Solidago bicolor</i>	SC, G5, S1	Woodlands and roadbanks	Yes
Prairie goldenrod	<i>Solidago rigida</i>	SC, G5, S1	Openings in woodlands, meadows and pastures, probably associated with basic or circumneutral soils	No
Narrow leaved vervain	<i>Verbena simplex</i>	SC, G5, S?	Roadsides, meadows, thickets, usually associated with basic or circumneutral soils	No

1-12

- * NOT LISTED IN AS BEING PRESENT IN THE STUDY AREA BY THE SOUTH CAROLINA HERITAGE TRUST DATABASE, BUT IS LISTED IN THE LATEST FEDERAL LIST (U.S. FISH AND WILDLIFE SERVICE, 1996).
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 2. G = GOBAL RANK ACROSS ENTIRE RANGE; S = RANK AT STATE LEVEL. BOTH G AND S RANKS = 1-5 ; "7" FOR EITHER RANK MEANS THAT THE STATUS/RANK IS UNKNOWN AT PRESENT WHERE 1 - MOST RARE/CRITICALLY ENDANGERED (1-5 KNOWN OCCURENCES); 2= 6 TO 20 KNOWN OCCURENCES; 3 = 21 TO 100 OCCURENCES; 4 AND 5 INDICATE THE SPECIES HAS MANY OCCURENCES AND IS APPARENTLY SECURE (STATE OF SOUTH CAROLINA HERITAGE PROGRAM, 1997).
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 4. RADFORD ET AL., 1968; BURT AND GROSSENHEIDER, 1976; USFWS 1996
- WPRESATL01\PROJECT\730414\EDREPORT\1-1.WW6

field habitats on the southern portion of the project site could have supported this species in the past since it was a shelling area. During the 1996 biological survey, evidence of previous burning (charred wood) was observed in the open fields on the upland areas on the south side of the site. However, the site has not been used for shelling since 1947. Subsequent discussions with the present property owner have shown that the charred wood observed in the fields on the southern portion of the site are remnants of hardwood stumps. The stumps were left in place by the previous property owner, who removed hardwoods from a larger portion of the site prior to selling the land approximately 4 years ago. The present owner subsequently removed the hardwood stumps, placed them in piles, and burned them. Only a portion of the fields on the south side of the site therefore have been burned, and the majority of these areas have been allowed to grow back into old field and young trees. These factors indicate that the area has probably not had sufficient burning to maintain populations of American chaffseed. The project will therefore not impact this species.

1.2.7.15 The State of South Carolina Heritage Program (SCHP) does not include records of any federal-, state-, or Heritage Program-listed species of plants or animals from the OOU6 area (SCHP 1997). Because the upland portions of the site have been extensively disturbed or planted into pine over the majority of the property, it is unlikely that most of the species listed in Table 1.1 actually occur there. However, the remaining deciduous forested uplands, forested wetlands, and seepage slope wetlands on the site are relatively undisturbed and could harbor some of the species listed in Table 1.1. Since only minimal disturbance of forested areas will occur as a result of identification and removal of UXO, the proposed project will have a minimal impact, if any, on the various state- and Heritage Program-listed species listed in Table 1.1.

1.2.8 Current Land Use

1.2.8.1 OOU6 encompasses all of the property owned by Dr. W. Brownlee Lowry (MD) and portions of properties owned by J. Larry Faulkenberry & Almond Forest Products, Inc., Robert E. Lee, Dr. Glenn L. Scott (MD), Neil Robinette, Timothy M. Chastain, Margie F. Purser, and Milliken & Co. Figure 1-3 provides a property boundary map showing the properties located within OOU6.

1.2.8.2 During the site visit conducted on August 28, 1996, OOU6 was found to be heavily vegetated, except in the areas of development on Dr. Lowry's property, such as Landfill 1; compost area; proposed site pond; front gate area; roads; former magazine storage area; and isolated clearings. Figure 1-3 includes existing and proposed development in the area of OOU6. Numerous changes occurred between the initial site visit and the mobilization for the OE Engineering Design project fieldwork in December 1996: a large portion of the proposed pond area had been devegetated and topographically altered, Landfill 1 had expanded, additional roadways were constructed across the site, and vegetation foliage was greatly reduced due to seasonal factors.

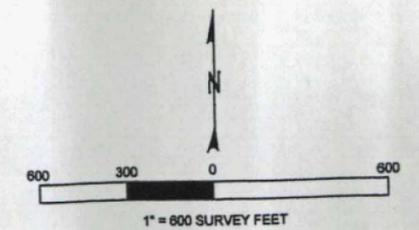
1.2.8.3 The Landfill 1 Area (footprint is approximately 3 acres), located in the center of Dr. Lowry's property, is currently in the process of being filled with Class I industrial waste and demolition debris. A compost area (Compost A) is located south of

**FIGURE 1-3
PROPERTY OWNERSHIP AND
LAND USE MAP
ORDNANCE OPERABLE UNIT 6
FORMER CAMP CROFT
SPARTANBURG, S.C.
OE ENGINEERING DESIGN**

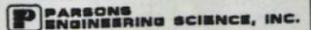
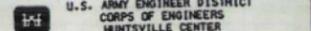
LEGEND

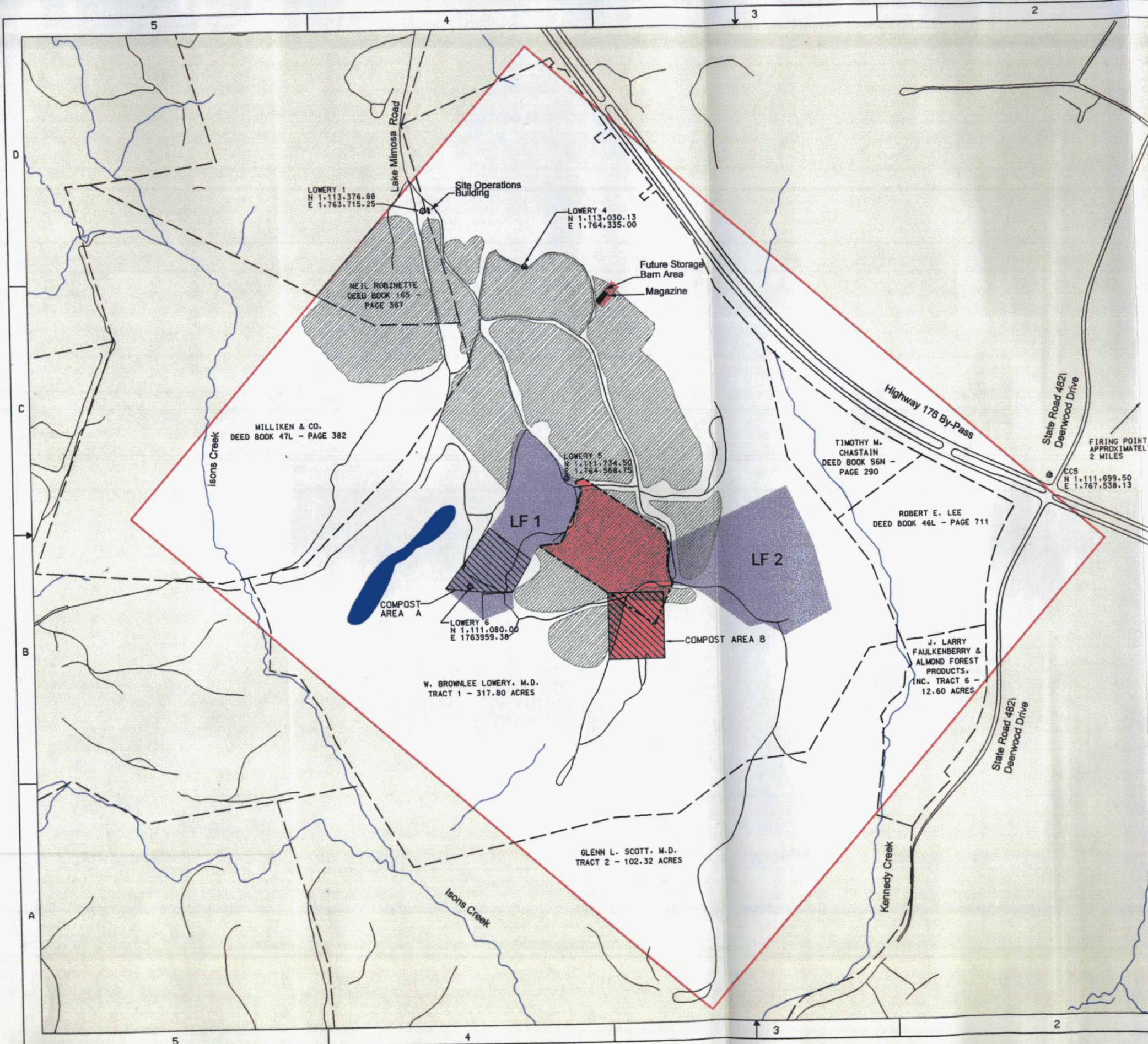
-  PINE FARM
-  LANDFILL
-  POND (ESTIMATED AREA)
-  FUTURE DEVELOPMENT AREAS
-  ESTIMATED COMPOST AREAS
-  FUTURE PHASE III AND IV LANDFILL EXPANSION AREAS
-  CONTROL MARKER
-  PROPERTY BOUNDARY
-  ROADS
-  STREAMS
-  OOU6

NOTES:
ORIGINAL BASE DATA FROM CEHNC.
SOUTH CAROLINA STATEPLANE
NORTH AMERICAN DATUM 1983.



REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED
	3/11/97		

PREPARED BY: PARSONS E.S.	 PARSONS ENGINEERING SCIENCE, INC.		
DESIGNED BY: CPC			
DRAWN BY: BCW	 U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS HUNTSVILLE CENTER		
CHECKED BY: OAA			
DATE:	SCALE: B	SIZE SOLICITATION NO./FILE NO.:	PLATE:
			SHEET



PROJECT: CROFT/ORDN/SPARTANBURG 808 08.25.97

the Landfill 1 area. Dr. Lowry stated that his plans are to expand the compost operations within the immediate area. A second compost area, Compost Site B, has not become active since the initial site visit.

1.2.8.4 Development of the site pond in the area immediately southwest of Landfill 1 has been initiated. During periods of slower Landfill 1 operations and on weekends, Dr. Lowry's employees have constructed diversion dikes, sediment basins, and other related structures in support of the future filling of the pond. In particular, a siltation dam has been constructed to prevent silt materials from getting into the pond and for erosion control purposes. Runoff from upland areas to the north and northeast of the control portion of the site would be routed through the siltation dam to the pond. This active development is expected to continue for some time.

1.2.8.5 The county Planning Department has no file for the construction of the site pond on Dr. Lowry's property. However, a construction plan for building a silt dam for erosion control near the currently proposed pond area was noted. The silt dam has been built.

1.2.8.6 Based on a visual inspection of OOU6, it appeared that there is no other active development on the adjacent properties within OOU6.

1.2.9 Future Land Use

1.2.9.1 On August 29, 1996 Parsons ES visited the Spartanburg County Planning Department regarding the planned development of OOU6. Discussions were conducted with Mr. Dale Harvey, Department Manager. Parsons ES received a copy of the compost facility, Class I landfill, and the construction/demolition debris permits, issued in April 1994. These were the only planned development permits available at the County Planning Department.

1.2.9.2 The development plans for Dr. Lowry's property indicate a minimum of four landfill expansions (phases) which are shown to progress from the Phase I area eastward towards the Phase II area. The Phase I (Landfill 1) will cover an area of 3.1 acres and the Phase II (Landfill 2), will cover an area of 4.2 acres. Two additional phases (Phase III and IV) are shown on the development plan and are identified in the land use map (Figure 1.3) as possible future landfill expansion areas. These expansion areas would occupy the area between Landfill 1 and Landfill 2. These areas were cleared during the TCRA.

1.2.9.3 The development plans provided locations of the compost areas (Compost A and B). Compost A is shown covering an area of 3 acres and Compost B is shown covering an area of approximately 4.6 acres. Compost A has been constructed and is currently in operation. Compost B has not been constructed.

1.2.9.4 The development plans also provided cross-sections and details with locations of proposed dirt roads/paths, diversion dikes, sediment basins, and an equipment shelter. During the site visit, it was noted that most of the site access roads

have been completed. It is likely in the near future that other paths or dirt roads may be constructed within the site.

1.2.9.5. At the time of the initial site visit in August 1996, Dr. Lowry stated that a storage barn is planned to be located in the area designated for magazine storage area. The Magazine Storage Area was subsequently constructed at this location with Dr. Lowry's approval during the OE Engineering Design since the barn construction had not yet been initiated.

1.2.9.6 A grading permit will be required for all land disturbing activities, such as the excavation of soils and the building of roads (excluding waste disposal or composting) if the land disturbance was two acres in size or greater. The grading permit would require the development of stormwater runoff and sedimentation plans. Areas that are impacted, which are less than two acres in size, only require notification.

1.2.9.7 There was no information on the proposed development on adjacent properties within OOU6.

1.3 REGULATORY ISSUES

1.3.1 State and Local Regulations

The administrative requirements for compliance with state and local regulations generally do not factor into this investigation because of the general CERCLA exemption. However, close coordination with state and local regulatory agencies will be conducted to ensure compliance with all relevant rules, regulations, and policies.

1.3.2 Assessment of Applicable or Relevant and Appropriate Requirements

1.3.2.1 Section 121(d)(1) of CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA), requires that remedial actions must attain a degree of cleanup that assures the safety of human health and protection of the environment. Moreover, all potential Applicable or Relevant and Appropriate Requirements (ARARs) must be outlined. ARARs include federal standards, requirements, criteria, and limitations under state environmental or facility siting regulations that are more stringent than federal standards.

1.3.2.2 Although the requirements of CERCLA Section 121 generally apply as a matter of law only to remedial actions, USEPA's policy for removal actions is that ARARs will be identified and attained to the extent practicable. Three factors are applied to determine whether identifying and attaining ARARs is practical in a particular removal situation. These factors include:

- the exigencies of the situation;
- the scope of the removal action to be taken; and
- the effect of ARAR attainment on the statutory limits for removal action duration and cost.

1.3.2.3 ARARs are identified on a site-specific basis and involve a two-part analysis: first, a determination is made whether a given requirement is applicable; then if it is not applicable, a determination is made whether it is nevertheless both relevant and appropriate. When this analysis results in a determination that a requirement is both relevant and appropriate, such a requirement must be complied with to the same degree as if it were applicable.

1.3.2.4 "Applicable" requirements are those cleanup standards, control standards, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant or contaminant, remedial action, location, or other circumstance at a remedial action site. "Relevant and appropriate" requirements are cleanup standards and control standards, and the substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not "applicable" to ordnance, a remedial action, the location, or other circumstance at a remedial action site, address problems or situations sufficiently similar to those encountered at a site to where their use is well-suited.

1.3.2.5 The USEPA has identified three categories of ARARs: chemical-specific, location-specific, and action-specific. According to the NCP, chemical-specific ARARs are usually health or risk-based numerical values that establish the acceptable amount of concentration of a chemical that may remain in, or be discharged to, the ambient environment. Location-specific ARARs generally are restrictions placed upon the concentration of hazardous substance or the conduct of activities solely because they are in special locations. Some examples of special locations include flood plains, wetlands, historic places, and sensitive ecosystems or habitats. Action-specific ARARs are usually technology or activity-based requirements or limitations placed on actions taken with respect to hazardous wastes, or requirements to conduct certain actions to address particular circumstances at a site.

1.3.2.6 Chemical-Specific ARARs. No chemical-specific ARARs or TBCs have been identified for the removal action at the former CCATF because only the removal of OE is being considered in this OE Engineering Design and not any residual contamination that may have occurred due to ordnance burial, detonation, or disposal.

1.3.2.7 Location-Specific ARARs. There are three potential location-specific ARARs pertaining to the removal action at the CCATF. These include the National Historic Preservation Act, Protection of Wetlands, and the Endangered Species Act. The ASR for Camp Croft discussed the presence of some historical or cultural resources in the CCATF area by CEHNC however, not specifically at OOU6 and none were found on the property. No evidence of historical or cultural resources was found during this investigation effort at OOU6. Parsons ES found that the site contains Corps-jurisdictional wetlands, but these habitats will not be disturbed through the implementation of any OE removal action. Parsons ES also found that no endangered species would be impacted by the clearance of OE from the property.

1.3.2.8 Action-Specific ARARs. One action-specific TBC, Army regulation AR 385-64, requires that safety measures be taken for the handling of explosive ordnance. Moreover, DoD 6055.9-STD requires that specialized personnel be employed to detect, remove, and dispose of ordnance. This standard also defines safety precautions and procedures for the detonation or disposal of ordnance.

1.3.2.9 Non-promulgated advisories or guidance documents issued by federal or state governments do not have the status of potential ARARs. However, these "to be considered" criteria (TBC) may be used to determine the necessary level of cleanup for human safety and protection of the environment. Potential ARARs and TBCs for the OOU6 OE Engineering Design project are listed in Table 1.2 and discussed in the previous paragraphs.

1.4 PUBLIC INVOLVEMENT

1.4.1 A public outreach program exists for the former CCATF. This program is administered by a Restoration Advisory Board (RAB) which was established to facilitate public involvement and awareness of previous and ongoing restoration work at the former CCATF. Mr. Wayne Bogan, Jr. of the U.S. Army Corps of Engineers, Charleston District Project Management Branch, is responsible for coordinating all activities conducted by the CCATF RAB. Since only a few property owners exist within the OOU6 area, a direct line of communication has been established between Mr. Bogan and the property owners. Therefore, the need for public involvement is limited to only these property owners. The RAB provides local residents with valuable information concerning the restoration work and procedures to follow in the event of ordnance discovery at the former CCATF. Minutes of RAB meetings pertaining to the CCATF are kept in a repository in the Spartanburg County Library. All administrative records pertaining to all restoration work at the CCATF are available for public examination at the Spartanburg County Public Library.

1.5 PREVIOUS INVESTIGATION

1.5.1 Site Survey of Former Camp Croft

In 1984, the USACE conducted a site survey of the former CCATF. 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 CCATF. An aerial photograph and historical investigation information map of OOU6 is presented in Figure 1-4. Figure 1-5 presents a contour overlay on the historical investigation map.

1.5.2 Preliminary Assessment Study of OOU6

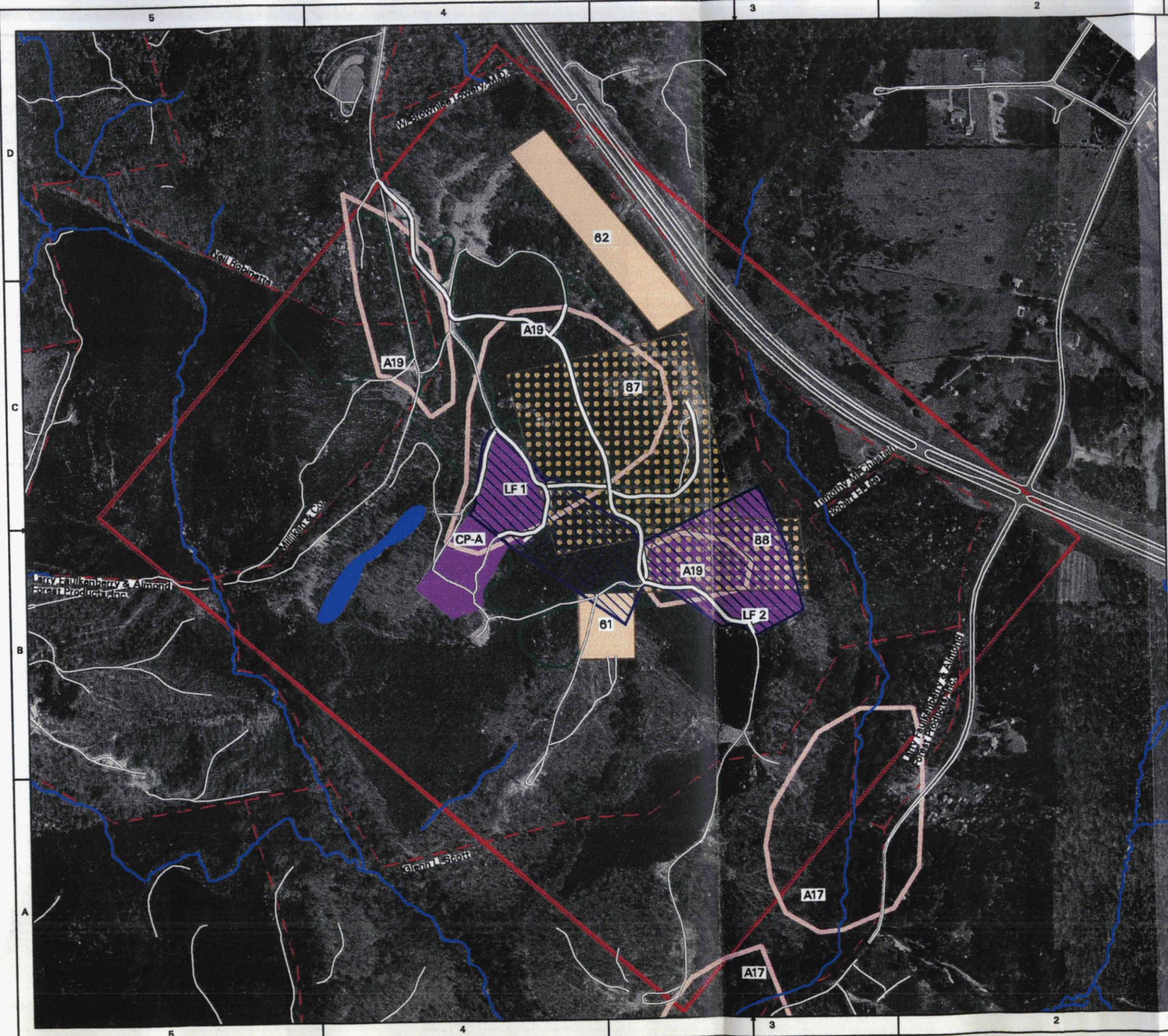
In 1991, the USACE, Charleston District conducted a Preliminary Assessment Study of this site. This study determined that the site was eligible for further investigation under the DERP FUDS program. This study also determined that the site contains several locations where drums were placed inside wells during the closure procedures

**TABLE 1.2
POTENTIAL ARARS FOR THE REMOVAL ACTION
CROFT OE ENGINEERING DESIGN**

Activity	ARAR/TBC	Citation	Applicability or Relevance
<u>Chemical-Specific</u>			
None			
<u>Location-Specific</u>			
Location of an action within an area where it may cause irreparable harm, loss or destruction of significant artifacts or historic landmarks	National Historic Preservation Act	36 CFR Part 65, and 800	During removal action, any material that may be considered historical will be reported pursuant to requirements
	Protection of Wetlands	33 CFR 320 et. seq. Executive Order 11988	Requires action to be taken to minimize loss or degradation of wetlands.
	Endangered Species Act	16 USC § 1531 et. seq.	Requires that actions authorized do not jeopardize the continued existence of endangered or threatened species, or their habitats.
<u>Action-Specific</u>			
Excavation	Dept. of Army Ammunition and Explosive Safety Standards	AR 385-64	TBC that establishes army standards for locating, handling, and disposing of munitions.
	Department of Defense Ordnance Safety Standards	DOD 6055.9-STD	Requires specialized personnel be employed in the detection, removal, and disposal of OE.

1-19

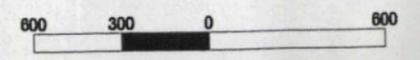
FIGURE 1-4
 HISTORICAL INVESTIGATION MAP
 ORDNANCE OPERABLE UNIT 6
 FORMER CAMP CROFT
 SPARTANBURG, S.C.
 OE ENGINEERING DESIGN



LEGEND

- EE/CA INVESTIGATED GEOPHYSICAL/INTRUSIVE
- EE/CA INVESTIGATED GEOPHYSICAL
- TCRA AREA
- LANDFILL
- POND (ESTIMATED AREA)
- POTENTIAL OE AREAS
- PINE FARM
- PROPERTY BOUNDARY
- OOU6
- ROADS
- TCRA ROADS
- STREAMS
- CP-A COMPOST AREA A

NOTE: ORIGINAL BASE DATA FROM CEHNC.



REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED
		11/02/87	

PREPARED BY: PARSONS E. S.	
DESIGNED BY: OPC	
DRAWN BY: BCW	
CHECKED BY: OAA	U. S. ARMY ENGINEER DISTRICT HUNTSVILLE CENTER
DATE:	FILE NO. PLATE
	B
	SCALE: SHEET

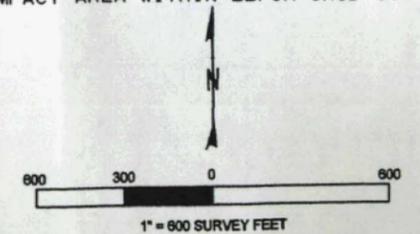
**FIGURE 1-5
CONTOUR OVERLAY ON
HISTORICAL INVESTIGATION MAP
ORDNANCE OPERABLE UNIT 6
FORMER CAMP CROFT
SPARTANBURG, S.C.
OE ENGINEERING DESIGN**

LEGEND

- EE/CA INVESTIGATED GEOPHYSICAL/INTRUSIVE
- EE/CA INVESTIGATED GEOPHYSICAL
- TCRA AREA
- POTENTIAL OE AREAS AND ID
- PINE FARM
- LANDFILL
- POND (ESTIMATED AREA)
- PROPERTY BOUNDARY
- OOU6
- ROADS
- TCRA ROADS
- STREAMS
- 10 METER CONTOURS

CP-A COMPOST AREA A

NOTES:
ORIGINAL BASE DATA FROM CEHNC.
SOUTH CAROLINA STATEPLANE
NORTH AMERICAN DATUM 1983.
IMPACT AREA WITHIN EE/CA GRID 87.



REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED
		4/1/97	

PREPARED BY: PARSONS E.S.	PARSONS ENGINEERING SCIENCE, INC.
DESIGNED BY: CPC	
DRAWN BY: BCW	U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS HUNTSVILLE CENTER
CHECKED BY: DAA	
DATE:	SCALE: B
	SIZE SOLICITATION NO. FILE NO. PLATE
	B
	SCALE: B
	SHEET

conducted at the site. The report generated by this assessment did not indicate the presence of soil or groundwater contamination due to medical, ordnance, or chemical weapons. 1.5.3

1.5.3 Site Inspection and Archives Search of Former CCATF

In 1994, the USACE, Rock Island District conducted a site inspection and archives search of the former CCATF (USACE, 1994). The final report, dated April 1994, outlined the nature and degree of OE/UXO contamination to be found at the former CCATF. This report listed the ordnance that may be found at or below the surface (see Section 2.2 of the ASR). This report also stated that the gas chamber and gas obstacle course no longer exist, and that no historical recorded evidence was located to document and confirm the presence of chemical ordnance since site closure. It did state, however, that based on the nature of the former CCATF's training mission, the potential for chemical ordnance or chemical contamination of the area's soil does exist. It is believed that chemical training conducted during that period would have involved the use of CN, a tearing agent, as a training chemical.

1.5.4 Time Critical Removal Action at OOU6

1.5.4.1 In 1994 and 1995, Human Factors Applications, Inc. (HFA) performed two Time Critical Removal Actions (TCRAs) at the former CCATF; one at the State Park and the second at OOU6. The TCRA at OOU6 was planned for a 30 acre area currently owned by Dr. Lowry but was completed over an area of approximately 15 acres. The areas cleared included access roads into and out of the site and a work area where asphalt recycling equipment was to be installed. Future development areas proposed by Dr. Lowry were also included. Figure 1-4 presents the locations of the TCRA grids.

1.5.4.2 The objective of the TCRA was to remove surface and subsurface OE to a depth of four feet within the work areas and to conduct geophysical mapping of the planned site. HFA established grids in the work areas and performed magnetometry searches using Schonstedt GA52/72 magnetometers. The following table provides a list of the ordnance recovered during the TCRA:

Date	Description	Grid
Oct. 18, 1994	One Live 105mm with M48 fuse	A13
Nov. 17, 1994	One 60mm HE with fuse	B30
Nov. 17, 1994	One 60mm HE with fuse	B15
Nov. 17, 1994	One 155mm Burster Tube	B14

1.5.4.3 All subsurface anomalies were excavated by hand and their identities determined. UXO that was unsafe to move was detonated in place. UXO and OE determined to be safe were destroyed on-site in a designated open detonation area.

1.5.5 Engineering Evaluation/Cost Analysis at OOU6

1.5.5.1 In 1995 and 1996, ESE performed an EE/CA at the former CCATF (ESE, 1996a). The purpose of this EE/CA was to analyze removal alternatives to reduce the risk of public exposure to OE/UXO at sites previously identified in the 1994 ASR (USACE, 1994). The EE/CA addressed nine OOU's where OE/UXO were either previously confirmed or suspected. Six OOU's were within Croft State Park. The remaining three OOU's were located on private property sites outside the park, but within the former CCATF boundary.

1.5.5.2 ESE was directed by CEHNC to investigate four areas within the boundaries of OOU6, including the planned "compost B" area, the "poppy field", the proposed location of "landfill No. 2", and one unnamed area. These areas were designated as Grids 61, 62, 88, and 87, respectively. Grids 61 and 62 were investigated on October 28 and 29, 1994, and Grids 87 and 88 were investigated January 17 through 23, 1995. Figure 1-4 presents the locations of the EE/CA grids.

1.5.5.3 The investigation of Grids 61 and 62 consisted only of magnetometer surveys and a recording of anomalies. No intrusive operations were conducted at the time due to shortage of funds to complete this effort. However, the investigation of Grids 87 and 88 included both magnetometer surveys and intrusive operations. Significant UXO findings included four 60mm and seven 81mm projectiles, nine 105mm smoke canisters, mortar parts, and numerous fragments in Grid 87. No UXO was found in Grid 88. All recovered UXO were detonated in place by qualified UXO personnel.

1.5.5.4 Table 1.3 summarizes the configuration, sampling methodology, anomalies recorded, anomalies investigated, and OE findings for each grid within OOU6. QuantiTech performed a safety risk assessment for the EE/CA prepared on OOU6 and estimated a maximum UXO density of 1.31 per acre for OOU6 and a probability of exposure of zero to 1/2 per activity per visit.

1.5.6 Supplemental Archives Search of Former CCATF

1.5.6.1 ESE obtained an orthophotograph and prepared a geographic information system for the site as part of the development of the evaluation and prioritization of OE removal at former CCATF (ESE, 1996b). The purpose of this assignment was to develop a plan of action that could be used in the future to facilitate efficient investigation, identification, and removal of suspected OE at the former CCATF with a prediction of the presence and location of OE to be accomplished through the study of historical records and the evaluation of past and current land use at the former CCATF.

1.5.6.2 The initial investigation focused on using historical and current information to identify areas of interest (AOI). These AOIs formed the basis for subsequent evaluations and analyses. Aerial photography and orthophotography, synthetic aperture radar (SAR) image analysis, and digital elevation models (DEM) were used to identify potential OE sites and adjacent properties.

Table 1.3
OE/UXO Findings at OOU6, EE/CA Effort

Grid	Configuration (ft)	Sampling Method	Anomalies Recorded/ Investigated	OE/UXO Findings (quantity in parentheses)
Ordnance Operable Unit 6				
61	Linear	none	372/0	none
62	Linear	none	709/0	none
87	Rectangular	other	218/218	105mm smoke canisters (9), 60mm (4) and 81mm (7), mortar parts, fragments
88	Irregular	other	42/42	fragments

Source: ESE, 1996

1.5.6.3 In March 1995, CEHNC authorized ESE to prepare a SASR in an effort to locate possible additional firing, bombing, and strafing ranges at the former CCATF (ESE, 1996c). The following activities were conducted from April through August 1995 as a part of the SASR:

- Searches of national, regional, and local archives;
- Searches of databases including the Department of Defense database-Defense Technical Information Center (DTIC), Lexis, and Nexis;
- Placement of notices in national and local publications;
- Operation of a toll-free telephone number to receive information from persons knowledgeable of past CCATF activities;
- Onsite interviews with the local populace;
- Hosted a Public Open House near the former CCATF; and
- Conducted Windshield Surveys or driveby surveys to locate possible OE sites.

As a result of the SASR, 134 sites were identified as having potential OE contamination.

1.5.7 Final Supplemental Engineering Report and Site Reconnaissance

1.5.7.1 In October and November 1995, ESE performed a site reconnaissance of each of the 134 sites where a right-of-entry (ROE) was available from the owner(s) (ESE, 1996d). ROEs were available and a site reconnaissance was conducted at 97 sites. The reconnaissance consisted of a non-intrusive, magnetometer survey and visual inspection of each site that could be identified. A Final Supplemental Engineering Report was submitted to CEHNC in March 1996.

1.6 CURRENT STUDY [ENGINEERING DESIGN] RESULTS, CONCLUSIONS, AND FINDINGS

1.6.1 Investigation Activities and Results

1.6.1.1 Site investigations were conducted at the former Camp Croft Army Training Facility, Ordnance Operable Unit 6, between December 1996 and February 1997 to determine the nature and extent of OE contamination. The information gathered from these site investigations was used to prepare the Engineering Design. The Engineering Design document determines the most appropriate response action to reduce the public safety risk posed by OE at the site. The investigations conducted during the Engineering Design study included:

- review of historical data (archival investigation);
- geophysical survey investigation;
- intrusive investigations; and

- integration of all of the data collected from these investigations into the former Camp Croft Army Training Facility, Ordnance Operable Unit 6, Geographic Information System (GIS).

1.6.1.2 Based on the data collected during these site investigations, an Engineering Design was prepared. The Engineering Design focused on conventional OE/UXO risks requiring non-time-critical removal actions (NTCRAs) within the boundaries of OOU6. The purpose of the Engineering Design was to determine the most appropriate response action to address any OE risk at OOU6 and to evaluate follow on remedial action where warranted. The site characterization data was used to identify and classify the portions (sectors) of the site that are potentially contaminated with OE/UXO. For these areas, alternatives were identified and developed to address the safety risks pertaining to OE exposure at the site. This subsection presents a description of the site investigation activities, the investigation's results, and a discussion of the types of OE items found at the site. Detailed discussion of the Engineering Design field activities are provided in Appendix A. The nature and extent of OE contamination found at the site based on these investigations is then summarized in Section 1.7.

1.6.2 Site Visit and Archival Investigation

1.6.2.1 The site visit was conducted between August 28 and 29, 1996. The purpose of the site visit was to visually inspect, photograph, and videotape the existing improvements at OOU6 and obtain historical site documentation to evaluate both past and current land use, assess the type and quantity of ordnance that has been employed, and evaluate the site's potential for buried OE. Activities such as gathering of recorded documentation of planned development for the site, discussions of endangered species and wetlands concerns, establishment of contacts with local state agencies, and verification of local hospital routes and emergency (police, fire, etc.) jurisdictions.

1.6.2.2 A review of the historical documents and studies conducted at the former CCATF provided sufficient information on the potential nature and locations of OE that may be present at the site. The historical documents reviewed included:

- the Preliminary Assessment Report prepared by the US Army Corps of Engineers, Charleston District in 1991;
- the ASR prepared by the US Army Corps of Engineers, Rock Island District in April 1994;
- the TCRA Report prepared by HFA in 1995;
- the EE/CA Report prepared by ESE for CEHNC in 1996;
- the Evaluation and Mapping Report prepared by ESE for CEHNC in 1996;
- the SASR prepared by ESE for CEHNC in 1996; and
- the Supplemental Engineering Report prepared by ESE for CEHNC in 1996;

1.6.2.3 The review of historical documents revealed that the Department of the Army used the area designated as OOU6 as an impact range for 105mm artillery shells.

In addition, other firing ranges may have been located on the property. The firing ranges at the former CCATF consisted of pistol, rifle, machine gun, mortar, anti-aircraft, and anti-tank ranges. Any number of exercises may have been conducted at the site between establishment of CCATF in January 1941 and the declaration of the property as surplus in 1947 by the War Assets Administration. Structures once located on the facility were subsequently removed by the Army. During previous investigations, OOU6 was divided into several areas. Figure 1-4 shows the designation of these areas. Landfill 1 and proposed Landfill 2 comprise part of an area investigated/remediated during the TCRA. Two areas, Grids 87 and 88, comprise areas investigated during the EE/CA investigation. Two other areas, Grids 61 and 62 were geophysically investigated but intrusive effort to confirm the presence of UXO items was not performed during the EE/CA investigation. Aside from the landfill, land use within OOU6 includes compost areas, extensive pine farm forests, pond construction, small wetland areas, access roadways, and natural brush/forest areas. The Grid 87 area encompasses most of the location of the ordnance impact area, as identified in the ASR. However, it is assumed that a percentage of the rounds fired at the target located within the Grid 87 area would have missed and landed within some of the other areas within OOU6. The presence of ordnance was confirmed at Grid 87 during the EE/CA investigation and in Landfill 1 during the TCRA. Recovered ordnance included 60mm mortars, an 81mm illumination projectile, and 105mm projectiles (both live and inert). The site is currently used as an industrial landfill, pine farm, and private hunting area. Occasionally hikers may pass through the site.

1.6.2.4 A visual site inspection conducted by USACE Charleston District during the PA did not confirm the presence of OE in OOU6. Although no OE items were found, OOU6 was believed to include OE items based on the following:

- the location of the target impact area onsite;
- the probability of impacts due to undershoot/overshoot; and
- eyewitness accounts.

1.6.3 Geographical Information System (GIS), Survey, and Mapping

1.6.3.1 The Engineering Design at OOU6 included the use of a GIS. GIS was used effectively on this project to plan and design sampling grids, locate sampling grids in relation to vegetation cover and topography while providing adequate survey coverage and sampling density, develop a site specific database, QC and catalogue data, and to analyze specific data attributes required for risk evaluation. Data attributes of significant importance were queried to provide the basis for development of maps that present results of site characterization work. The GIS employed was able to assemble and configure site survey data and was tailored for the specific needs of the site. Existing CCATF GIS-CADD maps were provided by CEHNC to develop the initial investigation map for the site. The data gathered from the geophysical investigation was combined with the intrusive investigation data and was incorporated into the GIS to establish a profile for specific OE items found at the site. This information assisted in the evaluation of the potential cleanup costs of various levels of OE clearance at the site.

1.6.3.2 Specific areas where the GIS was used included the following: (1) land survey data was successfully transferred to establish a GIS base map that was used to plan and design the geophysical investigation; (2) the geophysical survey data was then incorporated into the GIS and was used to direct the intrusive operations; and (3) the GIS was used to perform the evaluation, analysis, and interpretation of the geophysical and intrusive investigation data to establish a profile for specific OE items found at the site.

1.6.3.3 Control points were set up throughout the site to accurately locate the geophysical survey sampling grids. The coordinates of each of these control points was entered into the GIS using the North American Datum of 1983 (NAD83) referenced to the South Carolina State Plane Grid System. The grids were 50 foot by 50 foot squares oriented north-south to enable quick tracking of grid locations and access to each grid during subsequent investigations. Grid clusters were established, consisting generally of 4 individual grids, to reduce travel time between grids. The sampling grids established for the site are depicted in Figure 1-6. Further details on the GIS used at CCATF are provided in Appendix A. QC of the location surveys of the grid corners were conducted. The QC results indicated that the grid corners met the required level of accuracy (+ or - 1.0 foot). For more details see Appendix A.

1.6.4 Area Definitions

1.6.4.1 Based on a combination of similarities of characteristics regarding physical site features, land use, historic attributes, locations of OE items recovered, and previously investigated/remediated areas, several sectors were delineated within OOU6. Specifically, the site was divided into eight sectors. Figure 1-7 depicts the location and configuration of the sectors. The rationale for dividing the OOU6 into sectors was to provide a basis by which the risk evaluation was conducted for the site. Each of the sectors was analyzed separately both for the risk assessment as well as the potential removal action alternatives due to the differences in the field investigation findings and differences in the current and anticipated use of each of these areas.

1.6.4.2 Due to overlap among portions of several of the sectors, sector reference numbers were established to enable identification of areal expanse of sectors and sectors to which OE Engineering Design sampling grids were assigned. Section reference numbers and names are depicted on Figure 1-7 which shows Sector 7 (EE/CA Grid 87) overlapping both Sector 2 (Pine Farm) and Sector 3 (Landfill and Compost A Areas).

1.6.5 Sector Descriptions

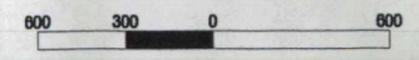
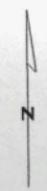
1.6.5.1 **Roads and Site Operations Building (Sector 1).** This sector consists of existing site roads (1.76 acres) and the landfill operations building (0.08 acre) that were cleared of ordnance during the TCRA (Figure 1-7). Currently a total of 7.07 acres of roadways exist within OOU6 for which OE clearance has not been conducted by representatives of the Corps of Engineers. These roadways will therefore be considered "paths" and will be evaluated as part of the sectors in which they reside. A general observation during the field work was that many of these paths are lined with construction debris to enable better tracking for site operation vehicles and for erosion control. No information is available as to whether the County Roads (Highway 176

**FIGURE 1-6
ENGINEERING DESIGN
GRID OVERLAY ON
HISTORICAL INVESTIGATION MAP
ORDNANCE OPERABLE UNIT 6
FORMER CAMP CROFT
SPARTANBURG, S.C.
OE ENGINEERING DESIGN**

LEGEND

- EE/CA INVESTIGATED GEOPHYSICAL/INTRUSIVE
 - EE/CA INVESTIGATED GEOPHYSICAL
 - TCRA AREA
 - LANDFILL
 - POND (ESTIMATED AREA)
 - POTENTIAL OE AREAS
 - PINE FARM
 - PROPERTY BOUNDARY
 - OOU6
 - ROADS
 - TCRA ROADS
 - STREAMS
 - GRID W I D NUMBER
- CP- A COMPOST AREA A

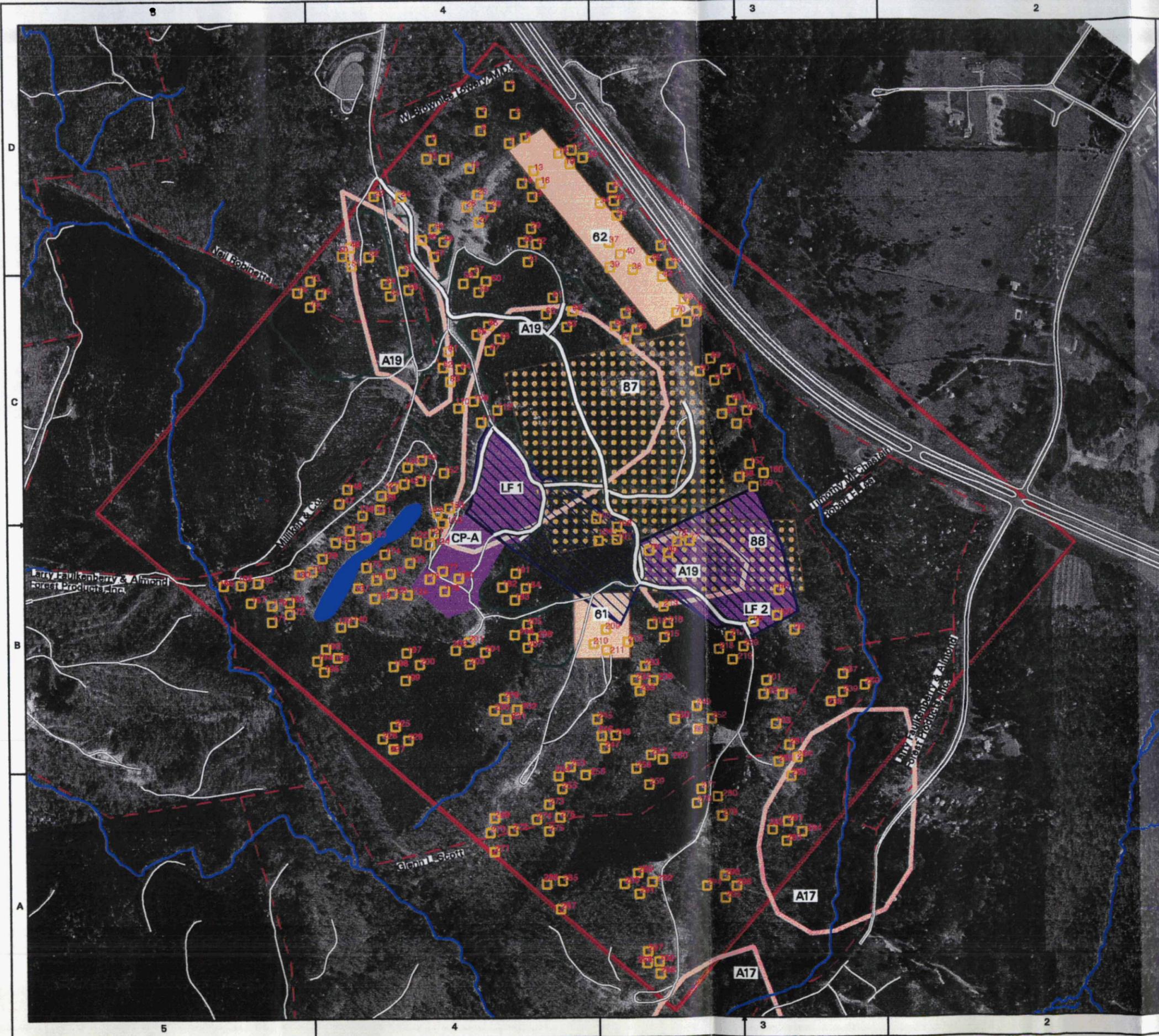
NOTE: ORIGINAL BASE DATA FROM CEHNC.



1" = 600 survey feet

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

PREPARED BY: PARSONS E. S.							
DESIGNED BY: DPC							
DRAWN BY: BCW	 U. S. ARMY ENGINEER DISTRICT CORP OF ENGINEERS MERRILL CENTER						
CHECKED BY: OAA							
DATE:	<table border="1"> <tr> <td>SCALE:</td> <td>FILE NO.:</td> <td>PLATE:</td> </tr> <tr> <td>B</td> <td></td> <td></td> </tr> </table>	SCALE:	FILE NO.:	PLATE:	B		
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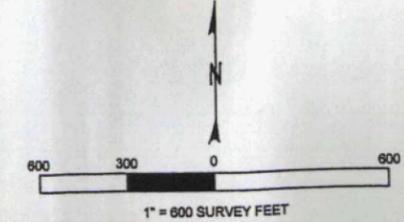
**FIGURE 1-7
SECTOR DELINEATION
ORDNANCE OPERABLE UNIT 6
FORMER CAMP CROFT
SPARTANBURG, S.C.
OE ENGINEERING DESIGN**

LEGEND

SECTOR NAME	ACREAGE
1 TCRA ROADS AND SITE OPERATION BUILDING	1.84
2 PINE FARM	38.94
3 LANDFILL AND COMPOST AREA A	21.31
4 POND	24.86
5 WETLANDS/STREAMS	3.91
6 NATURAL BRUSH/FOREST	168.39
A AND B SECTOR DIVISION	
7 EE/CA GRID 87	30.17
8 UNINVESTIGATED AREA	114.92

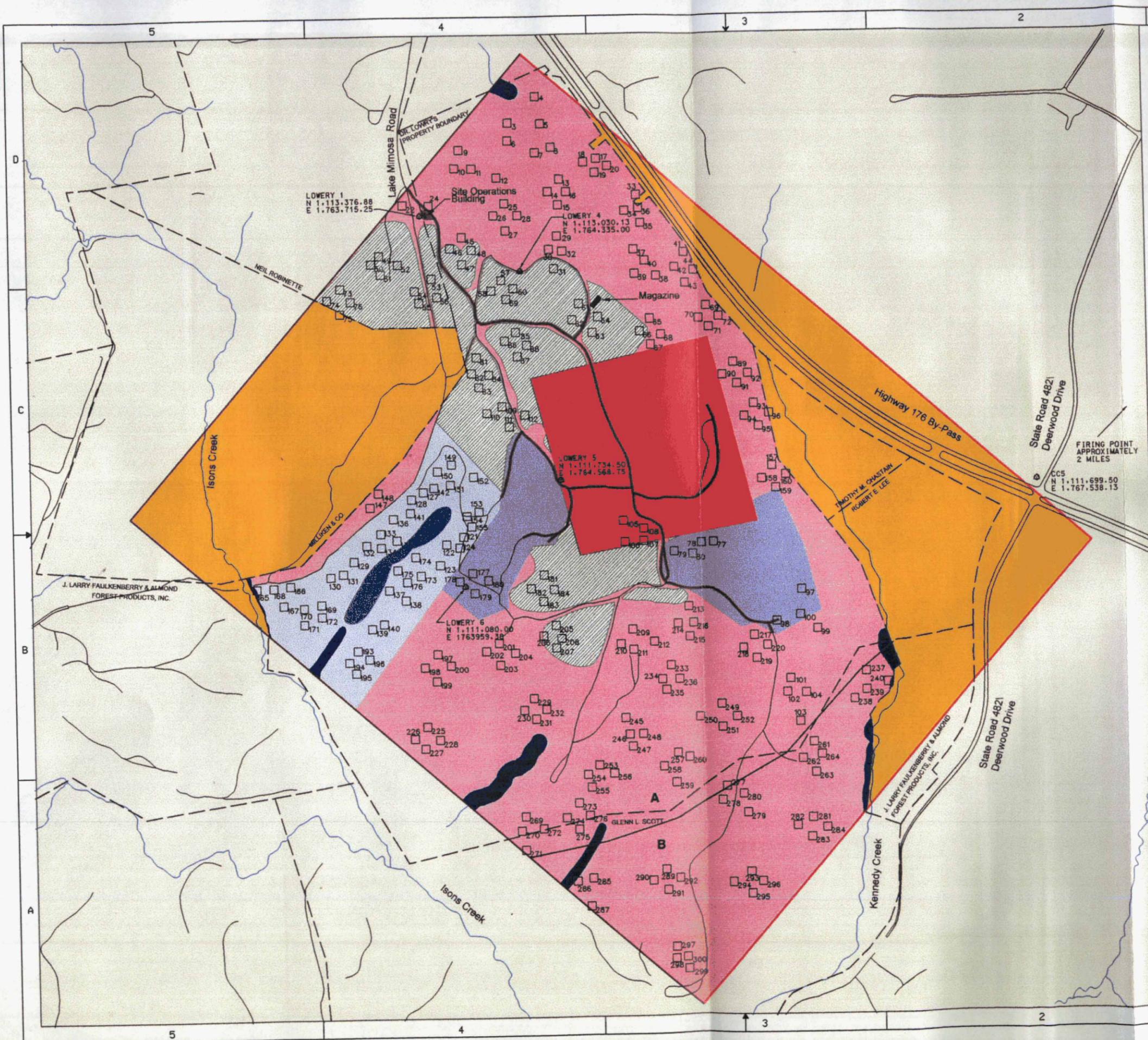
□ 250 GRID W/ID NUMBER
 ■ POND (ESTIMATED AREA)
 ⊕ SURVEY MARKER
 - - - PROPERTY BOUNDARY
 — ROADS
 — STREAMS
 — OOU6

NOTES:
 ORIGINAL BASE DATA FROM CEHNC.
 SOUTH CAROLINA STATEPLANE
 NORTH AMERICAN DATUM 1983.
 IMPACT AREA WITHIN EE/CA GRID 87.



REVISIONS		
SYMBOL	DESCRIPTION	DATE
		3/18/97

PREPARED BY: PARSONS E-S. DESIGNED BY: CPC DRAWN BY: BCW CHECKED BY: OAA DATE:	 PARSONS ENGINEERING SCIENCE, INC. U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS HUNTSVILLE CENTER	SIZE SOLICITATION NO. FILE NO. _____ PLATE _____ SCALE: _____ SHEET _____
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bypass and Deerwood Drive) within OOU6 were cleared, but since they are currently paved their acreage was excluded from Sector 1. No sampling grids were established within Sector 1.

1.6.5.2 Pine Farm (Sector 2). This sector includes a large portion of the northern and north/central portions of the site that are thickly forested with pine trees. Many of these trees are planted in rows and are of similar size and height (about 10 feet). Based on visual observation of maturity, the pine trees were planted during the same general timeframe (about 5-7 years old). The Pine Farm Areas cover a total of 38.94 acres (Figure 1-7). Forty-three sampling grids were established within this sector. The Pine Farm includes an expanse of land area planned for future expansion of Landfill 1 and Landfill 2. This area is designated as future Phase III and Phase IV landfill expansion areas in the land use map (Figure 1.3). Included in this sector is the future storage barn (approximately .5 acre area).

1.6.5.3 Landfills and Compost A Area (Sector 3). An industrial landfill is operated by one of the property owners (Dr. Lowry) within the OOU6 site. The available information indicates the primary landfill areas are Landfill 1 and Landfill 2. In this review document landfill layout at OOU6 (for example, in the TCRA Report) included Landfill 1 and Landfill 2. Landfill 1 is currently active along with several adjacent composting areas. The area for subsequent expansion of landfill operations (Landfill 2) has been defined by the property owner and approved by the Spartanburg County and the state regulatory agency. Landfill 1, the proposed Landfill 2, and the associated composting areas cover a total of 21.31 acres (Figure 1-7). Compost A lies in the southern half portion of the area designated as Landfill 1 and Composting Area A (Figure 1.3 and Figure 1.7). A general observation during field work indicates the presence of more than 1 existing composting areas within the Landfill 1 and Composting Area. Much of the areas within this sector were previously investigated/cleared of ordnance during the TCRA, therefore no OE Engineering Design field investigation was planned for this area. However, there was a concern that a portion of this area was not investigated/cleared during the previous investigation. Based on this concern, CEHNC requested additional sampling grids in this sector. In this regard, eleven sampling grids were established to provide additional characterization data for this area.

1.6.5.4 Pond (Sector 4). Development of a manmade pond is currently underway by one of the property owners (Dr. Lowry) within OOU6. During the OE Engineering Design fieldwork, heavy brush clearing and grading work were in progress around the intended pond area. The grading effort could potentially influence a change in the topography at this portion of OOU6. Most of the vegetation cover and many of the trees were removed. On the basis of the activities witnessed at this portion of OOU6, CEHNC requested an increase in the sampling grids established in this sector. Forty-three sampling grids were established within the sector. The Pond Area encompasses approximately 24.86 acres (Figure 1-7).

1.6.5.5 Wetlands (Sector 5). A number of small streams and wetlands traverse OOU6. Many of these streams are intermittent and flow only during periods of

significant rainfall. However, several perennial streams and wetland areas are present on the site. Five of these areas, although not contiguous, were grouped together as a sector. The combined acreage of these geomorphological features is approximately 3.91 acres. No sampling grids were established within this sector due to regulatory restrictions.

1.6.5.6 Natural Brush/Forest (Sector 6). A large portion of OOU6 is undeveloped. Much of this area is covered by sparse to moderate hardwood forest and natural brush. Pine farms have not been cultivated although there is evidence of past hardwood timber harvests. The two extensive land areas falling into this category are generally located in the northern and south/central portions of OOU6, respectively. The total acreage of these areas is approximately 168.39 acres (Figure 1-7). To adequately cover this sector, 150 sampling grids were established. Included in this sector is the planned future Compost B, an area of approximately 5 acres.

1.6.5.7 EE/CA Grid 87 (Sector 7). This sector was defined to coincide with EE/CA Grid 87. This grid was previously investigated and deemed contaminated with ordnance. Grid 87 overlaps small portions of the Pine Farm and the Landfill and Composting Areas. The overlap areas are excluded from the acreage of the Pine Farm and the Landfill. EE/CA Grid 87 is comprised of approximately 30.17 acres (Figure 1-7). The approved Work Plan excluded this sector from investigation since it had reportedly been significantly investigated during the EE/CA. However, during the OE Engineering Design field work four sampling grids were established at the request of CESAC and CEHNC. This area lies at the south portion of Grid 87.

1.6.5.8 Uninvestigated Area (Sector 8). This area consists of all property within OOU6 for which access was not provided by the respective property owners during the OE Engineering Design field work. These areas consist of approximately 114.92 acres of land. Five sampling grids were established in areas thought to be completely within the property for which access had been obtained but subsequently were judged to be partially outside. Prior to confirming this information, geophysical investigation was performed at these five sampling grids. Subsequently, the stakes defining these grids were removed and the sampling grids were deleted from further investigation.

1.6.5.9 Table 1.4 presents a summary of the acreage for all sectors.

1.6.6 Geophysical Survey

1.6.6.1 A geophysical survey to detect ferrous metal objects was conducted at the former CCATF OOU6 between January 7 and February 7, 1997. The geophysical survey was conducted on 256 individual 50 foot by 50 foot grids. The locations of these grids were randomly selected across the areas of interest within OOU6 to optimize search effectiveness. Field activities for the geophysical survey included the following tasks:

- setting up the equipment calibration verification test grid;

**TABLE 1.4
SECTOR ACREAGE
OOU6 OE ENGINEERING DESIGN**

Sector Number		Acres	No. of Grids Sampled
1	Roads and Site Operations Building TCRA Cleared Roads and Building Area	1.84	0
2	Pine Farm Future Storage Barn Future Phase III and IV Landfill Expansion Area	38.94	43
3	Landfill and Compost A Areas ⁽¹⁾ Landfill 1 and Proposed Landfill 2 Compost A	21.31	11
4	Pond Area	24.86	43
5	Wetlands/Streams	3.91	
6	Natural Brush/Forest Compost B	168.39	150
7	EE/CA Grid 87	30.17	4
8	Uninvestigated Area (Access Denied) Milliken and Company Property (Western Portion of Site) J. Faulkenberry & Almond Forest Products Property Timothy M. Chastain Property (East Portion of Site) Robert E. Lee Property (East Portion of Site) Other small tract property owners	114.92	5
TOTAL		404.34	256

(1) Area cleared for Landfills 1 and 2.

- setting up the survey sampling grids;
 - staking and surveying sampling grid corners;
 - extensive clearing of brush and small trees within sampling grids;
 - clearing of brush and small trees (less than three inches in diameter) for access to sampling grids;
- calibration verification of the Geonics EM-61 instrument to confirm factory calibration;
- geophysical survey data acquisition using a 3-foot lane spacing; and
- field data analysis.

1.6.6.2 Prior to the geophysical surveying of each sampling grid, a UXO certified expert surface cleared the sampling grids to ensure the safety of the geophysical survey crews. This UXO clearance involved a visual inspection and use of a Schoenstedt fluxgate magnetometer. Geonics EM-61 Electromagnetic Time Domain Metal Detectors were used by Parsons ES personnel to perform the geophysical survey. the "mag and

flag" methodology was used. Further details on the description of this equipment, calibration verification effort, and procedures employed during the survey are provided in Appendix A. Photographs of the EM-61 being used are also included in Appendix A (Figures A.1 and A.2, respectively).

1.6.6.3 The total area geophysically surveyed at the former CCATF OOU6 was approximately 14.69 acres based on 256 surveyed 50-foot by 50-foot sampling grids. This constitutes 4.98% coverage of the 289.42 acres of the site for which access was granted. On the basis of the designated sectors (see Section 1.6.5), approximately 2.47 acres of the 38.94 acres were geophysically investigated in the Pine Farm, 0.63 acres of the 21.31 acres were geophysically investigated in the Landfill and Composting sector, 2.47 acres of the 24.86 acres were geophysically investigated in the Pond Area, 8.61 acres of the 168.39 acres were geophysically investigated in the Natural Brush/Forest Areas, and 0.23 acres of the 30.17 acres were geophysically investigated in the EE/CA Grid 87 sector. No geophysical investigations were conducted within the 1.84 acres of Roads and Site Operations Area and the 3.91 acres in the Wetlands/Streams sector. Approximately 0.29 of the 114.92 acres were geophysically investigated within the Uninvestigated Area sector (access denied), no intrusive investigation was conducted in these grids.

1.6.6.4 The geophysical investigation identified 2,310 anomalies. The results (the locations of the geophysical survey grids including number of anomalies detected) are depicted in Figure 1-8. Table 1.5 includes a summary of the geophysical survey investigation results. Detailed geophysical investigation data is included in Appendix C. The procedures used in identifying anomalies are described in Appendix A (paragraph A.1.5.5.1). No OE items were discovered on the grid surfaces during the survey and/or brush cutting surface clearance activities.

1.6.7 Intrusive Investigation

1.6.7.1 The intrusive investigation was conducted to verify the EM-61's effectiveness to accurately locate OE items at the former CCATF OOU6. In this regard this effort was performed to safely and efficiently excavate, identify, and document OE recovered from the site; and to provide site characterization data to the site specific GIS database developed for OOU6. A summary of the intrusive investigation is provided in this section. A detailed description of all intrusive activities is provided in Appendix A. The intrusive investigation results are depicted on Figure 1-8 and also summarized in Table 1.5.

1.6.7.2 The intrusive investigation was performed from January 16, 1997 to February 26, 1997. The intrusive work was performed at a given grid after completion of the geophysical investigation at the grid. The Schoenstedt and Mk26 equipment were used to confirm if the sources of the EM-61 anomalies flagged prior to excavation of the location were of ferrous materials and to thereby ascertain potential presence of an OE item.

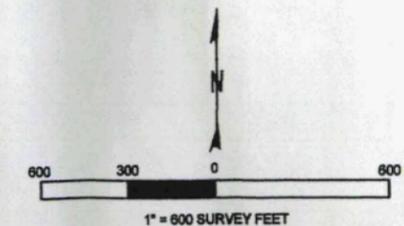
**FIGURE 1-8
SITE CHARACTERIZATION
RESULTS MAP
ORDNANCE OPERABLE UNIT 6
FORMER CAMP CROFT
SPARTANBURG, S.C.
OE ENGINEERING DESIGN**

LEGEND

- 251 GRID W/ ANOMALY COUNT AND ID NUMBER
- 66 GRIDS WITH INERT ORDNANCE
- 131 GRID WITH LIVE ORDNANCE
- 123 GRID W/ NO INTRUSIVE INVESTIGATION
- ▨ PINE FARM
- ▨ LANDFILL
- ▨ POND (ESTIMATED AREA)
- ▲ CONTROL MARKER
- - - PROPERTY BOUNDARY
- ROADS
- STREAMS
- OOU6

CP-A COMPOST AREA A

NOTES:
ORIGINAL BASE DATA FROM CEHNC.
SOUTH CAROLINA STATEPLANE
NORTH AMERICAN DATUM 1983.



ORDNANCE RECOVERY SUMMARY

ORDNANCE ITEM DESCRIPTION	RECOVERY DATE	GRID NUMBER	ANOMALY NUMBER	EM-61 READING (mV)	ORDNANCE DEPTH (bls)
1 105mm BE Illumination/Smoke Projectile (Inert)	1/28/97	48	10	101/90	6" tail/24" nose
2 105mm BE Illumination/Smoke Projectile (Inert)	2/19/97	61	6	213/205	8", horizontal
3 105mm BE Illumination/Smoke Projectile (Inert)	1/20/97	66	10	118/111	12", horizontal
4 105mm BE Illumination/Smoke Projectile (Inert)	2/25/97	81	11	452/416	6", horizontal
5 105mm BE Illumination/Smoke Projectile (Inert)	2/25/97	83	1	221/218	4", horizontal
6 105mm BE Illumination/Smoke Projectile (Inert)	2/25/97	83	5	71/56	4" tail/nose at surface
7 105mm BE Illumination/Smoke Projectile (Inert)	1/31/97	85	3	131/121	3", horizontal
8 105mm BE Illumination/Smoke Projectile (Inert)	2/24/97	110	10	70/59	6", horizontal
9 105mm High Explosive Projectile (Live)	2/18/97	131	2	25/31	18" tail/6" nose
10 105mm BE Illumination/Smoke Projectile (Inert)	2/18/97	133	11	110/96	12" tail/4" nose
11 105mm BE Illumination/Smoke Projectile (Inert)	1/23/97	137	1	60/52	24", horizontal
12 105mm BE Illumination/Smoke Projectile (Inert)	2/06/97	155	5	114/104	4", horizontal
13 105mm BE Illumination/Smoke Projectile (Inert)	2/16/97	166	4	102/90	24", horizontal
14 105mm BE Illumination/Smoke Projectile (Inert)	1/23/97	174	1	159/147	24", horizontal
15 105mm BE Illumination/Smoke Projectile (Inert)	1/22/97	205	7	169/157	4", horizontal

BE = Base Ejection

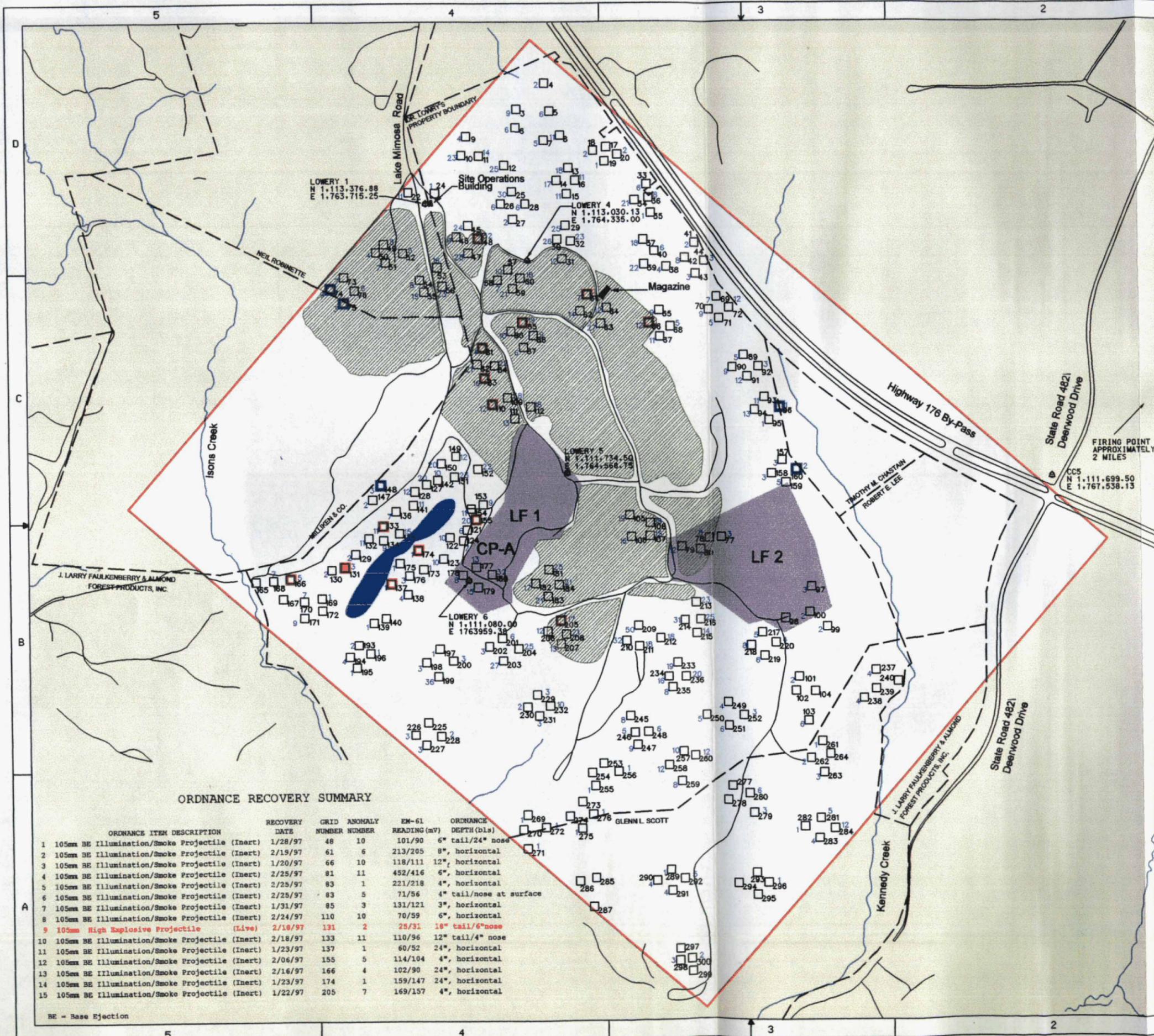


TABLE 1.5
CCATF OOU6 OE INVESTIGATION/ENGINEERING DESIGN
SUMMARY OF OE DISTRIBUTION BASED ON INTRUSIVE INVESTIGATION RESULTS

SECTORS	TOTAL ACRES	NUMBER GRIDS	NUMBER ANOMALIES ⁽¹⁾	ACRES GEOPHYS INVESTIG.	ACRES INTRUSIVELY INVEST	PERCENT SECTOR ACRES INTRUSIVELY INVEST ⁽²⁾	ORDNANCE ⁽³⁾	
							LIVE HE	INERT
1 - Roads and Site Operations Bldg. ⁽⁴⁾	1.84	0	0	0.00	0.00	0.00%	0	0
2 - Pine Farm	38.94	43	663	2.47	2.47	6.34%	0	9
3 - Landfill and Compost A Areas	21.31	11	103	0.63	0.63	2.96%	0	0
4 - Pond	24.86	43	312	2.47	2.47	9.93%	1	5
5 - Wetlands/Streams	3.91	0	0	0.00	0.00	0.00%	0	0
6 - Natural Brush/Forest	168.39	150	1145	8.61	8.61	5.11%	0	0
7 - EE/CA Grid 87	30.17	4	69	0.23	0.23	0.76%	0	0
8 - Uninvestigated Area	114.92	5	18	0.29	0.00	0.00%	0	0
TOTAL	404.34	256	2310	14.69	14.41	3.56%	1	14

- 1 Sector 6 data Includes 29 anomalies flagged during second EM-61 of Grid 199.
- 2 Second calculation excludes Sector 8 area for which access denied and Sector 7 for which risk assessment was completed.
- 3 All ordnance recovered at the site were 105mm projectiles.
- 4 TCRA Roads and site operation building acreage only. Other roads within OOU6 add up to 5.31 acres, which are included in the total acreage of the sectors in which they reside.

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1.6.7.3 One HE 105mm projectile and 14 inert 105mm illumination/smoke projectiles were recovered at the site. A total of 324 of the 2292 anomalies (2310 minus 18 deleted grid anomalies) or 14.1% of the anomalies excavated from the 251 individual sampling grids were identified as "false positives". The reason for this level of false positive hits may be attributed to the presence of magnetic rocks and metallic soil layers at the site. "False positive" in this study implies no confirmed OE item(s) related sources at the anomaly location investigated.

1.6.7.4 A quality control (QC) check of 10% of the area of each grid was conducted by the UXO subcontractor using the Foerster Mk26 magnetometer. Although several UXO fragments were recovered using the Mk26, no ordnance was confirmed at any of the QC locations.

1.6.7.5 The live 105mm projectile was blown in-place upon discovery. The 14 inert 105 illumination projectiles were subsequently rendered safe on February 27, 1997. The scrap from the live OE item destruction and those from the 14 inert 105mm illumination/smoke projectiles were taken off site for disposal by a local recycler. Upon completion of the intrusive work, Parsons ES demobilized from the site on March 5, 1997.

1.6.8 Profile of OE Item Recovered

1.6.8.1 Previous clearance operations conducted at OOU6 revealed several types of ordnance were used at the former CCATF. These ordnance items include:

- Live 105mm HE projectiles;
- Inert 105mm base ejection (BE) illumination/smoke projectiles;
- 60mm mortar projectiles;
- 155mm burster tube, and
- 81mm illumination projectile.

1.6.8.2 Only 105mm projectiles, one HE and 14 BE illumination/smoke projectiles, were recovered during the 1996/1997 OE Engineering Design. This section briefly discusses the configuration and dimension, major components, use, function, and other identification characteristics of each of these OE items. Table 1.5 presents the number of each potentially hazardous OE item recovered and how many of these items were rendered safe prior to final disposal. A description of these OE items and a representative photograph of each item are presented in the following paragraphs.

1.6.8.3 **105mm Illumination Projectile.** The 105mm illumination projectile was used for illuminating designated target areas during World War II. The ASR indicated that a target area (referred to as A19 or Red Hill) for 105mm High Explosive (HE) Projectiles was located in the center of OOU6. Numerous 105mm illumination projectiles have been recovered from the site during the EE/CA, TCRA, and the OE Engineering Design. The 19.33-inch projectile from a 105mm illumination projectile consisted of a hollow steel forging, a metal rotating band, and a pinned baseplate with a

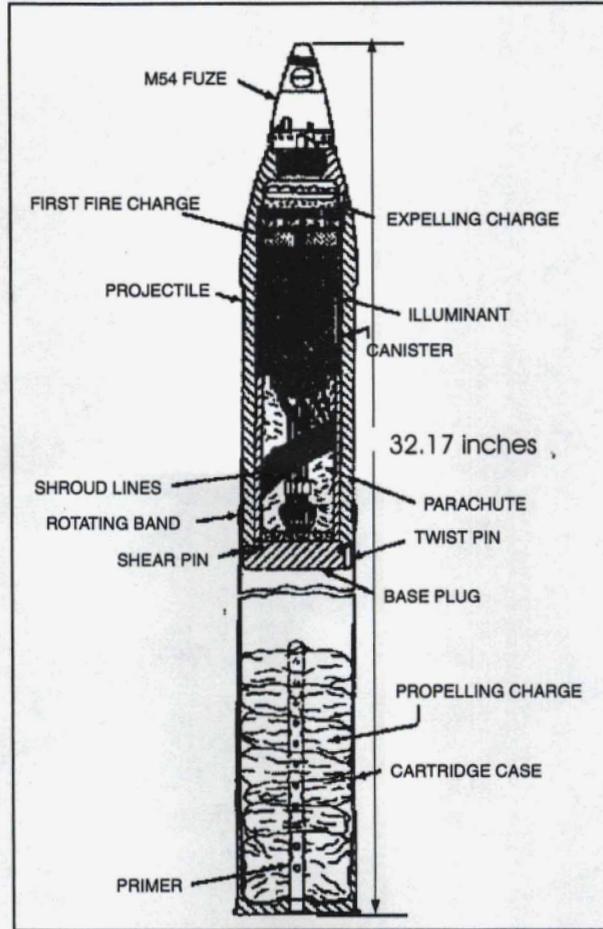
combined approximate weight of 33 pounds. The projectiles recovered from the site were assembled with M54 MTSQ (Time and Super Quick) fuzes threaded into the nose of the projectile. Other fuzes may have also been used. The projectile cavity contained the expelling charge, illuminating canister, and parachute assembly. The expelling charge consisted of 0.11 pounds of black powder contained in a cloth bag. The illuminating canister contained 1.74 pounds of illuminant (capable of providing an average luminosity of 450,000 candlepower for a duration of 60 seconds) and a first-fire composition (0.15 pounds). The parachute assembly was attached to the illuminating canister body. A baseplate was affixed to the bottom of the projectile with three shear pins and three twist pins. The complete 105mm illumination projectile was approximately 32.17 inches long with an approximate weight of 46.43 pounds. Maximum projectile range was 12,590 yds (approximately 7 miles) with a maximum muzzle velocity of 1,621 feet per second. For recognition purposes, the 105mm illumination projectiles were painted gray with white bands/stenciling or white with black bands/stenciling. The stenciling indicated the type of round. Figure 1-9 is a photograph of a 105mm illumination projectile recovered from OOU6.

1.6.8.4 105mm High Explosive Projectile

1.6.8.4.1 The 105mm High Explosive (HE) Projectile was used against personnel and light material targets during World War II. The ASR indicated that a target area (referred to as A19 or Red Hill) for 105mm HE projectiles was located in the center of OOU6. Several 105mm HE projectiles have been recovered from the site during the EE/CA, TCRA, and the OE Investigation/Engineering Design.

1.6.8.4.2 The 19.33-inch projectile from a 105mm HE projectile consisted of a hollow steel forging, a metal rotating band, and a welded baseplate with a combined approximate weight of 30 to 32 pounds. The projectiles unearthed at the site were reportedly assembled with M48 PD (Point Detonating) fuzes threaded into the nose of the projectile. Other fuzes may have also been used. The projectile cavity contained the HE filler which consisted of either 4.25 to 4.8 pounds of cast TNT or 4.6 to 5.08 pounds of Composition B. The fuze cavity (shallow or deep) was either drilled or formed in the HE filler at the nose of the projectile. A cavity liner, to preclude dusting of HE during transportation and handling, was seated in the cavity and expanded into the lower projectile fuze threads. A supplementary charge was placed in the fuze cavity of projectiles having deep cavities. Projectiles with shallow cavities or deep cavities containing a supplementary charge used only short intrusion fuzes, PD, or MT. Those with deep cavities accepted the long intrusion proximity fuze. The cartridge case contained a percussion assembly and seven individually bagged and numbered propelling charge increments. The base of the cartridge case was drilled and the primer assembly was pressed into the base. The percussion primer assembly consisted of a percussion ignition element and a perforated flash tube containing 100 grains of black powder. The propellant bags contained 2.83 pounds of flashless powder and were tied together with acrylic cord and assembled into the cartridge case around the primer flash tube. The complete 105mm HE projectile was approximately 28.6 inches long with an approximate weight of 39.92 pounds. Maximum projectile range was 12,590 yds (approximately 7

FIGURE 1.9
 105 MILLIMETER ILLUMINATION PROJECTILE
 OOU6 OE ENGINEERING DESIGN



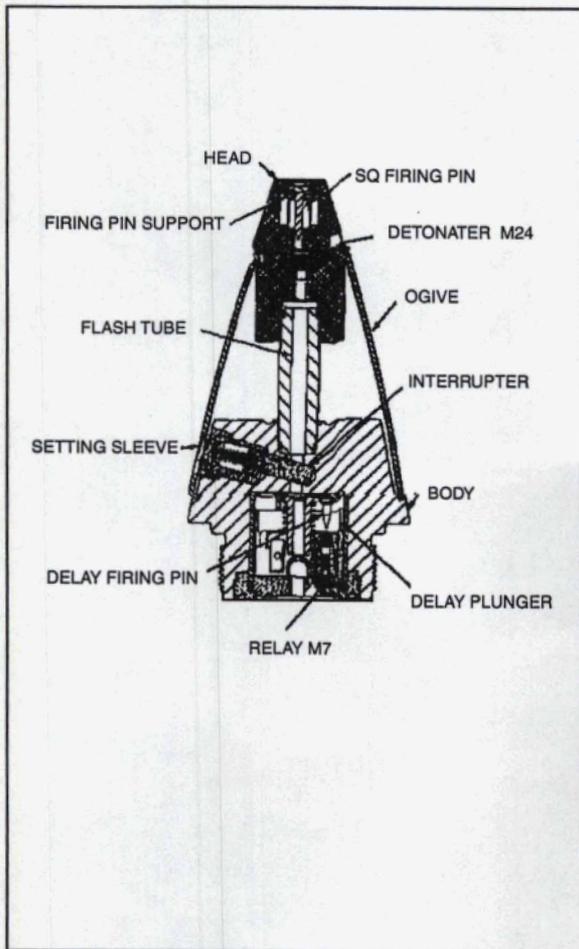
CROSS SECTION VIEW OF PROJECTILE



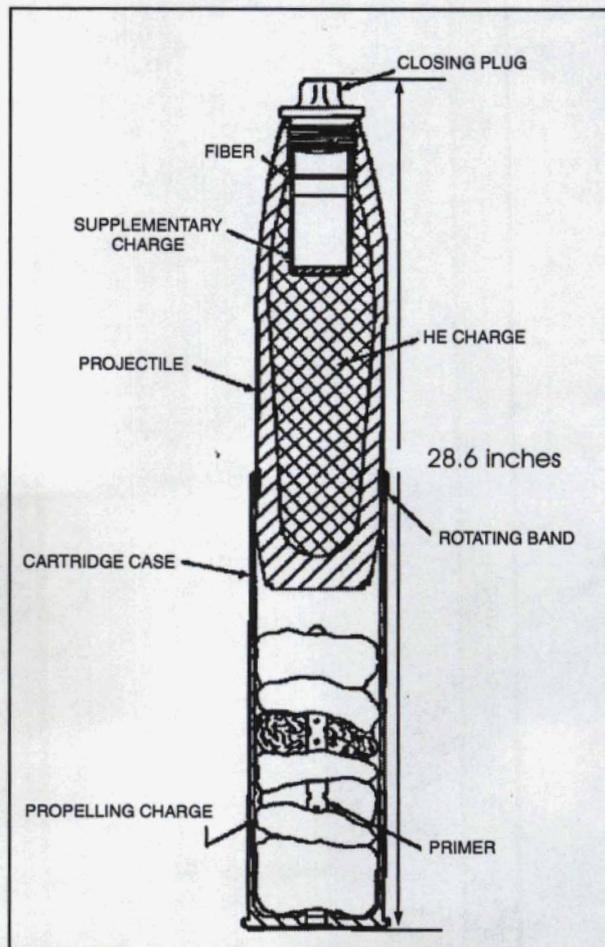
105 mm Illumination Projectile Recovered From Grid 66

FIGURE 1.10

105 MILLIMETER HIGH EXPLOSIVE PROJECTILE
OOU6 ENGINEERING DESIGN



CROSS SECTION OF FUZE BODY



CROSS SECTION VIEW OF PROJECTILE



105 mm High Explosive Projectile Recovered From Grid 131

miles) with a maximum muzzle velocity of 1,621 feet per second. For recognition purposes, the 105mm HE projectiles were painted olive drab with yellow bands/stenciling or yellow with black bands/stenciling. The stenciling indicated the type of round. Figure 1-10 is a photograph of a 105mm HE projectile recovered from OOU6 and a cross section view of a typical projectile.

1.7 SOURCE, NATURE, AND EXTENT OF CONTAMINATION

1.7.1 Introduction

This section provides an overview of the results of the geophysical and intrusive investigations performed at the former CCATF OOU6. This discussion presents the results of the investigations of the areas/sectors previously identified at the site: the Roads and Site Operations Building, the Pine Farm, the Landfill and Composting Areas, the Pond Area, the Wetlands/Streams, the Natural and Brush/Forest Areas, and EE/CA Grid 87. On the basis of the designated sectors at OOU6, the results of the geophysical and intrusive investigations are depicted in Figure 1-11. A summary of the results of these field investigations is presented in Table 1.5. A list of potentially hazardous OE items, and the sector(s) where they were discovered, are provided in Table 1.6. Recovery depth and distribution of potentially hazardous OE items are presented in Table 1.7. Table 1.8 provides a summary of all OE contamination at OOU6.

1.7.2 OE Contamination of the Roads and Site Operations Building Area

The Roads and Site Operations Building Area is comprised of approximately 1.84 acres. A geophysical survey was not conducted in this area during the OE Investigation/Engineering Design. This sector is located primarily from Landfill 1 northwest to Lake Mimosa Road and was cleared as part of the 1994/1995 TCRA investigation. The scalehouse, parking area, and truck scales are all included within this area. TCRA results indicated one HE 105mm projectile was recovered near the road in this area. The approximately 5.31 acres of onsite access roads that were not cleared during the TCRA were reportedly cleared by a representative of the property owner at a later date. However, there was no documentation of this activity. Some of these access roadways are regularly used by large trucks delivering construction debris to the landfill. Because of heavy use, the roads are maintained by regrading and adding of course construction materials (for example, asphalt debris, concrete rubble, and porcelain fragments) for better traction and control of erosion. The layers of construction debris used in building the roads may prevent exposure to potential OE items, if present. Since these roadways have not been officially cleared, they will be considered as part of the sector in which they reside (for example, the Pine Farm and the Natural Brush/Forest) can be applicable to evaluating the potential exposure for this area.

1.7.3 Pine Farm

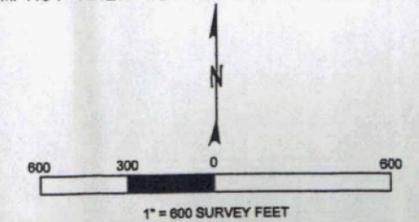
1.7.3.1 The Pine Farm Area is approximately 38.94 acres. A total of 43 sampling grids (each 50 by 50 ft in dimension) were established within this area. Approximately 6.3% (2.47 acres) of the Pine Farm was geophysically and intrusively investigated. Prior to commencement of the geophysical investigation, extensive brush cutting activities

**FIGURE 1-11
OE CONTAMINATION RESULTS AT
ORDNANCE OPERABLE UNIT 6
SECTORS
FORMER CAMP CROFT
SPARTANBURG, S.C.
OE ENGINEERING DESIGN**

LEGEND

SECTOR NAME	ACREAGE
1 TCRA ROADS AND SITE OPERATION BUILDING	1.84
2 PINE FARM	38.94
3 LANDFILL AND COMPOST AREA A	21.31
4 POND	24.86
5 WETLANDS/STREAMS	3.91
6 NATURAL BRUSH/FOREST	168.39
A AND B SECTOR DIVISION	
7 EE/CA GRID 87	30.17
8 UNINVESTIGATED AREA	114.92
□ 251 GRID W/ ANOMALY COUNT AND ID NUMBER	
□ 66 GRIDS WITH INERT ORDNANCE	
□ 131 GRID WITH LIVE ORDNANCE	
□ 123 GRID W/ NO INTRUSIVE INVESTIGATION	
■ POND (ESTIMATED AREA)	
△ SURVEY MARKER	
- - - PROPERTY BOUNDARY	
— ROADS	
— STREAMS	
— OOU6	

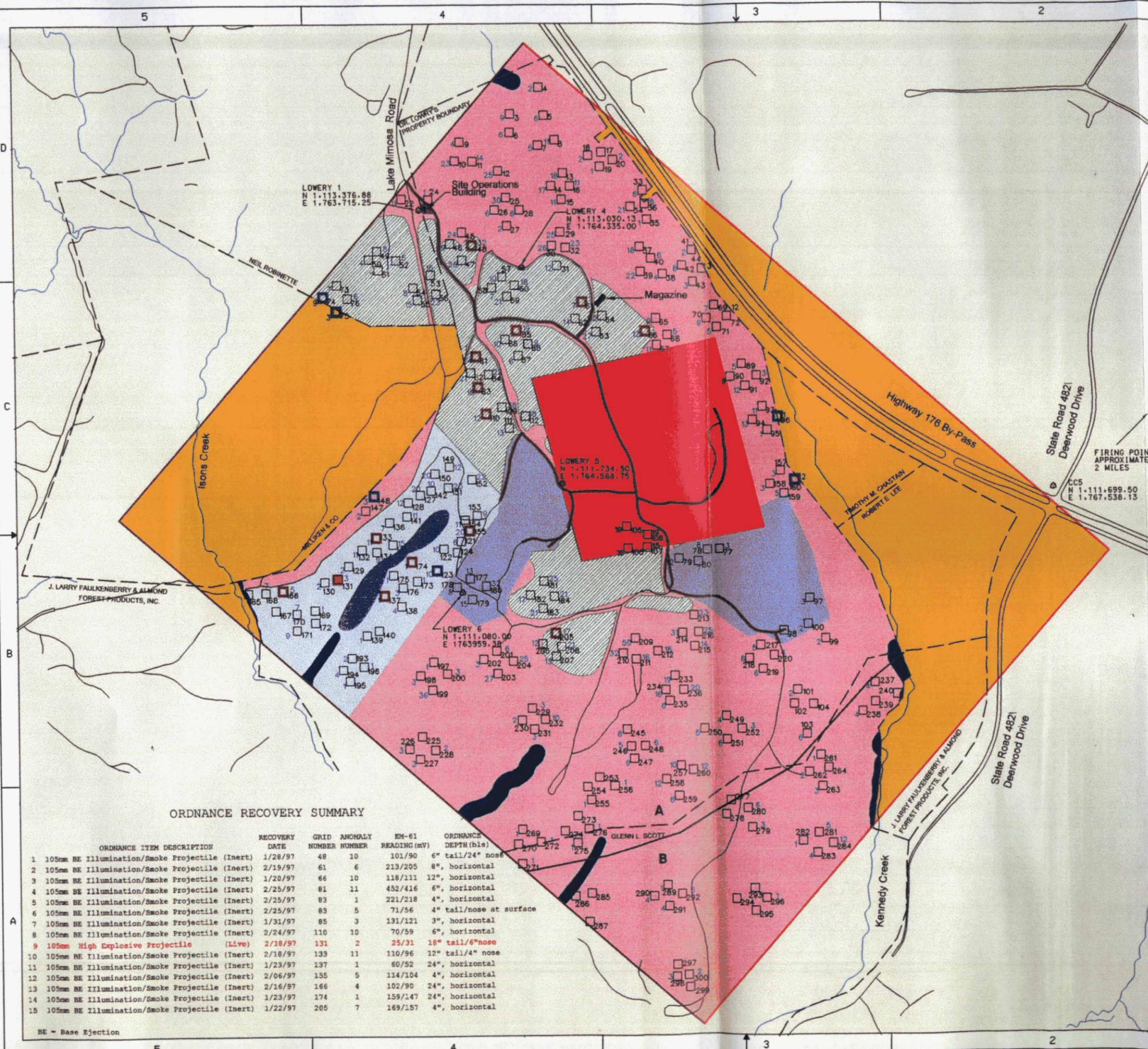
NOTES:
ORIGINAL BASE DATA FROM CEHNC.
SOUTH CAROLINA STATEPLANE
NORTH AMERICAN DATUM 1983.
IMPACT AREA WITHIN EE/CA GRID 87.



ORDNANCE RECOVERY SUMMARY

ORDNANCE ITEM DESCRIPTION	RECOVERY DATE	GRID NUMBER	ANOMALY NUMBER	EM-61 READING (mV)	ORDNANCE DEPTH (in)
1 105mm BE Illumination/Smoke Projectile (Inert)	1/28/97	48	10	101/90	6" tail/24" nose
2 105mm BE Illumination/Smoke Projectile (Inert)	2/19/97	61	6	213/205	8", horizontal
3 105mm BE Illumination/Smoke Projectile (Inert)	1/20/97	66	10	118/111	12", horizontal
4 105mm BE Illumination/Smoke Projectile (Inert)	2/25/97	81	11	452/416	6", horizontal
5 105mm BE Illumination/Smoke Projectile (Inert)	2/25/97	83	1	221/218	4", horizontal
6 105mm BE Illumination/Smoke Projectile (Inert)	2/25/97	83	5	71/56	4" tail/nose at surface
7 105mm BE Illumination/Smoke Projectile (Inert)	1/31/97	85	3	131/121	3", horizontal
8 105mm BE Illumination/Smoke Projectile (Inert)	2/24/97	110	10	70/59	6", horizontal
9 105mm High Explosive Projectile (Live)	2/18/97	131	2	25/31	18" tail/6" nose
10 105mm BE Illumination/Smoke Projectile (Inert)	2/18/97	133	11	110/96	12" tail/4" nose
11 105mm BE Illumination/Smoke Projectile (Inert)	1/23/97	137	1	60/52	24", horizontal
12 105mm BE Illumination/Smoke Projectile (Inert)	2/06/97	155	5	114/104	4", horizontal
13 105mm BE Illumination/Smoke Projectile (Inert)	2/16/97	166	4	102/90	24", horizontal
14 105mm BE Illumination/Smoke Projectile (Inert)	1/23/97	174	1	159/147	24", horizontal
15 105mm BE Illumination/Smoke Projectile (Inert)	1/22/97	205	7	169/157	4", horizontal

BE = Base Ejection



**TABLE 1.6
CCATF OOU6 OE INVESTIGATION/ENGINEERING DESIGN
LIST OF POTENTIALLY HAZARDOUS OE ITEMS***

SECTOR ⁽¹⁾	ITEM ID	GRID ID	GIS ID	Coordinates		ANOMALY #	DATE OF DEMOLITION	DEPTH FOUND	WEIGHT	EM-61 Reading (mV) ⁽²⁾
				Northing	Easting					
2	105 BE	48	9904801001	1113144' 3"	1764026' 7"	10	2/27/97	6" tail/24" nose	25 lbs.	101/90
2	105 BE	61	9906100602	1112838' 3"	1764696' 3"	6	2/27/97	8", horizontal	25 lbs.	213/205
2	105 BE	66	9906601001	1112622'	1765070'	10	2/27/97	12", horizontal	25 lbs.	118/111
2	105 BE	81	9908101101	1112493' 8"	1764043' 4"	11	2/27/97	6", horizontal	25 lbs.	452/416
2	105 BE	83	9908300101	1112319'	1764039'	1	2/27/97	4", horizontal	25 lbs.	221/218
2	105 BE	83	9908300502	1112338'	1764055'	5	2/27/97	4" tail/nose at surface	25 lbs.	71/56
2	105 BE	85	9908500302	1112647' 8"	1764286' 1"	3	2/27/97	3", horizontal	25 lbs.	131/121
2	105 BE	110	9911001002	1112172' 6"	1764098' 3"	10	2/27/97	6", horizontal	25 lbs.	70/59
4	105 BE	131	9913100201	1111156' 5"	1763196' 5"	2	2/18/97	18" tail/6" nose	25 lbs.	25/31
4	105 BE	133	9913301101	1111426' 2"	1763464'	11	2/27/97	24", horizontal	25 lbs.	110/96
4	105 BE	137	9913700101	1111079' 6"	1763469' 8"	1	2/27/97	24", horizontal	25 lbs.	60/52
4	105 BE	155	9915500302	1111452'	1763964' 10"	3	2/27/97	4", horizontal	25 lbs.	114/104
4	105 BE	166	9916600401	1111076'	1762895' 3"	4	2/27/97	24", horizontal	25 lbs.	102/90
4	105 BE	174	9917400101	1111260'	1763634' 6"	1	2/27/97	24", horizontal	25 lbs.	159/147
2	105 BE	205	9920500701	1110846' 10"	1764519' 2"	7	2/27/97	4", horizontal	25 lbs.	169/157

* Sorted by sector, ordnance items, and depth.

105BE = 105mm illumination/smoke projectile with mechanical timer (inert)

105HE = 105mm High Explosive projectile with point detonating fuze (live)

(1) Sector 2 - Pine Farm; Sector 4 - Pond

(2) EM-61 readings unit is millivolt (mV) and the data is read from the instrument for the upper and the lower coils.

TABLE 1.7
CCATF OOU6 OE INVESTIGATION/ENGINEERING DESIGN
RECOVERY DEPTHS OF POTENTIALLY HAZARDOUS OE ITEMS

REFERENCE DEPTH	ROADS AND SITE OPS. BUILDING	PINE FARM	LANDFILL AND COMPOST A AREAS	POND AREA	WETLANDS AND STREAMS	NATURAL BRUSH/FOREST	EE/CA GRID #7	UNINVESTIGATED AREA	TOTAL	%
0"	0	1	0	0	0	0	0	0	1	7%
>0-12"	0	8	0	3*	0	0	0	0	11	73%
>12-24"	0	0	0	3	0	0	0	0	3	20%
>24-36"	0	0	0	0	0	0	0	0	0	0%
>36-48"	0	0	0	0	0	0	0	0	0	0%
>48"	0	0	0	0	0	0	0	0	0	0%
TOTAL	0	9	0	6	0	0	0	0	15	100%

* Single live 105mm HE projectile from Grid 131 included in total from this depth.

**Table 1.8
Summary of OE/UXO Investigations at OOU6**

Type of Investigation	Date	Investigation Grids/Area/Sectors	OE/UXO Findings
TCRA ⁽¹⁾	1994	Landfill 1	60mm HE mortar (2) *155mm Burster tube (1)
		Landfill 2	None
		Proposed Phase III & IV Area	None
		Access Roads	Live 105mm projectile (1)
EE/CA ⁽²⁾	1995/1996	61 (Compost B)	None
		62 (Poppy Field)	None
		87	105mm Smoke Canisters (9) 60mm (4) 81mm (7) Mortar parts, UXO fragments
		88 (Landfill 2)	UXO fragments
OE Engineering Design ⁽³⁾	1996/1997	Roads & Operation Bldg	None
		Pine Farm	105mm inert illumination /smoke projectiles (9)
		Landfills 1 & 2 and Compost A	UXO fragments
		Pond	105mm HE projectile (1) 105mm inert projectiles (5)
Natural Brush/Forest	UXO fragments		
Sighting by Dr. Lowry	1994 - to date	Red Hill (Grid 87 area)	Several OE items (reportedly, 105mm projectiles and UXO fragments)
Sheriff's Department and 48th EOD	1997	OE items discovery - Post Engineering Design Clearance Work	⁽⁴⁾

(1) Source: TCRA Report, HFA, 1994

(2) Source: EE/CA Report, ESE, 1996

(3) Source: This OE Engineering Design Report

(4) Details on OE items not available at time of publication of this report.

* The burster tube consists of a seamless steel tubing with an OD of approximately 1 inch and it encloses the burster charge. The purpose of the burster is to burst the shell wall and disperse the filter of the shell upon detonation of the point detonating fuze.

were conducted to enable use of the EM-61 survey equipment. The geophysical survey of the grids identified a total of 663 anomalies. More anomalies were detected in the Pine Farm than any other areas within OOU6 (except the Pond Area). On average, approximately 15 anomalies were detected per grid in this area versus the sitewide average of 9.0 anomalies per grid. This is explained by the proximity of the former impact area (see Figure 1-11) to the Pine Farm and the high concentration of OE fragments (versus non-OE metal scrap) recovered from these anomalies.

1.7.3.2 The weight of OE-related fragments recovered (approximately 331 pounds) from the Pine Farm accounts for more than 1/3 of the total weight of OE-related fragments (approximately 979 pounds) recovered sitewide while encompassing only 14.6% of the total OOU6 investigated acreage. Nine of the 14 inert 105mm ordnance items were recovered from the Pine Farm. No high explosive (HE) OE items were found in this area (Tables 1.4, 1.6, and 1.7).

1.7.3.3 Of the 663 anomalies detected, 62 "false positives", or approximately 9.3%, were identified in this area. A "false positive" for the OE Engineering Design is defined as a geophysical anomaly (flagged based on elevated EM-61 readings) for which no "contact" or "source material" could be identified after completing intrusive operation (dig of soil materials to probe for contact while scanning the immediate vicinity of the flagged location using the Foerster Mk26) within a 3-foot radius of the flag and up to 4 feet below land surface. The sitewide "false positive" rate was approximately 14.02%.

1.7.4 OE Contamination of the Landfill and Compost A Areas

The Landfills and Composting Area comprise approximately 21.31 acres of the site.

1.7.4.1 Landfill 1 and Compost A Areas

1.7.4.1.1 The Landfill 1 and Compost A Areas portion are approximately one-half of the total sector acreage. The area has been stripped of all vegetation and the topography has been substantially altered as a result of landfill-related operations including ravine filling. In 1994/1995 the TCRA investigation focused on the Landfill 1 and Compost A location which, at the time, was in the proposal stage. The southern 1/3rd of the area scheduled to be cleared during the TCRA was subsequently deleted from the investigation. The cleared area became Landfill 1 and is currently active. Three reportedly live OE items were recovered during the TCRA investigation of this area. Infringement into the uncleared area is occurring as a result of landfill expansion.

1.7.4.1.2. A total of 4 sampling grids were established in an area of concern (the portion omitted from the TCRA) within Landfill 1. Minimal brush cutting activities took place within these sampling grids to enable use of the EM-61 equipment. The geophysical survey of the grids identified a total of 68 anomalies. On average, 17 anomalies were detected per grid. This average exceeds the sitewide average of 9.0 anomalies per grid but is consistent with the findings at the Pine Farm. Again, the proximity of the former impact area (see Figure 1-11) to the landfill supports the high concentration of OE fragments recovered from these anomalies. Of the 42 pounds of

ferrous material recovered from Landfill 1, 98% were OE-related fragments. No ordnance items (inert or live) were recovered from Landfill 1.(Table 1.5).

1.7.4.1.3 A total of 2 “false positives”, or approximately 2.9%, were identified in Landfill 1. The sitewide “false positive” rate was approximately 14.02%.

1.7.4.2 Proposed Landfill 2

1.7.4.2.1 The proposed Landfill 2 comprises approximately one-half of the total acreage of this area. Landfill 2 has remained undeveloped and is vegetated primarily by pine trees. In 1994/1995 the TCRA investigation included the proposed Landfill 2 location. Reportedly only small pieces of OE-related fragments were recovered during the TCRA investigation of this area.

1.7.4.2.2 At the request of the Corps of Engineers, a total of 7 sampling grids were established in locations selected to address the property owner’s concerns regarding extent of investigation work in this area. Moderate brush cutting activities (consisting primarily of tall grasses and underbrush) were necessary in the sampling grids in this sector to accommodate use of the EM-61 survey equipment. The geophysical survey of the grids identified a total of 35 anomalies. On average, 5 anomalies per grid were detected, an average well below the sitewide average of 9.0 anomalies per grid. This data indicates a decrease in the rate of detection of anomalies with increasing distance from the former impact area (see Figure 1-11). A total of 10.5 pounds (91%) of the 11.5 pounds of ferrous material recovered from this portion of Sector 3 were OE-related fragments. No ordnance items (inert or live) were recovered from this portion of Sector 3 (Table 1.5).

1.7.4.2.3 A total of 2 “false positives”, or approximately 5.7%, were identified at Landfill 2. The sitewide “false positive” rate was approximately 14.02%.

1.7.5 OE Contamination of the Pond Area

1.7.5.1 The Pond Area is approximately 24.86 acres. The Pond Area is a low lying area predominantly suited for construction of a pond or a small lake. The area is bordered to the west and east by a gentle slope with occasional topographic highs. Currently, the property owner has embarked on site construction work that involves pronounced grading of the slopes bordering the intended location of the onsite pond. The property owner has removed most of the vegetation and small trees in the area leaving only large sporadic hardwoods. Ordnance clearing in the area has been limited to undocumented clearing by a representative of the property owner prior to heavy equipment operations. This area was not investigated during the 1994/1995 TCRA or the 1995/1996 EE/CA investigation.

1.7.5.2 On the basis of the on-going pond construction activities witnessed at this portion of OOU6 during the OE Engineering Design field work, CEHNC requested an increase in the sampling grids proposed for this area. A total of forty-three sampling grids were established. Minimal brush clearing activities were performed to accommodate use of the EM-61 survey equipment.

grids were established. Minimal brush clearing activities were performed to accommodate use of the EM-61 survey equipment.

1.7.5.3 The geophysical survey of the grids identified a total of 312 anomalies. On average, 7 anomalies were detected per grid, an average that is below the sitewide average of 9.0 anomalies per grid. This data indicates a decrease in the rate of detection of anomalies with increasing distance from the former impact area (see Figure 1-11). Five of the 14 inert 105mm ordnance items recovered from OOU6 were recovered from this area (Table 1.5). In addition, one 105mm HE projectile was recovered from grid 131, located in this area. However, only 70 pounds (43%) of the 162 pounds of ferrous material recovered from the sampling grids in this area were OE-related fragments. The majority of the recovered metal debris consisted of horseshoes, plow blades, an empty drum, and miscellaneous scrap.

1.7.5.4 A total of 41 "false positives", or approximately 13.14%, were identified. The sitewide "false positive" rate was approximately 14.02%. Since the soil at the site are schistotic and appear rich in iron content, it is very likely that these soil attributes contributed to the false positive rate.

1.7.6 OE Contamination of the Wetlands/Streams Area

The Wetlands/Streams Area is approximately 3.91 acres. The sector is undeveloped and consists of steep ravines with both perennial and intermittent streams. Ordnance clearing has not been performed in the area and previous investigations (1994/1995 TCRA or the 1995/1996 EE/CA investigations) did not include any portion of the wetlands/streams area. CEHNC directed that this area be excluded from the OE Engineering Design due to regulatory restrictions on wetlands.

1.7.7 OE Contamination of the Natural Brush/Forest Area

1.7.7.1 The Natural Brush/Forest Area is the largest total acreage sector at OOU6 and consists of approximately 169.05 acres. This area is comprised of sparsely forested mature hardwood with moderately thick underbrush and occasional clearings. The presence of numerous tree stumps indicates the sector has undergone timber harvests in the past. Little to no development/alteration of this area has occurred. Ordnance clearing has not been performed in this area and the area was not investigated during the 1994/1995 TCRA or the 1995/1996 EE/CA investigation. Future Compost B is planned in this sector.

1.7.7.2 The geophysical survey of OOU6 was conducted sitewide (not by sectors) between January 7 and February 7, 1997. A total of 150 sampling grids were established in the approximate locations (depending on location-specific conditions) randomly selected in this area and identified in the project Work Plan. Moderate brush cutting activities were necessary to prepare the sampling grids in this sector to accommodate the EM-61 survey team(s) and equipment. The geophysical survey of the grids identified a total of 1,145 anomalies. On average, 8 anomalies per grid was detected. This average is below the sitewide average of 9 anomalies per grid. The decrease in number of anomalies detected is believed to be related to the increasing distance from the former impact area (see Figure 1-11). As a general observation, no anomalies were identified in

22 of the 150 sampling grids in this area. No ordnance items were recovered (see Table 1.5). However, of the approximately 502 pounds of the ferrous material recovered 411 pounds (82%) were OE-related fragments. The majority of the recovered non-OE ferrous debris consisted of horseshoes, plow blades, barbed wire, and miscellaneous scrap.

1.7.7.3 A total of 214 "false positives", approximately 18.7% of the anomalies detected in this area, were identified. Veins of magnetic rock and metallic soil layers were identified in the southern portion of this sector and may be responsible for the increase in the "false positive" rate. The sitewide "false positive" rate was approximately 14.02%. The number of false positives from this area is factored into the average sitewide estimate.

1.7.8 OE Contamination of the EE/CA Grid 87 Area

1.7.8.1 The EE/CA Grid 87 Area is approximately 30.17 acres. The area is undeveloped and comprises a large portion of the former impact area. This sector was included as part of the area investigated during the 1995/1996 EE/CA investigation. The EE/CA Report indicated there was significant OE/UXO contamination in Grid 87. An OECert analysis of the data collected from this area was performed and reported in the EE/CA report.

1.7.8.2. At the request of CEHNC, a total of 4 sampling grids (each 50 by 50 ft in dimension) were established to investigate an area reported to have been inadvertently omitted during the EE/CA field investigation. Moderate to heavy brush cutting activities were necessary to enable use of EM-61 equipment in this area. The geophysical survey of the grids identified a total of 69 anomalies. On average, approximately 17 anomalies per grid were detected versus the sitewide average of 9 anomalies per grid. This data show a higher concentration of anomalies in this area than other portions of OOU6. This data supports the projection that this area lies predominantly in the impact zone (see Figure 1-11). All of the 24.2 pounds of material recovered from the area investigated within EE/CA Grid 87 were OE-related fragments. However, no ordnance items (inert or live) were recovered (Table 1.5).

1.7.8.3 A total of 3 "false positives", or approximately 4.3%, were identified. The sitewide "false positive" rate was approximately 14.02%. The data acquired for this area was intended for confirmation purposes and to determine if any effect to previous findings (1996 EE/CA effort). On the basis of the additional data presented, there is no impact to previous results and recommendation, therefore, further evaluation or analysis of the data gathered at EE/CA Grid 87 during this OE Engineering Design field work is not warranted.

1.7.9 OE Contamination of the Uninvestigated Area

The Uninvestigated Area is approximately 114.92 acres of land within OOU6 for which access was not granted to the investigation teams by the property owners. The western portion of this area consists of property owned by Milliken and Company. The eastern portion consists of parcels owned by several property owners. The

uninvestigated area is almost entirely undeveloped and covers property the furthest from the former impact area but still within OOU6. No ordnance clearing has been performed within this area and the area was not investigated during the 1994/1995 TCRA or the 1995/1996 EE/CA investigations.

1.7.10 Conclusion

The following conclusions are drawn from the site characterization effort prior to performing the risk assessment on the site characterization data. The risk evaluation process will provide an assessment of the overall danger posed to public safety at each of the sectors at OOU6.

- **Roads and Site Operation Building.** The Roads and Site Operation Building Area were cleared during the 1994/1995 TCRA effort. Currently, there are no known plan(s) for future intrusive activities in this area.
- **Pine Farm.** No live OE items were recovered in the geophysical investigation grids within the Pine Farm, but potentially hazardous OE items were recovered. Therefore, a potential for OE exposure in this sector exists.
- **Landfill and Compost A Areas and Natural Brush/Forest.** In summary, no potentially hazardous OE items or any OE-related items (other than small fragments) were found in the investigated portions of the Landfill and Compost A Areas and the Natural Brush/Forest Area and thus OE contamination of these areas is not expected to pose a significant safety threat.
- **Pond Area.** The primary area of concern is the Pond Area in which a considerable amount of ongoing intrusive work associated with pond construction is underway. The single live OE item (105mm HE) was found in this area as well as a number of inert ordnance items. Therefore, a high potential for the presence of potentially hazardous OE items exists for the Pond Area.
- **Wetlands.** Based on Corps of Engineers request, the Wetlands/Streams Area was not investigated due to regulatory restrictions and there are no current or known future plans for intrusive activities in this area.
- **EE/CA Grid 87.** Although minimal field investigations were conducted in EE/CA Grid 87, existing data show a high potential for the presence of potentially hazardous OE items here.
- **Uninvestigated Area.** The Uninvestigated Area remains to be probed for OE contamination. Currently, there is no adequate information to evaluate the potential hazard of encountering OE items, if any, in this area.

1.8 RISK EVALUATION SUMMARY

1.8.1 Introduction

1.8.1.1 This streamlined risk assessment has been divided into two separate evaluations. The first evaluation is a qualitative one which provides an assessment of the overall danger posed to public safety in the absence of any removal action being conducted at the site. The risks evaluated in this assessment are those posed by potentially hazardous OE items found in sectors previously defined for the site: the Roads and Site Operations Building, the Pine Farm, the Landfill and Compost A Areas, the Pond Area, and the Natural Brush/Forest. For the purpose of this analysis, a potentially hazardous OE item is defined as one of the 15 OE items that had to be destroyed onsite

during the intrusive investigation of which one item was classified as UXO. These items were demilitarized by the UXO clearance crews either because the OE item may have potentially contained a live fuze or the OE item contained HE. These 15 OE items represent only a fraction of the total weight of OE-related items found on the site during the intrusive investigation; however, most of the OE items found were fragments or fuze bodies determined to be inert and did not pose a safety hazard. The safety risk posed by the potentially hazardous OE items is a function of the probability of an explosive event occurring and the risk posed to public safety as a result of such an event occurring. In performing this risk evaluation, the objective is to determine the need for performing a removal action in any of the sectors. Consequently, each of the sectors will be analyzed separately due to the differences in land use and the differing results of the intrusive investigations within each of the sectors.

1.8.1.2 The second evaluation is a quantitative approach which provides an estimation of the amount of risk found at the site in its current condition as a function of the number of public exposures to potentially hazardous OE items as well as the risk reduction achieved after the implementation of various removal actions. The methodology used to determine this risk has been developed by CEHNC and is called the Ordnance and Explosives Cost-Effectiveness Risk Tool (*OECert*). Two of the primary inputs into *OECert* are the homogeneous sectoring of the site and the estimated ordnance density of the areas under analysis. To this end, the five sectors of the CCATF OOU6 site identified and used up to this point - the Roads and Site Operations Building, the Pine Farm, the Landfill and Composting Areas, the Pond Area, and the Natural Brush/Forest - have been examined and will be used in the *OECert* analysis to estimate the residual risk posed by OE items after the implementation of various removal alternatives. The Natural Brush/Forest sector will be subdivided into Natural Brush/Forest A and Natural Brush/Forest B. Natural Brush/Forest B will include the portion of the sector for which minimal OE-related scrap was found during sampling (Figure 1-11).

1.8.1.3 Assumptions must be made to adequately define the risks at each of the five sectors at the former CCATF OOU6. These assumptions are applicable to all of the sectors of the site. The first issue to address is the likelihood of exposure to OE. To assess the potential risk of exposure associated with OE, potential exposure pathways must be analyzed. In the case of OE, there is only one potential pathway to exposure, direct contact. If there is a likelihood of exposure, the probability that an exposure will result in a hazard is of paramount importance. Therefore, the potential hazard associated with direct contact must be determined. In order to ensure the public's safety, an assumption must be made that all exposure through direct contact to OE has a strong possibility of resulting in a mishap/detonation if the ordnance item is fuzed or if there is HE remaining in the OE item. Consequently, if potentially hazardous OE items exist at the site where exposure by direct contact is possible, a safety hazard exists. A more detailed discussion of the risk of exposure to OE within the five sectors is presented in the following sections.

1.8.2 Site Specific OE Hazards - A Qualitative Overview

1.8.2.1 OE Risk at the Roads and Site Operations Building Area

As outlined in Section 1.8.1, the OE risk at each of the sectors within OOU6 of the former CCATF can be quite different due to the distribution of the OE items found at the site as well as the current use of the sector. Field investigations were not conducted within the Roads and Site Operations Building Area during the OE Engineering Design because this area was cleared of OE during the TCRA investigation. The site roads not investigated during the TCRA are considered to be part of the sectors within which they reside.

1.8.2.2 OE Risk at the Pine Farm

1.8.2.2.1 The Pine Farm Area of OOU6 is a sector which is only moderately used recreationally by invited hunters/hikers. The pine would at some point in the future be harvested. Based on the historical record, the central portion of the Pine Farm Area abuts the periphery of the former target impact zone and therefore, may contain OE items.

1.8.2.2.2 The Pine Farm Area accounts for 11.3% of the total OOU6 acreage. The area is comprised of closely spaced young pines and its cover supports a variety of animals (for example white tail deer and wild turkey) seasonally hunted at the site. The geophysical investigation of this area covered 6.3% of this sector. This survey identified over 663 anomalies and 9 potentially hazardous OE items (105mm projectiles) were recovered and destroyed on-site. In addition, another 331 pounds of OE item fragments were also recovered during the intrusive investigation. Further details regarding the Pine Farm Area are presented in Section 1.7.3. Therefore, a public safety hazard exists within the sector because of the potential for OE items to be present.

1.8.2.3 OE Risk at the Landfill and Compost A Areas

The Landfill and Compost A Areas of OOU6 is a predominantly developed sector in support of active landfill operations. Much of the tree cover has been removed and intrusive activity is a common practice to accommodate fill areas for burial of landfill materials. Based on the historical record, this sector abuts the periphery of the former target impact zone and is anticipated to contain OE items. However, the vast majority of this sector was cleared of OE during the TCRA. In addition, no potentially hazardous OE items were recovered during the OE Engineering Design field investigation. Therefore, there does not appear to be a significant OE hazard to public safety as a result of past DoD activities in this sector.

1.8.2.4 OE Risk at the Pond Area

1.8.2.4.1 The Pond Area of OOU6 is currently undergoing significant development. In addition to the current moderate use for hunting, future heavy recreational use is likely. Based on the historical record, the Pond Area is located west of the former target impact zone in an area suspected to be positioned to receive ordnance overshoots. Therefore, this sector may contain OE items. Six of the fifteen OE items (105mm projectiles)

recovered during the OE Engineering Design field investigation (including the live ordnance item) came from this sector (see Figure 1-11).

1.8.2.4.2 The Pond Area accounts for 7.4% of the total OOU6 acreage. The area is undergoing extensive grading to accommodate a large pond. The geophysical investigation of this area covered 9.7% of this sector. This survey identified over 312 anomalies and 6 potentially hazardous OE items were recovered and destroyed on-site. In addition, 70 pounds of OE item fragments were also recovered during the intrusive investigation. Further details regarding Sector 4 are presented in Section 1.7.5. Therefore, a public safety hazard exists within the sector as a result of the potential that remains for OE items to be present.

1.8.2.5 OE Risk at the Wetlands/Streams

The Wetlands/Streams Area is undeveloped and is only used occasionally for recreational purposes by invited hunters/hikers. The wetlands/streams comprising this sector occur specifically in low topographical relief areas. As directed by CEHNC, field investigations were not conducted within the Wetlands/Streams Area due to regulatory concerns and the potential to disturb the wet areas or wetlands. Based on the historical record, none of the five locations identified as potential wetlands/streams are located in the proximity of the former target impact zone. Therefore, the presence of OE items is unlikely. On the basis of this assumption and because of the unlikelihood of future intrusive activity in this sector, an OE hazard to public safety as a result of past DoD activities in this sector is not known. Of concern is the potential that OE items may wash down the hill from grid 87 into the streams and/or wetlands. No studies have been performed to confirm if this has happened.

1.8.2.6 OE Risk at the Natural Brush/Forest Area

1.8.2.6.1 The Natural Brush/Forest Area of OOU6 is a predominantly undeveloped sector which is only moderately used recreationally by invited hunters/hikers. Based on the historical record, only a small percentage of the Natural Brush/Forest Area is within 300 feet of the periphery of the former target impact zone or suspected overshoot area. Therefore, this sector may contain a minimal number of OE items.

1.8.2.6.2 The Natural Brush/Forest Area accounts for 49.4% of the total OOU6 acreage. The area is undeveloped and is comprised of old growth hardwoods. Recreational hunting is frequently conducted within this sector. The geophysical investigation of this area covered 5.1% of this sector. This survey identified over 1145 anomalies but no potentially hazardous OE items were recovered. In addition, another 502 pounds of OE item fragments were recovered during the intrusive investigation. It was noted that OE contamination was not uniform throughout the sector. Thus the sector was divided into two subsectors as depicted on Figure 1-11. On the basis of the site characterization data a public safety hazard appears to exist within the Natural Brush/Forest A because of the strong potential for OE items to be present. A public safety hazard does not exist for the Natural Brush/Forest B because the potential for presence of OE items is extremely low or non-existent.

1.8.2.7 OE Risk at the EE/CA Grid 87

The EE/CA Grid 87 Area of OOU6 is predominantly undeveloped. The Pine Farm extends partly into this sector. This sector was previously investigated during the 1995/1996 EE/CA of OOU6. The result of the risk evaluation indicated a public safety hazard in this area. Because the risk assessment for this sector has been performed in the EE/CA document a further investigation of this sector is not warranted under the Engineering Design.

1.8.3 Site Specific OE Baseline Exposure Risk (OECERT)

1.8.3.1 Introduction

1.8.3.1.1 The *OECert* methodology is designed to prioritize the removal efforts for a set of OE-contaminated sites and to determine a quantitative risk of public and individual exposure to OE at each site. The prioritization is based on a cost-effectiveness measure, defined as the maximum risk reduction achieved for each dollar spent on the removal effort. The public exposures to OE used in *OECert* result from individuals performing specific activities (both recreational and occupational) within OE contaminated areas. The expected number of surface OE exposures per participant in an area is dependent on the OE density, the proportion of OE on the surface, and the activity participant's exposure area (the area traversed by an individual while performing an activity). The expected number of subsurface OE exposures per participant in a sector is dependent on the OE density, the proportion of OE beneath the surface of the ground, the density distribution of the subsurface OE, and the area associated with an activity performed in a sector.

1.8.3.1.2 The calculation of the total expected number of exposures to OE at a site follows a step-by-step process. First, for each sector, the expected number of exposures for a single individual participating in a specific activity is calculated. Second, the number of individuals that are expected to participate annually in that activity on the site is determined based on the demographics surrounding the site and the activity participation. The two values are combined to give the total annual number of exposures expected to occur for participants in the identified activity. These calculations are performed for each activity that has been determined to be performed at the site. The values for the expected number of exposures resulting from participation in each activity are then added together to yield the overall risk value for the site.

1.8.3.1.3 The number of potentially hazardous OE exposures was calculated based on the location and depth of the 14 potentially hazardous OE items and 1 hazardous UXO item found at the site during the intrusive investigation. The results of this analysis are identified as the "Sampled Density Estimate.

1.8.3.2 OECert Results

1.8.3.2.1 Table 1.9 shows the OE density estimates for the various sectors of OOU6 for the Sampled Density Estimate. These density estimates were derived as noted above. The total anomaly count, intrusive area investigated, specific OE item location and depth, and additional sector characteristics were key elements in the estimation of OE density and area/sector definition. The sampled density estimate identifies the extrapolated results of

the field sampling for each of the sectors defined for the site. The OE items on the surface is reflected in the surface percentage of OE items density as shown in Table 1.9. The estimated number of surface and subsurface OE items for each sector area within OOU6 is shown in Table 1.10.

1.8.3.2.2 The OOU6 parcel of the former CCATF was partitioned into six homogeneous risk sectors.

**TABLE 1.9
OE DENSITY ESTIMATES FOR THE FORMER CAMP CROFT
ARMY TRAINING FACILITY - OOU6
(OE PER ACRE)**

Area	Sector	Sampled Density Estimate (per acre)
Roads and Site Operations Bldg.	1	0.00
Pine Farm	2	0.154
Landfill and Composting Areas	3	0.154
Pond Area	4	0.154
Natural Brush/Forest A	6A	0.154
Natural Brush/Forest B	6B	0.00

1.8.3.2.3 Each sector has a specific ordnance density, set of activities, and public participation parameters which were prepared for the risk assessment database. As a result, the Natural Brush/Forest Area was divided between subsectors A/B. This sector was divided out as a result of the vastly different field investigation results within this sector.

**TABLE 1.10
OE SURFACE AND SUBSURFACE ESTIMATES
(OE PER ACRE)**

Area	Sector	Surface Sampled OE Estimate	Subsurface Sampled OE Estimate
Roads and Site Operations Bldg.	1	0	0
Pine Farm	2	1	5
Landfill and Composting Areas	3	0	1
Pond Area	4	3	1
Natural Brush/Forest A	6A	1	17
Natural Brush/Forest B	6B	0	0

1.8.3.2.4 Table 1.11 identifies the expected annual exposures at OOU6 after various removal action alternatives have been completed for the sampled density estimates. An

expected exposure, as defined by the OECert methodology, is an individual participating in an activity being in the proximity of ordnance, with or without the knowledge of its presence. No exposures are present at the Roads and Site Operations Building sector since a physical barrier to potential OE items exists and future intrusive activity is unlikely. In addition, no exposures are present at the Natural Brush/Forest B sector based on the distance from the former target impact zone and since no OE items were found during the OE Engineering Design.

**TABLE 1.11
EXPECTED ANNUAL EXPOSURES
(SAMPLED DENSITY ESTIMATES)**

Area	Sector	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Roads and Site Operations Bldg.	1	0	0	0	0
Pine Farm	2	4	2	1	1
Landfill and Composting Areas	3	1	1	1	0
Pond	4	18	2	0	0
Natural Brush/Forest A	6A	7	4	2	2
Natural Brush/Forest B	6B	0	0	0	0
SITE TOTAL		30	9	4	3

1.8.3.3 Conclusions of the OECert Analysis

1.8.3.3.1 The results of the OECert Analysis of the site indicate that the Pond Area poses the greatest threat to public safety of any of the sectors of the site. The annual exposure estimate of 18 under the No Action alternative for this sector is 40% of the total exposures for the entire site based on the sampled density estimate. This level of annual exposures is nearly 2.5 times the amount of the next highest sector on the site which is the Natural Brush/Forest A. Lower numbers of annual exposure to OE were identified for the Pine Farm sector, the Landfill and Composting Areas, and the Natural Brush/Forest B. No exposures were identified for the Roads and Site Operations Building and the Natural Brush/Forest A.

1.8.3.3.2 In examining potential removal alternatives for the sectors of OOU6 at CCATF, three follow-on removal actions were examined: a one-time surface removal; OE removal to a depth of one foot; and OE removal to a depth of four feet within each of the sectors. These anticipated exposure reduction factors have been generated based on the depth of recovery of the OE items found during the OE Engineering Design as well as taking into account the sweep efficiency of current OE removal technology. Within the sampled density estimate, the results of the OECert analysis indicate that a one-time surface removal will reduce the number of annual exposures by about 70% across the entire site with an 89% reduction in the Pond Area. A 50% reduction in exposures was estimated for the Pine Farm sector, while a 43% reduction in exposures was seen for the

Natural Brush/Forest A subsector. For the one-foot removal alternative, an 87% reduction was seen in the number of exposures for the overall site. A 100% reduction in exposures was estimated for the Pond Area sector, while a 71% reduction in exposures was seen for the Natural Brush/Forest A subsector. With the exception of the Landfill and Composting Areas sector, no significant reduction in the number of annual exposures was seen for a four-foot removal alternative scenario over what was estimated for the one-foot removal alternative.

1.8.4 Summary

Based on the results of this streamlined risk evaluation, the following conclusions can be made. The sample density estimates reflect existing conditions of the area based on the found OE density and depth distribution from the OE Engineering Design field sampling. Using the sampled density estimate, the highest risk of exposure to OE and the resulting safety hazard exists in the Pond Area sector of the site. A more limited risk of exposure to OE exists at the Pine Farm sector, the Landfill and Composting Areas sector, and the Natural Brush/Forest A sector. Table 1.11 shows the expected annual exposures for a "no OE removal action" scenario for each of the analysis areas given the sampled density estimate for ordnance.

SECTION 2

IDENTIFICATION AND ANALYSIS OF REMOVAL ACTION OBJECTIVES AND ALTERNATIVES

2.1 STATUTORY LIMITS ON REMOVAL ACTIONS

Statutory limits exist for responding to releases under Section 104 of CERCLA. These limits set a \$2 million ceiling on Superfund-financed removal actions and a twelve-month time limit on implementing those removal actions. However, these limits do not apply to removal actions authorized under CERCLA Section 104(b) that are not financed by Superfund. As a result, the removal actions examined for sectors within OOU6 of the former CCATF in this OE Engineering Design do not have any statutory fiscal or timeframe limitations set by CERCLA. However, there are funding limitations for the project based on the budget available in the DERP and on the large number of OE-contaminated sites located throughout the country that must compete for these funds based on a "worst-first" funding criteria.

2.2 REMOVAL ACTION OBJECTIVES

2.2.1 The goal of this non-time-critical removal action is to reduce the explosive threat posed by OE items that potentially remain within the OOU6 tract of the former CCATF. This goal will be achieved by minimizing the public's exposure to these potential OE items. This goal corresponds to Section 300.415 (b)(2)(vi) of the NCP which identifies the "threat of fire or explosion" as a factor to be considered in determining the appropriateness of a removal action.

2.2.2 A number of factors must be considered when establishing specific objectives for a removal action. The objectives must be able to meet the requirements set forth in the ARARs, while still being realistic and achievable in terms of cost. To attain the goal of reducing the explosive threat posed by the potential for OE items remaining within OOU6 of the former CCATF, the objectives identified must be effective, implementable, and economical. The criteria of effectiveness, implementability and cost will be used to evaluate the potential removal actions for the site in accordance with the protocols established in USEPA's *Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA* (August 1993).

2.2.3 The objectives established for this removal action will guide the development of alternatives for each sector within OOU6 and focus the comparison of acceptable removal action alternatives, if warranted. These objectives will also assist in clarifying the goal of minimizing the explosive risk and achieving an acceptable level of protection to the public and environment. These objectives include:

- Identify the degree and extent of OE contamination by sector;
- Evaluate the effectiveness of various removal alternatives;
- Determine the ability to implement various removal alternatives; and
- Determine the cost to implement the various removal alternatives.

2.3 DESCRIPTION OF OE CLEARANCE TECHNOLOGIES

2.3.1 Introduction

Various technologies and approaches exist for the clearance of OE. An OE clearance operation falls into three distinct areas: detection, recovery, and disposal. A discussion of the techniques used in each of these areas is presented in the following paragraphs.

2.3.2 OE Detection

2.3.2.1 The detection of OE includes those methods and instruments that can be used to locate OE. The selection of the best technology depends on the properties of the OE to be located, including whether the ordnance is found on the surface or below the surface, and the characteristics of the location where the OE is located, such as topography, vegetation, and geology.

2.3.2.2 Detection technologies have two basic forms. One form, visual searching, has been successfully used on a number of sites where OE is located on the ground surface. When performing a visual search of a site, the area to be searched is divided into five-foot lanes which are then systematically inspected for OE. A metal detector is sometimes used to supplement the visual search in areas where ground vegetation may conceal OE. Typically, any OE found during these searches is flagged or marked on a grid sheet for later removal.

2.3.2.3 The other form of OE detection, geophysics, includes a family of detection instruments designed to locate OE. This family of instruments includes magnetic instruments, electromagnetic instruments, and ground penetrating radar. Each piece of equipment has its own inherent advantages and disadvantages based on its operating characteristics, making the selection of the type of geophysical instrument to be used on an OE survey key to its success. Nevertheless, geophysics is the most cost-effective method of conducting OE surveys. The equipment designed for OE geophysical surveys is lightweight, easily maintained, and very effective. However, there are limitations to geophysics. Geophysical equipment cannot usually distinguish OE items from other metallic objects located below the surface. "Cultural interference," such as underground utility lines, construction debris, or metal bearing rock, can deliver a signature to the equipment similar to OE. Therefore, it is necessary for the geophysical survey team to carefully document any known cultural interference while in the survey area. Another limitation to the equipment is that metallic objects have to be much larger when at greater depths so that the geophysical equipment can obtain a reading. For instance, in the case of the EM-31 (an electromagnetic locating instrument), its magnetic field can

extend to a depth of 18 feet. However, 50% of its signal strength is used in the first foot of material below the ground surface.

2.3.2.4 Various pieces of geophysical equipment were used during the OE Engineering Design field investigation at OOU6 of the former CCATF. This equipment included the Geonics EM-61 time domain metal detector (two channel), Schonstedt magnetometers (models GA-52B and GA-72CV), and the Foerster FEREX MK-26 dual tube fluxgate gradiometer. While the technical characteristics and operating parameters of each of these pieces of equipment varied greatly, each was found to be effective in various applications of the field investigation. In general, the EM-61 and MK-26 equipment was able to identify magnetic anomalies at depths up to and greater than four feet. This effective depth of the instruments was evidenced by the number of intrusive anomaly investigations performed where: no metallic items were recovered, the excavation reached 4 feet in depth, and the equipment registered a metallic anomaly below the excavation depth. The Schonstedts were strictly used for gross screening for grid staking, brush cutting, surface clearance, and pinpointing EM-61 anomalies.

2.3.3 OE Recovery

2.3.3.1 Once a site has been surveyed by either visual or geophysical means, the recovery of OE can begin. Recovery operations can take the form of a surface-only clearance of OE, an intrusive (subsurface) clearance of OE, or a combination of the two. The decision on the level of clearance operation to engage in is based on the nature and extent of the OE contamination as well as the future use of the site.

2.3.3.2 During a surface clearance operation, exposed OE or suspected OE are identified during the detection phase. Then the OE are inspected, identified, and transported to a designated area for cataloging and eventual disposal. If it is determined during the OE inspection that the item cannot be safely moved, then it may be necessary to destroy the OE item in place.

2.3.3.3 During a subsurface clearance operation, buried OE or suspected OE identified by the geophysical survey or other detection methods requires excavation for removal. Because the actual nature of the buried OE item cannot be determined without it being uncovered, non-essential personnel evacuations are necessary, as well as, perhaps, the use of engineering controls to ensure the safety of the operation. The excavation of the OE item then takes place with either hand tools or mechanical equipment depending on the suspected depth of the object. Once the OE item has been exposed, it is then inspected, identified, and transported to a designated area for cataloging and eventual disposal. If it is determined during the OE inspection that the item cannot be safely moved, then it may be necessary to destroy the OE item in place.

2.3.3.4 Evacuations are sometimes necessary when conducting intrusive investigations to minimize the risk of the operation. An evacuation area is calculated by CEHNC based on the potential explosive force that could be encountered during an excavation. All non-essential personnel remain outside of this distance during excavation activities. For OOU6 of the former CCATF, this evacuation distance was calculated to

be 50 meters. Engineering controls can be developed to reduce this evacuation distance; however, evacuations may be required if any future OE investigation take place within 200 feet of any inhabited areas and engineering controls cannot be developed to reduce the exclusion zone to preclude the need to evacuate. Every possible option will be explored to minimize potential evacuations with the exception of compromising public safety. There are several potentially contaminated areas of OOU6 that are currently within 200 feet of inhabited areas (i.e. the active landfill and scalehouse).

2.3.4 OE Disposal

2.3.4.1 Disposal of recovered OE can take one of three different forms: off-site demolition and disposal; remote, on-site demolition and disposal; and in-place demolition and disposal. The decision regarding which of these techniques to use is based on the risk involved in employing the disposal option, as determined by the specific area's characteristics and the nature of the OE recovered. The decision to remove OE items to another location must be coordinated and with the approval of the USACE representative.

2.3.4.2 If transported off-site for destruction, the OE would be transported by either Army personnel or by a qualified UXO contractor. The OE is typically transported to an active military installation where it can be safely destroyed. The transportation of OE is performed in accordance with the provisions of 49 CFR 100-199, TM 9-1300-206, and applicable state and local laws. A Transportation Plan detailing the route and procedures used during the transportation is prepared and approved prior to engaging in any off-site OE transport to ensure all safety aspects of the movement have been addressed.

2.3.4.3 If OE is recovered in close proximity to occupied buildings it may not be possible to safely destroy the OE item in place. In this instance, the OE item can be moved to a remote part of the project site where demolition and disposal can safely take place. A countercharge can be used to destroy the OE item or the OE item can be burned as a means of destruction. Burning an OE item is not as desirable as a countercharge; however, as the burning can produce secondary explosions or the item may not be completely destroyed, thus leaving the OE item in a more dangerous state than it was originally. Engineering controls, such as sandbag mounds and sandbag walls over and around the OE item, are often used to minimize the blast effects when an OE item is destroyed in this manner.

2.3.4.4 Finally, an OE item may be destroyed in place. This technique is typically employed when the OE item cannot be safely moved to a remote location. When employing this technique, procedures similar to those described above are used that will detonate the OE item or apply sufficient pressure and heat to neutralize the hazard. When this technique is employed, engineering controls such as sandbag mounds and sandbag walls over and around the OE item are often used to minimize the blast effects.

2.4 DEVELOPMENT OF ALTERNATIVES

2.4.1 Introduction

2.4.1.1 The alternatives identified in this section have been selected based on the results of the investigations conducted to date as well as available OE detection and

disposal technology currently available. Each alternative, if implemented, must have the ability to achieve the removal action objectives. For the removal action at OOU6 of the former CCATF, eight alternatives have been developed. These alternatives were evaluated for each of the five OOU6 sectors and include:

- no further action;
- institutional controls;
- surface clearance only of OE;
- surface clearance of OE and institutional controls;
- surface clearance of OE with selected areas being cleared to a depth of one foot;
- surface clearance of OE with selected areas being cleared to a depth of four feet;
- complete surface and subsurface clearance of OE to a depth of one foot across the entire site; and
- complete surface and subsurface clearance of OE to a depth of four feet across the entire site.

2.4.1.2 No remedial measure, even using the best available technology, can completely remove all OE risk within OOU6 of the former CCATF. Yet, all of the remedial measures being considered for the site will reduce the risks posed by ordnance detonation, resulting in some reduction of the OE risk.

2.4.1.3 Each of the eight approaches listed above has been developed for the entire OOU6 site and then applied independently to sectors, as applicable, in this OE Engineering Design. These sectors are the same as those outlined in Section 1.6.4 of this document. They include the Roads and Site Operation Building, the Pine Farm, the Landfill and Compost A Areas, the Pond Area, and the Natural Brush/Forest Area. This approach has been taken based on the differing amounts of OE contamination found in the six investigated sectors based on the results of the OE site investigations and the different current and future use of these areas. This division of OOU6 will ensure that a tailored approach suitable for each parcel is developed in this document.

2.4.2 Alternative 1: No Further Action

Alternative 1 is to take no further action in regards to locating, removing, and disposing of any potential OE in a designated sector of OOU6. No further action would involve the continued use of the sector in its current condition. If the potential exposure and hazards associated with the sector are compatible with current conditions and operations in the area as well as the removal action objectives, then no further action toward reducing a potential public safety threat is warranted. Alternative 1 is a potential candidate alternative for the Pine Farm (Sector 2), the Landfill and Compost A Areas (Sector 3), and the Natural Brush/Forest Area (Sector 6). Because of specific considerations for two small areas in two sectors, the Pine Farm and the Natural Brush/Forest Area A, the no further action alternative for these sectors include a limited

action using presumptive remedy to address OE contamination at these two proposed future land use areas. The areas concerned are the future storage barn in the Pine Farm and proposed Compost B in the Natural Brush/Forest Area A. The presumptive remedy for the future storage barn is surface clearance and subsurface clearance of OE to a depth of one foot. Surface clearance is recommended for Compost B.

2.4.3 Alternative 2: Institutional Controls

2.4.3.1 Alternative 2 includes the implementation of institutional controls to restrict access to the site. Access can be restricted by either imposing administrative restrictions and/or by installing physical barriers. Administrative restrictions could take the form of a deed restriction limiting the future use of the parcel or requiring that precautions be taken (such as requiring OE clearance by UXO-qualified personnel) during any future construction activities. Physical barriers would involve fencing and posting the area to ensure that the local populace does not enter the property and inadvertently come into contact with OE. Fencing of an area of all or portions of the OOU6 site would involve the installation of a standard chain link-style fence with signs and gates. The installation of the fence could be performed by any government or contractor personnel and would require the assistance of experienced UXO-qualified personnel to perform a surface clearance of OE along the proposed fence line as well as subsurface clearance where any intrusive activities were to be conducted. Annual inspection and maintenance of the fencing would be required to ensure its continued integrity.

2.4.3.2 Current development of parcels of OOU6 by one of the private landowners is in progress and future development is planned. An active industrial landfill exists within OOU6 and construction of a pond is in progress. Residential development may be planned in the future. Therefore, Alternative 2 is an unlikely candidate alternative since any restriction imposed on the private landowners by this alternative would likely result in legal claims.

2.4.4 Alternative 3: Surface Clearance of OE

2.4.4.1 Alternative 3 includes the surface clearance of all OE and OE-related items from the site or a sector of the site. A land surveyor would establish control points for a grid system that would cover the area. Due to the pine forest and thick vegetation that cover much of OOU6, brush clearing crews would clear enough undergrowth so that the surface clearance crews could adequately perform their work. Surface clearance would be completed by experienced UXO-qualified personnel who would visually search the ground surface for any OE. In addition, UXO-qualified personnel would also use metal detection devices to ensure that any OE items that may exist on or within the top 6 inches of existing ground cover are located during the sweep. The UXO-qualified personnel would perform their sweep in lanes five feet wide, or some other comparable width depending on the sweep reach of the type of metal detection equipment used, to ensure complete surface coverage. All metallic contacts on the ground surface (up to 6 inches below the surface) would then be identified.

2.4.4.2 Any OE located during the sweep would be inspected to ensure its stability. During this inspection, a determination would be made whether any uncovered OE items

could be moved based on an Explosive Ordnance Reconnaissance (EOR). If practicable, the OE would be removed from the site for off-site destruction. If a determination is made through the EOR that the OE item is not safe to move, then the object would be destroyed in place. If necessary, engineering controls would be used to minimize the need for evacuation of the public. All inert OE items or other OE-related scrap would be removed from the area and transported off-site for disposal.

2.4.4.3 In order to be effective, the surface sweep alternative would have to be performed periodically to ensure that OE items newly uncovered by erosion are removed. OE items have been found on the site by the property owner(s) after previous clearance activities were performed. As a result, if this alternative is selected, it would have to be performed periodically in order to be effective. The surface clearance of OE is a viable remedial alternative for the Pine Farm (Sector 2), the Pond Area (Sector 4), and the Natural Brush/Forest Area (Sector 6) based on the estimated reduction in expected annual OE exposures afforded by implementation of this alternative (Appendix D).

2.4.5 Alternative 4: Surface Clearance of OE and Institutional Controls

Alternative 4 is a combination of Alternatives 2 and 3 and includes the implementation of institutional controls to restrict the future use and public access to the entire site (or a sector) along with the periodic surface sweeps to uncover any OE items that may lie on the surface of the property.

2.4.6 Alternative 5: Surface Clearance of OE with Subsurface Clearance Of Selected Areas to a Depth of One Foot

2.4.6.1 Alternative 5 includes the surface clearance of all OE and OE-related items (as specified in Alternative 3) with the addition of subsurface clearance of OE items that can be located to a depth of one foot below the ground surface in selected areas. The areas selected for the subsurface investigation will be determined based on the current or potential future land use of the property as well as those areas with the greatest likelihood of containing OE (if discernable) based on the OE Engineering Design investigations. Land surveying and brush clearing operations will be necessary as described in Alternative 3. Under this alternative, one hundred percent of the "selected" areas of the site or sector will be cleared on the surface and in the subsurface to a depth of one foot. This alternative would consist of two phases: an investigation phase and a subsurface clearance phase. Both phases of this alternative will be performed by experienced UXO-qualified personnel.

2.4.6.2 During the investigation phase, a metal detection device will be used to perform the surface sweep which is also capable of performing the subsurface survey. In this way, both the surface and subsurface surveys can be performed simultaneously saving the government time and money. The primary difference in performing this kind of survey over that described in Alternative 3 is that instead of performing an immediate visual identification of all anomalies identified during the survey; a marking/locating system must be used to be able to relocate the subsurface anomaly at a later date to intrusively investigate it. All surface anomalies uncovered during the performance of the

survey will be immediately identified and removed from the area to ensure that only subsurface anomalies remain.

2.4.6.3 The second phase to this approach includes the intrusive investigation of all subsurface metallic anomalies identified during the metal detection survey to determine their exact nature. During this intrusive investigation phase engineering controls may have to be used to decrease the evacuation distance that will be required during the conduct of these investigations. Evacuation distances are determined by CEHNC based on the "maximum credible event" (MCE) or worst case scenario of the potential detonation of an ordnance item that could be found at the site. All non-essential personnel are evacuated at this distance from the excavated area based on the MCE to maximize the safety of the operation. In the case of OOU6 within the former CCATF, the evacuation distance used during the intrusive investigations conducted during the OE Engineering Design field investigation was 50 meters. Engineering controls can be used during subsequent OE investigations that can decrease this distance. Once the intrusive investigations begin, each anomaly will be excavated in six-inch depth increments. If the item causing the magnetic reading has not been identified within the first foot below the ground surface, then the excavation will cease and the excavated area will be returned to its original state.

2.4.7 Alternative 6: Surface Clearance of OE with Subsurface Clearance Of Selected Areas to a Depth of Four Feet

Alternative 6 includes the surface clearance of all OE and OE-related items from the entire site in the same manner as detailed in Alternative 5 except that subsurface clearance of anomalies will be performed in selected areas to a depth of four feet below ground surface. The areas selected for this level of subsurface clearance would be determined based on the current or future land use of the property as well as the level of subsurface OE contamination found in the selected areas based on the Engineering Design results. This type of clearance operation must be performed by experienced UXO-qualified personnel. The steps used in conducting this type of survey would be the same as those outlined in Alternative 5. The only difference in the conduct of the operation would occur during the intrusive investigation phase of the operation where the excavations would be conducted to a depth of four feet rather than the one foot depth used in Alternative 5.

2.4.8 Alternative 7: Surface Clearance of OE with Subsurface Clearance Of Entire Area to a Depth of One Foot

Alternative 7 includes the surface and subsurface clearance of all OE and OE-related items to a depth of one foot across the entire site or sector in the same manner as detailed in Alternative 5. This alternative would have to be performed, as in the case of Alternatives 4, 5, and 6, by experienced UXO-qualified personnel. This alternative would be used if the Engineering Design field investigation and subsequent risk assessment cannot discriminate the location of OE items in the investigated area, the OE contamination is found predominantly within the first foot below the surface, and the future use of the area is in question. As in Alternatives 5 and 6, this alternative will require a two-phase approach. The conduct of the survey and excavation phases will be

similar to that outlined in the previous alternatives with the main difference being the number and extent of intrusive investigations that must be performed.

2.4.9 Alternative 8: Surface Clearance of OE with Subsurface Clearance Of Entire Area to a Depth of Four Feet

Alternative 8 includes the surface and subsurface clearance of all OE and OE-related items to a depth of four feet across the entire site or sector in the same manner as detailed in Alternative 7. This alternative is the most ambitious of the eight alternatives examined in this Engineering Design. This alternative would have to be performed, as in the case of Alternatives 4, 5, 6 and 7, by experienced UXO-qualified personnel. This alternative would be used if the preliminary investigation and subsequent risk assessment cannot discriminate the location of OE items in the investigated area, the depth of the OE contamination is found to be greater than one foot, and the future use of the entire site or sector is in question. As in Alternatives 5, 6, and 7, this alternative will require a two-phase approach. The conduct of the survey and excavation phases will be similar to that outlined in the previous alternatives with the main difference being the number and extent of intrusive investigations that must be performed.

2.5 EVALUATION OF ALTERNATIVES

2.5.1 Introduction

2.5.1.1 As part of the OE Engineering Design process, each of the eight alternatives identified in Section 2.4 were analyzed and screened against the three general categories of effectiveness, implementability, and cost. This screening was performed to each of the sectors at OOU6 for which alternative selection was applicable: the Pine Farm (Sector 2), the Landfill and Compost A Areas (Sector 3), the Pond Area (Sector 4), and the Natural Brush/Forest Area (Sector 6). Remedial alternatives for the Wetlands/Stream Area (Sector 5) and the Uninvestigated Area (Sector 8) were not evaluated since OE data was not collected from these sectors. The Roads and Site Operation Building (Sector 1) and EE/CA Grid 87 (Sector 7) were previously investigated. The entire area within Sector 1 was cleared of OE during the TCRA and remediation work for Sector 8 is pending. Therefore, alternative evaluation of these sectors was not warranted. The purpose of this screening was to ensure that only viable alternatives were ranked against each other. Once this screening was completed, the remaining alternatives was compared against each other to determine the best response action for each of the four remaining sectors of OOU6 within the former CCATF.

2.5.1.2 The effectiveness of an alternative refers to its ability to meet the clean-up objective within the scope of the removal action. The effectiveness category is divided into four evaluation criteria. These include: Overall Protection to Human Health and the Environment; Compliance with ARARs; Long-Term Effectiveness; and Short-Term Effectiveness.

2.5.1.3 The implementability category includes the technical and administrative feasibility of implementing an alternative; the availability of various services and materials required during its implementation; and the acceptance that property owners and local

residents, have expressed towards the various alternatives. The implementability category is divided into four evaluation criteria including: Technical Feasibility; Administrative Feasibility; Availability of Services and Materials and Property Owner Acceptance.

2.5.1.4 Finally, each alternative is evaluated to determine its projected overall implementation cost. Included in the cost calculation is an estimate as to the amount of time that will be necessary to complete the proposed alternative. Each of the evaluation criteria introduced above will be discussed in greater detail in the following paragraphs.

2.5.2 Effectiveness

2.5.2.1 Overall Protection of Human Health and the Environment: Alternatives are evaluated under this criterion on how well they achieve and maintain protection of human health and the environment.

2.5.2.2 Compliance with ARARs: Evaluation under this criterion ensures that all requirements can be met without regulatory problems. The assessment may also include the TBC criteria. The application of ARARs for each alternative will primarily focus on what ARARs apply as well as how they will be met.

2.5.2.3 Long-Term Effectiveness: This criterion measures how an alternative maintains the protection of human health and the environment after the response objectives have been met. The analysis focuses on:

- the permanence of the response action alternative;
- the magnitude of residual risk following completion of the response action; and
- the adequacy and reliability of controls, if any, used to manage the treated residuals or untreated wastes that remain at the site following the response action.

2.5.2.4 Short-Term Effectiveness: This criterion addresses the effects of an alternative during the implementation phase. Alternatives are evaluated for their effects on human health and the environment prior to the response objectives being met. More specifically, each alternative will be examined for:

- protection of the community and workers during the response action;
- adverse impacts resulting from construction and implementation; and
- the time required to meet the response objectives.

2.5.3 Implementability

2.5.3.1 Technical Feasibility: This criterion evaluates the ease of implementing a specific alternative. The analysis of the technical feasibility for each course of action focuses on difficulties in:

- the operation and construction of the response action;
- the reliability of the response action in relation to implementation; and

2.5.3.2 Administrative Feasibility: This criterion focuses on the planning for a course of action. The evaluation of this criterion considers difficulties in:

- obtaining permits applicable to a proposed alternative;
- coordinating services needed to carry out an alternative; and
- arranging the delivery of services in a timely manner.

2.5.3.3 Availability of Services and Materials: This criterion primarily deals with the availability of services needed to carry out an alternative. Two issues are of primary importance under this criterion:

- can the services and materials be delivered conveniently; and
- are the quantities needed to implement the response action available in a timely manner.

2.5.3.4 Property Owner Acceptance: As each of the alternatives will have a varying degree of impact on the current landfill and compost operations, pond construction/utilization, hunting clubs and future operations and developments (for example, pine harvesting, construction of a storage barn, use of Compost B, and Phase III and Phase IV landfill expansion; the input of the property owners involved in these activities is a critical component of the evaluation process. As a result, each alternative is evaluated and rated based on the degree of acceptance expressed by the property owner(s).

2.5.4 Cost

As the scope of work for each alternative is developed, an order of magnitude cost estimate is calculated for costs associated with the implementation of each response action. These costs will include the direct and indirect capital costs incurred in implementing the response action. As part of this assessment a time frame for completion of each of the proposed alternatives is also developed.

2.5.5 Application of the Evaluation Criteria by Alternative for the Roads and Site Operations Building (Sector 1), Wetlands/Stream Area (Sector 5), and the Uninvestigated Area (Sector 8)

2.5.5.1 Evaluation of the applicability of the eight remedial alternatives will not be applied to the Roads and Site Operations Building, the Wetlands/Stream Area, and the Uninvestigated Area. The Roads and Site Operations Building sector (Sector 1) was cleared of OE items to a depth of four feet during the TCRA investigation in 1995/1996. The most conservative remedial alternative evaluated during this OE Engineering Design is Alternative 8 which includes subsurface clearance of an entire sector to a depth of four feet. For Sector 1, the annual number of potential exposures identified during the risk assessment was 0 based on TCRA data. Therefore, no further action is necessary and the alternative offers the maximum overall protection of human health and the environment.

2.5.5.2 The Wetland/Stream Area was not investigated during the OE Engineering Design. The Corps respects the decision of the regulatory agency that wetland habitats shall not be disturbed. Therefore, no further evaluation of OE risk in this sector was undertaken.

2.5.5.3 Sampling data was not collected from the "Uninvestigated" Area (Sector 8) due to either property owner denial of right-of-entry or property owners who could not be contacted. Extrapolation of OE contamination concentrations from adjacent sectors to the Uninvestigated Area was viewed to be unreliable. Therefore, evaluation of alternatives for this sector was not conducted.

2.5.6 Application of the Evaluation Criteria by Alternative for the Pine Farm (Sector 2)

2.5.6.1 Alternative 1: No Further Action

2.5.6.1.1 Effectiveness: For the Pine Farm the No Further Action Alternative with a limited removal action at an area specifically identified for future development (construction of a storage barn) will provide for the overall protection of human health and the environment. The property owner has stated that OE clearance work was conducted on the site of the future storage barn area by a local UXO clearance specialist but there is no documentation of this activity. Currently, the area has been brush cleared and graded. During the OE Engineering Design field effort a portion of this area was formally cleared by the UXO Subcontractor and used as a temporary Magazine Storage Area (Figures 1-8 and 1-11). The risk assessment estimated the annual number of potential OE exposures at 4 for this sector (Appendix D). This exposure estimate was based on the continued recreational land use (hunting), future timber harvests, and future construction of the storage barn. Although the estimated risk is considered extremely low, 9 inert OE items were discovered in sampling grids randomly placed over 2.47 acres of the sector's 38.94 acres (6.3%) during the OE Engineering Design field work (Table 1.5). In addition, the OE contamination was not confined to a portion of the sector but was randomly spread throughout. Approximately 8.5 pounds of OE scrap per investigated-acre were recovered from the Pine Farm sector. This alternative would offer some degree of both short-term and long-term effectiveness and permanence.

2.5.6.1.2 Construction activity for the storage barn would include intrusive effort and could pose risks to the safety of workers on site. Therefore, a limited surface and subsurface clearance of OE is proposed as a presumptive remedy for this sector. The limited clearance work will comply with ARARs.

2.5.6.2 Alternative 2: Institutional Controls

2.5.6.2.1 Effectiveness: For the Pine Farm the Institutional Controls alternatives will provide for the overall protection of human health and the environment, comply with ARARs, and provide for both the long-term and short-term effectiveness. For this sector, the institutional controls to be implemented will take a three-pronged approach. First, a deed restriction must be placed on the area to ensure that any construction or improvements of the sector are performed with the assistance of UXO-qualified

personnel. Second, an educational program for local emergency response personnel should be undertaken to ensure that they are knowledgeable in the appropriate response procedures in the event that OE items are encountered in the sector. Finally, a fence must be installed with signs warning both the local populace and visitors to the sector not to handle any OE items discovered on the surface and who should be contacted in the event that OE items are encountered. Future recreational use of the Pine Farm preclude the use of institutional controls for long-term effectiveness unless a restriction is placed on the property deed.

2.5.6.2.2 **Implementability.** The imposition of a deed restriction on the Pine Farm sector is feasible but the area is large and the property owner will likely require compensation for limitation of use of this area. Fencing would prove to be an effective barrier in minimizing the public's contact with OE items. The implementation of these institutional controls can provide enough protection to the public to allow this alternative to be effective. However, the implementation of institutional controls as described will cause the following:

- Interfere with landfill and compost operations;
- Limit access to prime areas for recreational hunting;
- Restrict wildlife (deer and wild turkey) movement and diminish quality of area for recreational hunting;
- Limit access to the future storage barn;
- Limit expansion of the pine farm; and
- Require rerouting of access roads to several areas of interest to the property owner.

2.5.6.2.3 On the basis of these potential impacts to the property owner's site operations, ability to execute his present and future land use plans, and the administrative difficulties in coordinating services that would be needed with site operations, this alternative will be very difficult to implement. In this regard, no further analysis of this alternative will be performed.

2.5.6.3 Alternative 3: Surface Clearance Only of OE

2.5.6.3.1 **Effectiveness:** For the Pine Farm the Surface Clearance of OE alternative would provide some additional protection to human health and the environment. At OOU6, seven of the fifteen OE items recovered during the intrusive investigation were encountered within six inches below ground. The annual number of potential OE exposures was estimated at 2 during the risk assessment for the Surface Clearance alternative as opposed to 4 for the No Further Action alternative (Appendix D).

2.5.6.3.2 **Implementability:** For the Pine Farm, this type of OE investigation is both technically and administratively feasible and the services and materials necessary to implement such an investigation are readily available. The property owner would likely

be receptive to this alternative since it would have minimum impact to current site operations and not impact future land use.

2.5.6.3.3 Cost: The cost to perform this alternative is summarized in Appendix G. This alternative will take approximately 7 weeks to complete. Additional details on how the costs were derived and the assumptions used in preparing the cost estimate are included in Appendix G.

2.5.6.4 Alternative 4: Surface Clearance of OE With Institutional Controls

2.5.6.4.1 Effectiveness: OE Surface Clearance with Institutional Controls can be an effective response to the OE contamination found in the Pine Farm. This alternative allows for additional overall protection of human health and the environment.

2.5.6.4.2 Implementability: As explained in Alternative 2, the potential impact to the property owner's site operations and development plans make Alternative 4 technically and administratively difficult to implement. In this regard, no further analysis of this alternative will be performed.

2.5.6.5 Alternative 5: Surface Clearance of OE With Subsurface Clearance of Selected Areas to a Depth of One Foot

Effectiveness: For this alternative, the entire sector would undergo a one-time surface clearance as in Alternative 3 and areas within the pine farm would be selected for subsurface clearance. The subsurface clearance would extend to one foot below current grade. Under current site conditions, use of this sector (pine farm) remains the same and would likely remain as such in the near future (except for the construction of the storage barn). OE contamination in this sector is not confined to a specific area but was randomly spread throughout. For these reasons, there is no basis to discern or select other areas for subsurface clearance. Therefore, this alternative would not offer any increase in effectiveness compared to Alternative 3. In this regard, further analysis of this alternative is not warranted.

2.5.6.6 Alternative 6: Surface Clearance of OE With Subsurface Clearance of Selected Areas to a Depth of Four Feet

Effectiveness: This alternative is similar to Alternative 5, but with subsurface clearance to a depth of four feet. The alternative would not offer additional benefit as the estimated annual number of potential OE exposures remains the same as for Alternatives 3 and 5. In addition, there is no basis for selecting other areas within the sector for clearance. Therefore, no further analysis of this alternative will be performed.

2.5.6.7 Alternative 7: Surface Clearance of OE With Subsurface Clearance of Entire Area to a Depth of One Foot

2.5.6.7.1 Effectiveness: For Alternative 7, the entire sector would undergo a one-time OE surface clearance and subsurface clearance would extend to one foot below current grade. The alternative would offer additional benefit as the estimated annual

number of potential OE exposures per sector is reduced from 2 for Alternative 3 to 1 for Alternative 7.

2.5.6.7.2 Implementability: This type of OE investigation is both technically and administratively feasible and the services and materials necessary to implement such an investigation are readily available. The property owner would be receptive to this alternative since it would provide increased overall protection of human health and the environment.

2.5.6.7.3 Cost: The cost to perform this alternative is summarized in Appendix G. This alternative will take approximately 7 weeks to complete. Additional details on how the costs were derived and the assumptions used in preparing the cost estimate are included in Appendix G.

2.5.6.8 Alternative 8: Surface Clearance of OE With Subsurface Clearance of Entire Area to a Depth of Four Feet

Effectiveness: This alternative is similar to Alternative 7, but with subsurface clearance to a depth of four feet. The alternative would not offer additional benefit over Alternative 7 as the estimated annual number of potential OE exposures per sector remains at 1. Therefore, no further analysis of this alternative will be performed.

2.5.7 Application of the Evaluation Criteria by Alternative for the Landfill and Compost A Areas (Sector 3)

2.5.7.1 Alternative 1: No Further Action

2.5.7.1.1 Effectiveness: For the Landfill and Compost A Areas the No Further Action alternative will provide for the overall protection of human health and the environment based on the risk assessment which estimated the annual number of potential OE exposures at 1 for the sector. This exposure estimate is considered extremely low and was based on continued industrial use of the sector as a landfill.

2.5.7.1.2 Portions of the Landfill and Compost A Areas were previously cleared during the TCRA investigation. Therefore, the No Further Action alternative is applicable to this portion of the sector. The uncleared southern half of Landfill 1, within the Landfill and Compost A Areas sector, was investigated during the OE Engineering Design. No ordnance was recovered from any of the four randomly placed sampling grids. Seven additional grids were established in the proposed Landfill 2 portion of the Landfill and Compost A Areas for confirmation of the TCRA findings that no ordnance was present. No ordnance was recovered.

2.5.7.1.3 The No Further Action alternative would comply with ARARs for the cleared portion of the sector since the OE has been removed. In addition, the short-term and long-term effectiveness criteria are met. However, on the basis of on-going landfill operations within this sector, the No Further Action alternative is not applicable to the uncleared portion of the sector (southern half of Landfill 1 including Compost A and the entire Landfill 2). As a result, this alternative fails in the effectiveness category and no further analysis will be performed.

2.5.7.2 Alternative 2: Institutional Controls

2.5.7.2.1 Effectiveness: An Institutional Control alternative for the Landfill and Compost A Area can provide for the overall protection of human health and the environment although the additional protection above the No Further Action alternative is expected to be minimal. The Institutional Control alternative will include the installation of a fence and signs around the sector to keep unauthorized personnel off of the property, a deed restriction will be negotiated to ensure that any future intrusive activities within the sector are performed with the assistance of UXO-qualified personnel, and an education program for the landfill workers at the site will be implemented to ensure they are aware of the danger that OE items represent in the area. The installation of a fence around the perimeter of the sector will provide an effective barrier for unauthorized personnel. This barrier can take the form of a chain-link style fence. In addition to the fence, signs should be posted along the perimeter warning people to stay off of the affected property because of the dangers posed by OE items that could be present here. The institution of an education program for the landfill workers on the dangers posed by OE items along with a deed restriction requiring the clearance by UXO-qualified personnel (trained personnel from the U.S.D.O.D. EOD school, Indianhead, MD or similar), prior to engaging in any intrusive activities on the site will provide for the overall protection of the workers and recreational users of the property. The implementation of these institutional controls will comply with ARARs and will address both the long-term and short-term effectiveness issues of the alternative.

2.5.7.2.2 Implementability. The implementation of institutional controls as described will cause the following:

- Interfere with landfill and compost operations;
- Limit access to the Landfill 1, Landfill 2 and Compost A;
- Limit expansion of the Landfill; and
- Require rerouting of access roads to several areas of interest to the property owner.

2.5.7.2.3 On the basis of these potential impacts to the property owner's site operations, ability to execute his present and future land use plans, and the administrative difficulties in coordinating services that would be needed with site operations, this alternative will be very difficult to implement. In this regard, no further analysis of this alternative will be performed.

2.5.7.3 Alternative 3: Surface Clearance Only of OE

Effectiveness: For the Landfill and Compost A Areas a Surface Clearance of OE would not provide adequate protection to human health and the environment due to the excavation activities associated with operation of the landfill(s). Therefore, this alternative does not meet the effectiveness category and no additional analysis of this alternative will be performed.

2.5.7.4 Alternative 4: Surface Clearance of OE With Institutional Controls

Effectiveness: This alternative for Sector 3 offers no additional protection to human health and the environment over Alternative 1 or 2. The risk assessment results indicate the estimated annual number of potential OE exposures remains the same for Alternatives 1, 2, and 3 (Table 1.11). As a result, the Surface Clearance of OE with Institutional Controls alternative is no more effective than Alternatives 1 and 2, therefore, no further analysis of this alternative is warranted.

2.5.7.5 Alternative 5: Surface Clearance of OE With Subsurface Clearance of Selected Areas to a Depth of One Foot

Effectiveness: As described in Alternative 3, Surface Clearance offers no additional protection to human health and the environment over Alternative 1, No Further Action, because landfill operations occur to depths greater than one foot and intrusive data shows majority of OE items have been found at depths greater than six inches. No reduction in the annual number of potential OE exposures per sector over Alternatives 1 and 3 is achieved for Sector 3 by implementation of one foot OE clearance (Appendix D). As a result, the OE Surface Clearance with Subsurface Clearance of Selected Areas to Depth of One Foot alternative fails in the effectiveness category and no additional analysis of this alternative will be performed.

2.5.7.6 Alternative 6: Surface Clearance of OE With Subsurface Clearance of Selected Areas to a Depth of Four Feet

2.5.7.6.1 Effectiveness: For the Landfill and Compost A Area sector, a reduction in the estimated annual number of potential OE exposures per sector (from 1 to 0) over Alternative 1 is achieved for Alternative 6 (Appendix D). The "selected" areas would include the entire portion of the sector not cleared of ordnance during the TCRA or the EE/CA (i.e. the southwestern portion of Landfill 1, Compost A and Landfill 2). The estimated total portion of the sector for clearance is approximately 15 acres. In this alternative, the depth of the intrusive investigation extends to four feet below the current grade.

2.5.7.6.2 Implementability: This type of OE investigation is both technically and administratively feasible and the services and materials necessary to implement such an investigation are readily available. The property owner would be receptive to this alternative because it would enable implementation and completion of the development plan for this sector.

2.5.7.6.3 Cost: The cost to perform this alternative is summarized in Appendix G. This alternative will take approximately 6 weeks to complete. Additional details on how the costs were derived and the assumptions used in preparing the cost estimate are also included in Appendix G.

2.5.7.7 Alternative 7: Surface Clearance of OE With Subsurface Clearance of Entire Area to a Depth of One Foot

Effectiveness: For the Landfill and Compost A Areas the Surface Clearance of OE with Subsurface Clearance of Entire Area to a Depth of One Foot alternative would not provide additional protection to human health and the environment due to the excavation activities associated with operation of the landfill(s). As a result, the Surface Clearance of OE with Subsurface Clearance of Entire Area to a Depth of One Foot alternative fails in the effectiveness category for The Landfill and Compost A Areas and no additional analysis of this alternative will be performed.

2.5.7.8 Alternative 8: Surface Clearance of OE With Subsurface Clearance of Entire Area to a Depth of Four Feet

Effectiveness: For the Landfill and Compost A Areas the OE Surface Clearance with Subsurface Clearance of Entire Area to Depth of Four Feet alternative would provide additional protection to human health and the environment as evidenced by the reduction in the estimated annual number of potential OE exposures per sector from 1 to 0 (Appendix D). However, approximately 30% of the sector has already been cleared of OE to a depth of four feet. Alternative 6 is defined as clearance of the previously uncleared portion of the sector, therefore, for this sector Alternative 8 would not provide any additional exposure reduction. No additional analysis of this alternative will be performed.

2.5.8 Application of the Evaluation Criteria by Alternative for the Pond Area (Sector 4)

2.5.8.1 Alternative 1: No Further Action

Effectiveness: For the Pond Area the No Further Action alternative would not provide for the overall protection of human health and the environment. A potential OE risk exists in the pond area. During the intrusive investigation conducted in this sector, 5 inert and 1 live OE items were discovered in grids randomly placed over 2.47 of the sector's 24.86 acres (9.9%). The OE contamination was not confined to a portion of the sector but was randomly spread throughout. Approximately 2.78 pounds of OE scrap per investigated-acre were recovered from the Pond Area. The annual number of potential OE exposures was estimated at 18 during the risk assessment for the No Further Action alternative (Appendix D). This exposure estimate was based on the intended recreational land use and current development. As a result, this alternative fails in the effectiveness category and no further analysis of this alternative will be performed.

2.5.8.2 Alternative 2: Institutional Controls

2.5.8.2.1 Effectiveness: For the Pond Area the Institutional Control alternative can provide for the overall protection of human health and the environment, comply with ARARs, and provide for both the long-term and short-term effectiveness. For this sector the institutional controls to be implemented will take a three-pronged approach. First, a deed restriction must be placed on the area to ensure that any further construction or improvements on the pond and surrounding area are performed with the assistance of

UXO-qualified personnel. Second, an educational program for local emergency response personnel should be undertaken to ensure that they are knowledgeable in the appropriate response procedures in the event that OE items are encountered in the sector. Finally, a fence must be installed with signs warning both the local populace and visitors to the sector not to handle any OE items discovered on the surface and who should be contacted in the event that OE items are encountered. The imposition of a deed restriction on this area is not feasible as the property owner has already initiated pond construction. Fencing outside the edge of the sector would prove to be an effective barrier in minimizing the public's contact with OE items. The implementation of these institutional controls can provide enough protection to the public to allow this alternative to be effective. However, future recreational use of the area precludes the use of institutional controls for long-term effectiveness unless a restriction is placed on the property deed

2.5.8.2.2 **Implementability:** The property owner is currently implementing a development plan and is unlikely to accept any restriction to his intended use of the Pond Area. Thus, the Institutional Controls alternative is not technically and administratively feasible to implement. On this basis, no further analysis of this alternative for the Pond Area will be performed.

2.5.8.3 Alternative 3: Surface Clearance of OE

2.5.8.3.1 **Effectiveness:** For the Pond Area a surface clearance of OE would provide some additional protection to human health and the environment. At OOU6, seven of the fifteen OE items recovered during the intrusive investigation were encountered within the first six inches of excavation. However, topographic alterations associated with the pond construction coupled with continued erosion will mean that additional OE items may continue to appear over time as OE items that are just below the surface are uncovered. As a result, a one time surface clearance of OE or a periodic surface clearance of OE at a pre-determined time interval may not be fully effective for this area as OE items can be uncovered at any time. The estimated annual number of potential OE exposures was reduced from 18 to 2 during the risk assessment for the surface clearance alternative over the no further action alternative (Appendix D).

2.5.8.3.2 **Implementability:** This alternative is both technically and administratively feasible and the services and materials necessary to implement such action are readily available. The property owner would likely be receptive to this alternative since it would not impact future land use or significantly alter current conditions.

2.5.8.3.3 **Cost:** The cost to perform this alternative is summarized in Appendix G. This alternative will take approximately 5 weeks to complete. Additional details on how the costs were derived and the assumptions used in preparing the cost estimate are included in Appendix G.

2.5.8.4 Alternative 4: Surface Clearance of OE With Institutional Controls

2.5.8.4.1 **Effectiveness:** OE Surface Clearance with Institutional Controls can be an effective response to the OE contamination found in the Pond Area. However, the

property owner is unlikely to accept any restrictions on development of this area. In addition, all current grading and topography reconfiguration activities in this sector would need to cease.

2.5.8.4.2 For the Pond Area, future recreational use precludes the use of institutional controls for long-term effectiveness unless a restriction is placed on the property deed. The property owner is unlikely to accept this restriction. Thus, the Surface Clearance with Institutional Controls alternative for the Pond Area does not meet the Effectiveness category. As this alternative fails the Effectiveness category, no further analysis of this alternative will be performed.

2.5.8.5 Alternative 5: Surface Clearance of OE With Subsurface Clearance of Selected Areas to a Depth of One Foot

2.5.8.5.1 Effectiveness: For this alternative, areas within the Pond Area would be selected for subsurface clearance in addition to surface clearance described in Alternative 3. The subsurface clearance would extend to one foot below current grade. During the intrusive investigation conducted in this sector, 5 inert and 1 live OE items were discovered in grids randomly placed over 2.47 of the sector's 24.86 acres (9.9%). The OE contamination was not confined to a portion of the sector but was randomly spread throughout. Therefore, it would be difficult to effectively determine which portions of the sector to select for OE clearance. This alternative would likely recover a number of additional OE items as 80% of the OE items recovered during the intrusive investigation of OOU6 were found within the first foot below the surface.

2.5.8.5.2 Future intrusive activities would have to be limited to less than one foot in depth in areas cleared or UXO clearance personnel would have to be called in to provide clearance operations for any intrusive activities at depths greater than one foot for the areas cleared and for the areas that were not selected. Although this alternative provides for the overall protection of human health and the environment and also complies with ARARs, the alternative would not be fully effective in both the long term and short term because ongoing pond construction activities include excavation of soils and grading to depths greater than one foot below the ground and the potential for exposure to OE items could be enhanced by these activities.

2.5.8.5.3 Implementability: This type of OE investigation is both technically and administratively feasible and the services and materials necessary to implement such an investigation are readily available. However, the property owner is unlikely to accept future limits on intrusive activity since construction of the pond is underway. No further analysis of this alternative is warranted.

2.5.8.6 Alternative 6: Surface Clearance of OE With Subsurface Clearance of Selected Areas to a Depth of Four Feet

2.5.8.6.1 Effectiveness: As in Alternative 5, the Pond Area would be cleared on the surface and selected areas in the subsurface. In this alternative, however, the depth of the intrusive investigation extends to four feet below the current grade. Again, it would be difficult to determine which area to select for clearing of OE because of the random

distribution of OE items in this area. Therefore, this alternative does not provide any measurably greater overall protection to human health and the environment than that afforded by Alternative 5. One hundred percent of the OE items recovered during the intrusive investigation performed at OOU6 were recovered in the first four feet below the ground surface. Intrusive activity (for example, installation of utility lines) in the future to depths greater than four feet will require the assistance of UXO-qualified personnel to clear the area prior to any intrusive activities being performed at these depths. This alternative complies with ARARs and is effective in both the long term and short term.

2.5.8.6.2 Implementability: Available information indicates that potential intrusive activity in the Pond Area cannot be restricted to only the selected areas because the general Pond Area is currently undergoing construction work and other development of this area is planned. The inability to discern which portions of this sector to clear, given current development effort would not make this alternative technically feasible. The property owner would likely not accept this alternative since it would not support on-going construction work in the Pond Area and future intrusive restrictions would still be applicable. For these reasons, no further evaluation of this alternative is warranted.

2.5.8.7 Alternatives 7: Surface Clearance of OE With Subsurface Clearance of Entire Area to a Depth of One Foot

2.5.8.7.1 Effectiveness: In this alternative, all portions of the Pond Area would be cleared of OE on both the surface and in the subsurface to a depth of one foot regardless of the use of the site. This alternative provides for greater overall protection of the workers and visitors at the site than that provided by Alternatives 3 and 4. This alternative complies with ARARs and would be effective in both the long-term and short-term. The annual number of potential OE exposures per sector was estimated at 0 during the risk assessment for the Surface Clearance of OE With Subsurface Clearance of Entire Area to a Depth of One Foot alternative (Appendix D).

2.5.8.7.2 Implementability: This type of OE investigation is both technically and administratively feasible for this portion of OOU6. The services and materials necessary to implement such an investigation are readily available. It is anticipated that the property owner would be receptive to this alternative, however, with some reservations because intrusive activities beyond depths greater than one foot would require assistance of UXO qualified personnel to clear the area prior to performing work.

2.5.8.7.3 Cost: The cost to perform this alternative is summarized in Appendix G. It will take approximately 4.5 weeks to complete the field work for this alternative. Additional details on how the costs were derived and the assumptions used in preparing the cost estimate are included in Appendix G.

2.5.8.8 Alternative 8: Surface Clearance of OE With Subsurface Clearance of Entire Area to a Depth of Four Feet

2.5.8.8.1 Effectiveness: This alternative is the same as Alternative 7, except all portions of the Pond Area would be cleared of OE on both the surface and in the subsurface to a depth of four feet regardless of current or future use. This alternative

complies with ARARs and is effective in both the long term and short term. The annual number of potential OE exposures per sector was estimated at 0 during the risk assessment for the Surface Clearance of OE With Subsurface Clearance of Entire Area to a Depth of Four Feet alternative (Appendix D).

2.5.8.8.2 Implementability: Like Alternative 7, this type of OE investigation is both technically and administratively feasible for this portion of OOU6. The services and materials necessary to implement such an investigation are readily available. The property owner would likely be most receptive of this alternative.

2.5.8.8.3 Cost: The cost to perform this alternative is summarized in Appendix G. It will take approximately 5 weeks to complete the field work for this alternative. Additional details on how the costs were derived and the assumptions used in preparing the cost estimate are included in Appendix G.

2.5.9 Application of the Evaluation Criteria by Alternative for the Natural Brush/Forest Area (Sector 6A and B)

2.5.9.1 Alternative 1: No Further Action

2.5.9.1.1 Effectiveness: For the Natural Brush/Forest Area the No Further Action alternative will provide for the overall protection of human health and the environment based on the lack of OE items found in these sectors during the intrusive investigation. The Natural Brush/Forest Area was divided into 2 subsectors (A and B) for which annual exposure estimates were 5 and 0, respectively (Appendix D). This sector was divided based on the sources of the anomalies investigated. For example, non OE items (plow blades, magnetic rocks, etc.) were found primarily in Sector 6B. No ordnance was recovered in any of the 150 grids randomly established throughout the approximately 170 acres of the Natural Brush/Forest Area. A limited action employing a presumptive remedy, surface clearance of OE, would be implemented for the planned Compost B area within this sector.

2.5.9.1.2 The No Further Action alternative with limited action at Compost B would comply with ARARs since OE has not been recovered from this sector. In addition, the short-term and long-term effectiveness criteria are met. Thus, a No Further Action alternative for Sector 6 meets the Effectiveness category.

2.5.9.1.3 Implementability: This alternative is technically and administratively feasible. The property owner will likely accept this alternative based on the fact that no OE items were found in this sector during the OE Engineering Design field work and clearance of the planned development (Compost B) will be performed.

2.5.9.1.4 Cost: The cost estimate to implement the limited action described for this sector is provided in Appendix G. This action will take approximately 2 weeks to implement.

2.5.9.2 Alternative 2: Institutional Controls

2.5.9.2.1 Effectiveness: An Institutional Control alternative for Sector 6 can provide for the overall protection of human health and the environment although the additional protection above the No Further Action alternative is expected to be minimal. The Institutional Control alternative will include the installation of a fence and signs around the sector(s) to keep unauthorized personnel off of the property, a deed restriction will be negotiated to ensure that any future intrusive activities within the sectors are performed with the assistance of UXO-qualified personnel, and an education program for the site workers and/or visitors at the site will be implemented to ensure they are aware of the danger that OE items represent in the area. The installation of a fence around the perimeter of the sectors will provide an effective barrier for unauthorized personnel. This barrier can take the form of a chain link style fence. In addition to the fence, signs should be posted along the perimeter warning people to stay off of the affected property because of the dangers posed by OE items that could be present here. This alternative will provide for the overall protection of the workers and recreational users of the property. The implementation of these institutional controls will comply with ARARs and will address both the long-term and short-term effectiveness issues of the alternative.

2.5.9.2.2 Implementability: The Natural Brush/Forest Area (A and B) has not been developed but is used recreationally for hunting. In addition, a plan already exists for the development of Compost B within this sector. The imposition of a deed restriction on this sector is feasible but the area is large (approximately 50% of Dr Lowry's property and approximately 40% of the entire OOU6) and the property owner will likely require compensation for limitation of use of this area. Fencing would prove to be an effective barrier in minimizing the public's contact with potential OE items. However, implementation of these institutional controls as described will cause the following:

- Interfere with site operations (for example, landfill and compost operations);
- Limit access to prime areas for recreational hunting;
- Restrict wildlife (deer and wild turkey) movement and diminish quality of area for recreational hunting;
- Limit expansion of the pine farm; and
- Require rerouting of access roads to several areas of interest to the property owner.

2.5.9.2.3 On the basis of these potential impacts to the property owner's site operations, ability to execute his present and future land use plans, and the administrative difficulties in coordinating services that would be needed with site operations, this alternative will be very difficult to implement. In this regard, no further analysis of this alternative will be performed.

2.5.9.3 Alternative 3: Surface Clearance Only of OE

2.5.9.3.1 Effectiveness: Some additional protection to human health and the environment is afforded to the Natural Brush/Forest Area A (Sector 6A) by the

implementation of the surface clearance alternative. The annual number of potential OE exposures was estimated at 4 during the risk assessment for the surface clearance alternative as opposed to 7 for the No Further Action alternative (Appendix D). A Surface Clearance of OE in the Natural Brush/Forest Area B (Sector 6B) would not provide additional protection to human health and the environment since the annual number of potential OE exposures was estimated at 0 during the risk assessment for the No Further Action alternative (Appendix D). In addition, no ordnance was recovered from this sector during the OE Engineering Design. As a result, no additional analysis of this alternative or any other alternative for Sector 6B will be performed.

2.5.9.3.3 Implementability: This type of OE investigation is technically and administratively feasible and the services and materials necessary to implement such an investigation are readily available. For the Natural Brush/Forest Area A, the property owner would likely be receptive to this alternative since it would not impact future land use or significantly alter current conditions and it would provide additional protection of human health and the environment.

2.5.9.3.4 Cost: The cost to perform this alternative is summarized in Appendix G. This alternative will take approximately 10.5 weeks to complete. Additional details on how the costs were derived and the assumptions used in preparing the cost estimate are included in Appendix G.

2.5.9.4 Alternative 4: Surface Clearance of OE With Institutional Controls

2.5.9.4.1 Effectiveness: This alternative for Sector 6B offers some additional protection to human health and the environment over Alternative 1 or 2 and would comply with ARARs.

2.5.9.4.2 Implementability: As described for Alternative 2, based on the potential impact to site operations and potential future development this alternative would not be technically feasible. For these reasons, the property owner likely would not accept this alternative. Therefore, no further analysis of this alternative will be performed.

2.5.9.4.3 This alternative offers no additional protection to human health and the environment over the previous alternatives evaluated for Sector 6B since the annual number of potential OE exposures was estimated at 0 during the risk assessment for the No Further Action alternative (Appendix D). In addition, no ordnance was recovered from this sector during the OE Engineering Design. As a result, no additional analysis of this alternative will be performed on this sector.

2.5.9.5 Alternative 5: Surface Clearance of OE With Subsurface Clearance of Selected Areas to a Depth of One Foot

2.5.9.5.1 Effectiveness: As described in Alternative 3, Surface Clearance offers some additional protection to human health and the environment over Alternative 1, No Further Action for The Natural Brush/Forest Area A. However, without any evidence of OE contamination and/or specific request for future land use of an area, no basis exists

for selecting specific areas within the sector for subsurface clearance in addition to the sector-wide surface clearance. As a result, the OE Surface Clearance with Subsurface Clearance of Selected Areas to Depth of One Foot alternative fails in the effectiveness category and no additional analysis of this alternative will be performed (Appendix D).

2.5.9.5.2 This alternative offers no additional protection to human health and the environment over the previous alternatives evaluated for Sector 6B since the annual number of potential OE exposures was estimated at 0 during the risk assessment for the No Further Action alternative (Appendix D). In addition, no ordnance was recovered from this sector during the OE Engineering Design. As a result, no additional analysis of this alternative will be performed on this sector.

2.5.9.6 Alternative 6: Surface Clearance of OE With Subsurface Clearance of Selected Areas to a Depth of Four Feet

2.5.9.6.1 Effectiveness: As described in Alternative 3, Surface Clearance offers some additional protection to human health and the environment over Alternative 1, No Further Action for The Natural Brush/Forest Area A. However, without any evidence of OE contamination and/or specific request for future land use of an area, no basis exists for selecting specific areas within the sector for subsurface clearance in addition to the sector-wide surface clearance. As a result, the OE Surface Clearance with Subsurface Clearance of Selected Areas to Depth of Four Feet alternative fails in the effectiveness category and no additional analysis of this alternative will be performed.

2.5.9.6.2 This alternative offers no additional protection to human health and the environment over the previous alternatives evaluated for Sector 6B since the annual number of potential OE exposures was estimated at 0 during the risk assessment for the No Further Action alternative (Appendix D). In addition, no ordnance was recovered from this sector during the OE Engineering Design. As a result, no additional analysis of this alternative will be performed on this sector.

2.5.9.7 Alternative 7: Surface Clearance of OE With Subsurface Clearance of Entire Area to a Depth of One Foot

2.5.9.7.1 Effectiveness: Additional protection to human health and the environment is afforded to The Natural Brush/Forest Area A by the implementation of Alternative 7. The annual number of potential OE exposures was estimated at 2 during the risk assessment for the Surface Clearance of OE with Subsurface Clearance of Entire Area to a Depth of One Foot alternative as opposed to 4 for the Surface Clearance alternative (Appendix D).

2.5.9.7.2 Alternatives 2,3,4,5,6 and 7 offer no additional protection to human health and the environment over Alternative 1, No Further Action for Sector 6B since the annual number of potential OE exposures was estimated at 0 during the risk assessment for the No Further Action alternative (Appendix D). In addition, no ordnance was recovered from this sector during the OE Engineering Design. As a result, no additional analysis of this alternative will be performed on this sector.

2.5.9.7.3 Implementability: For The Natural Brush/Forest Area A, this type of OE investigation is both technically and administratively feasible and the services and materials necessary to implement such an investigation are readily available. The property owner may be less receptive to this alternative over Alternative 3 since it would potentially impact future land use and significantly alter current conditions (for example, wildlife habitat may be destroyed by brush clearing effort and erosion of soil could be enhanced).

2.5.9.7.4 Cost: The cost to perform this alternative at the Natural Brush/Forest Area A is summarized in Appendix G. This alternative will take approximately 11.5 weeks to complete. Additional details on how the costs were derived and the assumptions used in preparing the cost estimate are included in Appendix G.

2.5.9.8 Alternative 8: Surface Clearance of OE With Subsurface Clearance of Entire Area to a Depth of Four Feet

2.5.9.8.1 Effectiveness: No additional protection to human health and the environment is afforded to The Natural Brush/Forest Area A by the implementation of the OE Surface Clearance with Subsurface Clearance of Entire Area to Depth of Four Feet alternative. The risk assessment estimated the annual number of potential OE exposures at 2 for both the OE Surface Clearance with Subsurface Clearance of Entire Area to Depth of One Foot alternative and the OE Surface Clearance with Subsurface Clearance of Entire Area to Depth of Four Feet alternative (Appendix D). As a result, the OE Surface Clearance with Subsurface Clearance of Entire Area to Depth of Four Feet will not be further evaluated.

2.5.9.8.2 Alternatives 2,3,4,5,6,7 and 8 offer no additional protection to human health and the environment over Alternative 1, No Further Action for Sector 6B since the annual number of potential OE exposures was estimated at 0 during the risk assessment for the No Further Action alternative (Appendix D). In addition, no ordnance was recovered from this sector during the OE Engineering Design. As a result, no additional analysis of this alternative will be performed on this sector.

2.6 COMPARATIVE ANALYSES AND RANKING OF RECOMMENDED REMEDIAL ACTION ALTERNATIVES

2.6.1 Introduction

2.6.1.1 After the evaluation of each of the alternatives on their ability to achieve the action objectives has been completed, a comparative analysis is conducted to determine their relative performance in each of the evaluation criteria. The purpose of this comparison is to determine the advantages and disadvantages of each of the alternatives relative to one another. This analysis is used to support the selection of the preferred action alternative. Again, this comparative analysis has been divided among the sectors to ensure the selected alternative is the most appropriate based on the results of previous investigations at each of these sectors.

2.6.1.2 Each alternative will be ranked relative to all of the other alternatives for Effectiveness, Implementability, and Cost. Alternatives that were eliminated during the initial screening will not be ranked. The comparative analysis will only include the alternatives that remained after the screening.

2.6.1.3 The rankings under the Effectiveness category involve the consideration of four criteria. A ranking value of 1 through the total number of alternatives that remained after the screening for each of the sectors will be assigned to each alternative, with 1 representing the best alternative in the category. A weighted factor is assigned to each criterion based on its importance. The Safety criterion will be weighting by a factor of three (i.e., the ranking values will be multiplied by three). The Long-Term Effectiveness and the Short-Term Effectiveness criteria will each be weighted by a factor of two. Ranking values will be totaled for each alternative and the one with the lowest overall score will be the preferred alternative. The Effectiveness criteria ranking values will be subtotaled to determine the overall Effectiveness ranking. The Effectiveness category will account for 40 percent of the total weight of the alternatives.

2.6.1.4 The rankings under the Implementability category involve the consideration of three criteria. A ranking value of 1 through the total number of alternatives that remained after the screening for each of the sectors will be assigned to each alternative with 1 representing the best alternative in the category. A weighted factor is assigned to each criterion based on its importance. Each criterion under the Implementability category is of equal importance and will all be weighted by a factor of one. The Implementability criteria ranking values will be subtotaled to determine the overall Implementability ranking. The lowest overall score indicates the most implementable alternative. The Implementability category will account for 30 percent of the total weight of the alternatives.

2.6.1.5 The cost estimates for each alternative, details on how the costs were derived, and the assumptions used in preparing the cost estimate are included in Appendix C. The cost estimate for each alternative is an order of magnitude estimate which gives a general estimate of the level of effort that will be required to complete each alternative. The Cost category will account for 30 percent of the total weight of the alternatives. Actual cost numbers will be used to calculate the score of each alternative.

2.6.1.6 The Effectiveness scores will account for 40 percent of the overall total score. Implementability and Cost will each account for 30 percent of the overall total score. In order to calculate each alternative's percentage of the total overall score under the Effectiveness criteria, the alternative score will be divided by the total score of all alternatives then multiplied by 100 to calculate the weight of that alternative under Effectiveness, then multiplied by 40% to calculate the weight of the alternative as part of the total overall score. For Implementability and Cost the final score is multiplied by 30%.

2.6.2 Pine Farm (Sector 2)

2.6.2.1 Effectiveness

2.6.2.1.1 The three alternatives that remained after the screening of alternatives for Pine Farm were subjectively rank ordered under the Effectiveness category. The results of this ranking process are outlined in Table 2.1. Based on this analysis, the OE removal to a depth of one foot alternative ranked the highest in the Effectiveness category. The logic behind the rankings within each of the criteria is provided in the following paragraphs.

2.6.2.1.2 Safety: In this criterion the OE removal to a depth of one foot alternative provides the best overall protection with each of the other alternatives providing decreasing levels of protection. For that reason, each alternative was ranked in order with the OE removal to a depth of one foot alternative being ranked number 1 and the No Further Action alternative being ranked last.

2.6.2.1.3 Compliance with ARARs: The remaining potential alternatives comply with ARARs. However, since potential impact to the environment due to the investigation is a concern, the No Further Action alternative was ranked number 1.

2.6.2.1.4 Long-Term Effectiveness: In this criterion the OE removal to a depth of one foot alternative provides for the best long-term effectiveness with each of the other alternatives providing for decreasing degrees of long-term effectiveness. For this reason, the three alternatives were rank ordered from 1 to 3 with the OE removal to a depth of one foot alternative being ranked number 1 and the No Further Action alternative being ranked last.

2.6.2.1.5 Short-Term Effectiveness: In this criterion the surface clearance alternative provides for the greatest immediate protection for the workers and local citizens in the implementation of the alternative. In addition, other than the No Further Action alternative, this alternative will take the shortest amount of time to implement of the three alternatives examined. The No Further Action alternative is ranked last because it offers the least effectiveness.

2.6.2.2 Implementability

2.6.2.2.1 The three remaining alternatives were also rank ordered within each of the three criteria within the Implementability category based on a subjective analysis of the merits of each alternative. The results of this analysis are presented in Table 2.2. Based on this analysis, the No Further Action alternative ranked the highest in the Implementability category. The logic behind the rankings within each criterion is provided in the following paragraphs.

2.6.2.2.2 Technical Feasibility: Each of the alternatives was rank ordered with the No Further Action alternative being the easiest to implement and surface clearance and OE removal in areas to a depth of one foot alternative as being increasingly more difficult to implement from a technical standpoint.

Table 2.1
Former Camp Croft Army Training Facility OE Investigation/Engineering Design
Effectiveness Criteria Application
Sector 2, Pine Farm

ALTERNATIVES	EFFECTIVENESS				SCORE	RANK
	Safety (Protection of Human Health and Environment ⁽¹⁾)	Compliance with ARARs	Long-Term Effectiveness ⁽²⁾	Short-Term Effectiveness ⁽²⁾		
No further action	3(9)	1	3(6)	3(6)	22	3
Institutional controls	--	--	--	--	--	--
Surface clearance of OE	2(6)	2.5	2(4)	1(2)	14.5	2
Institutional controls and surface clearance of OE	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to one foot	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to four feet	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of entire area to one foot	1(3)	2.5	1(2)	2(4)	11.5	1
Surface clearance of OE with subsurface clearance of entire area to four feet	--	--	--	--	--	--

Note: Ranking from best to worst; best = 1

-- Alternative screened out

(1) Multiplied by 3

(2) Multiplied by 2

Example: 3(9) indicates a ranking of 3 for the alternative under a category weighted at 3.

Table 2.2
Former Camp Croft Army Training Facility OE Investigation/Engineering Design
Implementability Criteria Application
Sector 2, Pine Farm

ALTERNATIVES	IMPLEMENTABILITY				SCORE	RANK
	Technical Feasibility	Administrative Feasibility	Availability of Services & Materials	Property Owner		
No further action	1	1	1	3	6	1
Institutional controls	--	--	--	--	--	--
Surface clearance of OE	2	2	2	2	8	2
Institutional controls and surface clearance of OE	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to one foot	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to four feet	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of entire area to one foot	3	3	3	1	10	3
Surface clearance of OE with subsurface clearance of entire area to four feet	--	--	--	--	--	--

Note: Ranking from best to worst; best = 1

-- Alternative screened out

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2.6.2.2.3 Administrative Feasibility: Each of the five alternatives was seen as being increasingly more difficult to implement from an administrative standpoint in that as additional excavations are conducted, intrusive operations would warrant increasing administrative burden.

2.6.2.2.4 Availability of Services and Materials: The No Further Action alternative is the easiest to implement since relatively few services and no materials are required. The remaining two alternatives would require additional services and materials.

2.6.2.2.5 On the basis of input from the property owner during the OE Engineering Design field work, each of the alternatives was rank ordered the Surface Clearance of OE with Subsurfaces Clearance of Entire Area to One Foot depth alternative was selected as the most desired.

2.6.2.3 Cost

As detailed in Table 2.3, the least expensive alternative to implement is the No Further Action alternative while the most expensive alternative is the OE removal to a depth of one foot alternative.

2.6.2.4 Overall Ranking The Pine Farm

The overall ranking of the three alternatives for the Pine Farm is presented in Table 2.3. This overall ranking is based on the rankings within the three categories - Effectiveness, Implementability, and Cost - discussed above. Using the same methodology as was used in the previous analyses the preferred alternative for the Pine Farm is the one with the lowest overall score. Based on this analysis, the No Further Action alternative with limited removal action is the preferred alternative for the Pine Farm.

2.6.3 Landfill and Compost A Areas (Sector 3)

2.6.3.1 Effectiveness

2.6.3.1.1 The one alternative that remained after the screening of alternatives for Landfill and Compost A Areas was the Surface Clearance of OE with Subsurface Clearance of Selected Areas to Four Feet. The results of this ranking process are outlined in Table 2.4. Based on this analysis, this is the only alternative that is effective for this sector considering current and future landfill operations within the sector and is, therefore, ranked best in the Effectiveness category. The logic behind the rankings within each of the criteria is provided in the following paragraphs.

2.6.3.1.2 Safety: For this criterion, Alternative 6 remained the only alternative ranked.

2.6.3.1.3 Compliance with ARARs: For this criterion, Alternative 6 remained the only alternative ranked.

Table 2.3
 Selection Criteria Application
 Sector 2 (Pine Farm)
 Former CCATF OE Engineering Design

ALTERNATIVES	EFFECTIVENESS (1)	IMPLEMENTABILITY(2)	COST(3)	TOTAL	RANK
Alt 1 - No Further Action	18.3	7.5	5.0	30.8	1
Alt 2 - Institutional Controls	--	--	--	--	--
Alt 3 - Surface clearance of OE	12.1	10.0	10.0	32.1	2
Alt 4 - Institutional Controls and Surface Clearance of OE	--	--	--	--	--
Alt 5 - Surface Clearance of OE with Subsurface Clearance of Selected Areas to a Depth of One Foot	--	--	--	--	--
Alt 6 - Surface Clearance of OE with Subsurface Clearance of Selected Areas to a Depth of Four Feet	--	--	--	--	--
Alt 7 - Surface Clearance of OE with Subsurface Clearance of Entire Areas to a Depth of One Foot.	9.6	12.5	15.0	37.1	3
Alt 8 - Surface Clearance of OE with Subsurface Clearance of Entire Areas to a Depth of Four Feet.	--	--	--	--	--
TOTAL	40	30	30	100	

Note: Ranking from best to worst; best=1
 (1) Effectiveness is 40% of the total
 (2) Implementability is 30% of the total
 (3) cost is 30% of the total
 -- Alternative screened out

Table 2.4
Former Camp Croft Army Training Facility OE Investigation/Engineering Design
Effectiveness Criteria Application
Sector 3, Landfill and Composting Area

ALTERNATIVES	EFFECTIVENESS				SCORE	RANK
	Safety (Protection of Human Health and Environment ⁽¹⁾)	Compliance with ARARs	Long-Term Effectiveness ⁽²⁾	Short-Term Effectiveness ⁽²⁾		
No further action	--	--	--	--	--	--
Institutional controls	--	--	--	--	--	--
Surface clearance of OE	--	--	--	--	--	--
Institutional controls and surface clearance of OE	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to one foot	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to four feet	1(3)	1	1(2)	1(2)	8	1
Surface clearance of OE with subsurface clearance of entire area to one foot	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of entire area to four feet	--	--	--	--	--	--

Note: Ranking from best to worst; best = 1

-- Alternative screened out

(1) Multiplied by 3

(2) Multiplied by 2

Example: 1(3) indicates a ranking of 3 for the alternative under a category weighted at 3.

2.6.3.1.4 Long-Term Effectiveness: For this criterion, Alternative 6 remained the only alternative ranked.

2.6.3.1.5 Short-Term Effectiveness: For this criterion, Alternative 6 remained the only alternative ranked.

2.6.3.2 Implementability

2.6.3.2.1 The results of this analysis are presented in Table 2.5. Based on this analysis, Alternative 6 is the only remaining alternative that is implementable and Table 2.5 therefore ranked. The logic behind the rankings within each of the criteria is provided in the following paragraphs.

2.6.3.2.2 Technical Feasibility: For this criterion, Alternative 6 remained the only alternative ranked.

2.6.3.2.3 Administrative Feasibility: For this criterion, Alternative 6 remained the only alternative ranked.

2.6.3.2.4 Availability of Services and Materials For this criterion, Alternative 6 remained the only alternative ranked.

2.6.3.2.5 On the basis of the degree of acceptance expressed by the property owner surface clearance of OE with subsurface clearance of selected areas to four feet was the only alternative ranked.

2.6.3.3 Cost

As detailed in Table 2.6, Alternative 6 was the only alternative ranked for this criterion.

2.6.3.4 Overall Ranking The Landfill and Compost A Area

This overall ranking is based on the rankings within the three categories - Effectiveness, Implementability, and Cost - discussed above. Using the same methodology as was used in the previous analyses the preferred alternative for the Landfill and Compost A Area is the one with the lowest overall score. Based on this analysis the surface clearance of OE with subsurface clearance to a depth of four feet is the only remaining alternative and therefore, is the preferred alternative for the uncleared portion of the Landfill and Compost A Area (Table 2.6).

2.6.4 Pond Area (Sector 4)

2.6.4.1 Effectiveness

2.6.4.1.1 The three alternatives that remained after the screening of alternatives for Pond Area were rank ordered under the Effectiveness category. The results of this ranking process are outlined in Table 2.7. Based on this analysis, the Surface Clearance of OE and Subsurface Clearance of Entire Area to four feet alternative ranked the highest

Table 2.5
Former Camp Croft Army Training Facility OE Investigation/Engineering Design
Implementability Criteria Application
Sector 3, Landfill and Composting Area

ALTERNATIVES	IMPLEMENTABILITY				SCORE	RANK
	Technical Feasibility	Administrative Feasibility	Availability of Services & Materials	Property Owner		
No further action	--	--	--	--	--	--
Institutional controls	--	--	--	--	--	--
Surface clearance of OE	--	--	--	--	--	--
Institutional controls and surface clearance of OE	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to one foot	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to four feet	1	1	1	1	4	1
Surface clearance of OE with subsurface clearance of entire area to one foot	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of entire area to four feet	--	--	--	--	--	--

Note: Ranking from best to worst; best = 1 -- Alternative screened out

Table 2.6
Selection Criteria Application
Sector 3 (Landfill and Composting Areas)
Former CCATF OE Engineering Design

ALTERNATIVES	EFFECTIVENESS (1)	IMPLEMENTABILITY(2)	COST(3)	TOTAL	RANK
Alt 1 - No Further Action	--	--	--	--	--
Alt 2 - Institutional Controls	--	--	--	--	--
Alt 3 - Surface clearance of OE	--	--	--	--	--
Alt 4 - Institutional Controls and Surface Clearance of OE	--	--	--	--	--
Alt 5 - Surface Clearance of OE with Subsurface Clearance of Selected Areas to a Depth of One Foot	--	--	--	--	--
Alt 6 - Surface Clearance of OE with Subsurface Clearance of Selected Areas to a Depth of Four Feet	40.00	30.00	30.0	100	1
Alt 7 - Surface Clearance of OE with Subsurface Clearance of Entire Areas to a Depth of One Foot.	--	--	--	--	--
Alt 8 - Surface Clearance of OE with Subsurface Clearance of Entire Areas to a Depth of Four Feet.	--	--	--	--	--
TOTAL	40	30	30	100	

Note: Ranking from best to worst; best=1
(1) Effectiveness is 40% of the total
(2) Implementability is 30% of the total
(3) cost is 30% of the total
-- Alternative screened out

Table 2.7
Former Camp Croft Army Training Facility OE Investigation/Engineering Design
Effectiveness Criteria Application
Sector 4, Pond Area

ALTERNATIVES	EFFECTIVENESS				SCORE	RANK
	Safety (Protection of Human Health and Environment ⁽¹⁾)	Compliance with ARARs	Long-Term Effectiveness ⁽²⁾	Short-Term Effectiveness ⁽²⁾		
No further action	--	--	--	--	--	--
Institutional controls	--	--	--	--	--	--
Surface clearance of OE	3(9)	2	3(6)	3(6)	23	3
Institutional controls and surface clearance of OE	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to one foot	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to four feet	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of entire area to one foot	1.5(4.5)	2	2(4)	2(4)	14.5	2
Surface clearance of OE with subsurface clearance of entire area to four feet	1.5(4.5)	2	1(2)	1(2)	10.5	1

Note: Ranking from best to worst; best = 1

-- Alternative screened out

(1) Multiplied by 3

(2) Multiplied by 2

Example: 3(9) indicates a ranking of 3 for the alternative under a category weighted at 3.

in the Effectiveness category. The logic behind the rankings within each of the criteria is provided in the following paragraphs.

2.6.4.1.2 Safety: In this criterion the Surface Clearance of OE and Subsurface Clearance of Entire Area to one foot and to four feet alternatives provide the best overall protection with the Surface Clearance of OE alternative providing decreasing levels of protection. For this reason, each alternative was ranked in order with the OE removal to a depth of one foot and to four feet alternatives being ranked best and the Surface Clearance of OE alternative being ranked last.

2.6.4.1.3 Compliance with ARARs: The remaining potential alternatives comply with ARARs. Since impact to vegetation cover and endangered species is of little concern in this area (because most of this area has already been cleared of brush by the property owner), these alternatives were equally ranked.

2.6.4.1.4 Long-Term Effectiveness: In this criterion the OE removal to a depth of four feet alternative provides for the best long-term effectiveness with each of the other alternatives providing for decreasing degrees of long-term effectiveness. For this reason, the three alternatives were rank ordered from 1 to 3 with the OE removal to a depth of four feet alternative being ranked number 1 and the Surface Clearance of OE alternative being ranked last.

2.6.4.1.5 Short-Term Effectiveness: In this criterion the Surface Clearance of OE and Subsurface Clearance of Entire Area to Four Feet alternative provides for the greatest immediate protection for the workers and local citizens in the implementation of the alternative. Each of the other alternatives provides decreasing degree of short term effectiveness. Currently, Pond construction activities involve excavation of soil from depths greater than one foot and OE items may be present at depths greater than one foot therefore, OE removal alternatives for the entire site to a depth of four feet would be more appropriate. The Surface Clearance of OE alternative is ranked last because it does not offer adequate protection on a short term basis.

2.6.4.2 Implementability

2.6.4.2.1 The three remaining alternatives were also rank ordered within each of the three criteria within the Implementability category based on a subjective analysis of the merits of each alternative. The results of this analysis are presented in Table 2.8. Based on this analysis, the Surface Clearance of OE (alternative 3) and the Surface Clearance of OE with Subsurface Clearance of Entire Area to a Depth of One Foot (alternative 7) ranked the highest in the Implementability category. The logic behind the rankings within each criterion is provided in the following paragraphs.

2.6.4.2.2 Technical Feasibility: The Surface Clearance of OE alternative and the Subsurface clearance of Entire Area to a Depth of One Foot alternatives are the easiest to implement since limited intrusive operations is warranted. Therefore, these alternatives were equally scored. The Surface Clearance of OE with Subsurface Clearance of Entire

Table 2.8
Former Camp Croft Army Training Facility OE Investigation/Engineering Design
Implementability Criteria Application
Sector 4, Pond Area

ALTERNATIVES	IMPLEMENTABILITY				SCORE	RANK
	Technical Feasibility	Administrative Feasibility	Availability of Services & Materials	Property Owner		
No further action	--	--	--	--	--	--
Institutional controls	--	--	--	--	--	--
Surface clearance of OE	1.5	1.5	1.5	3	7.5	2
Institutional controls and surface clearance of OE	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to one foot	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to four feet	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of entire area to one foot	1.5	1.5	1.5	2	6.5	1
Surface clearance of OE with subsurface clearance of entire area to four feet	3	3	3	1	10	3

Note: Ranking from best to worst; best = 1

-- Alternative screened out

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Area to a Depth of Four Feet ranked last because the alternative is more difficult to implement from a technical standpoint.

2.6.4.2.3 Administrative Feasibility: The Surface Clearance of OE alternative and the Subsurface clearance of Entire Area to a Depth of One Foot alternatives are the easiest to implement since limited intrusive operations is warranted. Therefore, these Clearance of Entire Area to a Depth of Four Feet ranked last because the alternative is more difficult to implement from an administrative standpoint in that as additional excavations are conducted, intrusive operations would warrant increasing administrative burden.

2.6.4.2.4 Availability of Services and Materials: The Surface Clearance of OE alternative and the Subsurface clearance of Entire Area to a Depth of One Foot alternatives are the easiest to implement since limited intrusive operations is warranted. Therefore, these alternatives were equally scored. The Surface Clearance of OE with Subsurface Clearance of Entire Area to a Depth of Four Feet ranked last because increase in level of services and materials is warranted.

2.6.4.2.5 On the basis of input from the major property owner during the OE Engineering Design field work each of the alternatives was rank ordered with Surface Clearance of OE with Subsurface clearance of Entire Area to Four Feet alternative as the most desired.

2.6.4.3 Cost

As detailed in Table 2.9, the least expensive alternative to implement is the Surface Clearance of OE alternative while the most expensive alternative is the Surface Clearance of OE and Subsurface Clearance of Entire Area to a depth of Four Feet alternative.

2.6.4.4 Overall Ranking The Pond Area

The overall ranking of the three alternatives for the Pond Area is presented in Table 2.9. This overall ranking is based on the rankings within the three categories - Effectiveness, Implementability, and Cost - discussed above. Using the same methodology as was used in the previous analyses the preferred alternative for the Pond Area is the one with the lowest overall score. Based on this analysis the Surface Clearance of OE with Subsurface Clearance of Entire Area to a depth of One Foot alternative is the preferred alternative for Pond Area.

2.6.5 Natural Brush/Forest Areas (Sector 6A and 6B)

2.6.5.1 Effectiveness

2.6.5.1.1 As discussed in Subsection 2.5.9, the Natural Brush/Forest Areas sector was divided into subsectors A and B as depicted on Figure 1.11. Due to the negligible risk for exposure to UXO, as calculated during the risk assessment the No Further Action alternative was selected for Sector 6B.

Table 2.9
Selection Criteria Application
Sector 4 (Pond Area)
Former CCATF OE Engineering Design

ALTERNATIVES	EFFECTIVENESS (1)	IMPLEMENTABILITY(2)	COST(3)	TOTAL	RANK
Alt 1 - No Further Action	--	--	--	--	--
Alt 2 - Institutional Controls	--	--	--	--	--
Alt 3 - Surface clearance of OE	19.2	9.4	5.0	33.5	2
Alt 4 - Institutional Controls and Surface Clearance of OE	--	--	--	--	--
Alt 5 - Surface Clearance of OE with Subsurface Clearance of Selected Areas to a Depth of One Foot	--	--	--	--	--
Alt 6 - Surface Clearance of OE with Subsurface Clearance of Selected Areas to a Depth of Four Feet	--	--	--	--	--
Alt 7 - Surface Clearance of OE with Subsurface Clearance of Entire Areas to a Depth of One Foot.	12.1	8.1	10.0	30.2	1
Alt 8 - Surface Clearance of OE with Subsurface Clearance of Entire Areas to a Depth of Four Feet.	8.7	12.5	15.0	36.2	3
TOTAL	40	30	30	100	

Note: Ranking from best to worst; best=1
(1) Effectiveness is 40% of the total
(2) Implementability is 30% of the total
(3) cost is 30% of the total
-- Alternative screened out

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The three alternatives that remained after the screening of alternatives for the Natural Brush/Forest Areas (Sector 6A) were subjectively rank ordered under the Effectiveness category. The results of this ranking process are outlined in Table 2.10. Based on this analysis, Surface Clearance of OE with Subsurface Clearance of Entire Area to One Foot alternative ranked the highest in the Effectiveness category. The logic behind the rankings within each of the criteria is provided in the following paragraphs.

2.6.5.1.2 Safety: In this criterion the surface clearance of OE and OE removal to a depth of one foot alternative provides the best overall protection with each of the other alternatives providing decreasing levels of protection. For this reason, each alternative was ranked in order with the OE removal to a depth of one foot alternative being ranked number 1 and the No Further Action alternative being ranked last.

2.6.5.1.3 Compliance with ARARs: The remaining potential alternatives comply with ARARs. However, since impact to vegetation cover and potential endangered species is a concern, the No Further Action with limited removal action alternative was ranked number 1. Ranking of other alternatives considered the degree of brush clearing effort that would be required and the possible extent of soil disturbance that would result from intrusive operations. On the basis of this consideration, Surface Clearance of OE with Subsurface Clearance of Entire Area to One Foot alternative ranked last.

2.6.5.1.4 Long-Term Effectiveness: In this criterion the Surface Clearance of OE with Subsurface Clearance of Entire Area to One Foot alternative provides for the best long-term effectiveness with each of the other alternatives providing for decreasing degrees of long-term effectiveness. For this reason, the three alternatives were rank ordered from 1 to 3 with the surface clearance of OE and removal to a depth of one foot alternative being ranked number 1 and the No Further Action alternative being ranked last.

2.6.5.1.5 Short-Term Effectiveness: In this criterion the Surface Clearance of OE alternative provides for the greatest immediate protection for the workers and local citizens in the implementation of the alternative. The No Further Action alternative is ranked last because it offers the least degree of effectiveness on a short term basis.

2.6.5.2 Implementability

2.6.5.2.1 The three remaining alternatives were also rank ordered within each of the three criteria within the Implementability category based on a subjective analysis of the merits of each alternative. The results of this analysis are presented in Table 2.11. Based on this analysis, the No Further Action alternative ranked the highest in the Implementability category. The logic behind the rankings within each criterion is provided in the following paragraphs.

2.6.5.2.2 Technical Feasibility: Each of the alternatives was rank ordered with the No Further Action alternative being the easiest to implement and the Surface Clearance of OE with Subsurface clearance of Entire Area to a Depth of One Foot alternative considered the most difficult to implement from a technical standpoint.

Table 2.10
Former Camp Croft Army Training Facility OE Investigation/Engineering Design
Effectiveness Criteria Application
Sector 6A, Natural Brush/Forest Area

ALTERNATIVES	EFFECTIVENESS				SCORE	RANK
	Safety (Protection of Human Health and Environment ⁽¹⁾)	Compliance with ARARs	Long-Term Effectiveness ⁽²⁾	Short-Term Effectiveness ⁽²⁾		
No further action	3(9)	1	3(6)	3(6)	22	3
Institutional controls	--	--	--	--	--	--
Surface clearance of OE	2(6)	2	2(4)	1(2)	14	2
Institutional controls and surface clearance of OE	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to one foot	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to four feet	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of entire area to one foot	1(3)	3	1(2)	2(4)	12	1
Surface clearance of OE with subsurface clearance of entire area to four feet	--	--	--	--	--	--

Note: Ranking from best to worst; best = 1

-- Alternative screened out

(1) Multiplied by 3

(2) Multiplied by 2

Example: 3(9) indicates a ranking of 3 for the alternative under a category weighted at 3.

Table 2.11
Former Camp Croft Army Training Facility OE Investigation/Engineering Design
Implementability Criteria Application
Sector 6A, Natural Brush/Forest Area

ALTERNATIVES	IMPLEMENTABILITY				SCORE	RANK
	Technical Feasibility	Administrative Feasibility	Availability of Services & Materials	Property Owner		
No further action	1	1	1	3	6	1
Institutional controls	--	--	--	--	--	--
Surface clearance of OE	2	2	2	2	8	2
Institutional controls and surface clearance of OE	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to one foot	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of selected areas to four feet	--	--	--	--	--	--
Surface clearance of OE with subsurface clearance of entire area to one foot	3	3	3	1	10	3
Surface clearance of OE with subsurface clearance of entire area to four feet	--	--	--	--	--	--

Note: Ranking from best to worst; best = 1 -- Alternative screened out

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2.6.5.2.3 Administrative Feasibility: Each of the three alternatives except the No Further Action alternative was seen as being increasingly more difficult to implement from an administrative standpoint in that as additional investigations are conducted, intrusive operations would warrant increasing administrative burden.

2.6.5.2.4 Availability of Services and Materials: The No Further Action alternative is the easiest to implement since relatively few services and materials are required. The two remaining alternatives; Surface Clearance of OE and Surface Clearance of OE with Subsurface Clearance of OE of Entire Area to a Depth of One Foot, would require increasing level of effort and are therefore, ranked numbers 2 and 3 respectively.

2.6.5.2.5 On the basis of input from one of the property owners during the OE Engineering Design field work each of the alternatives was rank ordered with the Surface Clearance of OE with Subsurface Clearance of Entire Area to One Foot as the most desired.

2.6.5.3 Cost

As detailed in Table 2.12, the least expensive alternative to implement is the No Further Action alternative while the most expensive alternative is the Surface Clearance of OE with Subsurface Clearance of Entire Area to a Depth of One Foot alternative.

2.6.5.4 Overall Ranking The Natural Brush/Forest Areas (Sector 6A)

The overall ranking of the three alternatives for the Natural Brush/Forest Area is presented in Table 2.12. This overall ranking is based on the rankings within the three categories - Effectiveness, Implementability, and Cost - discussed above. Using the same methodology as was used in the previous analyses the preferred alternative for the Natural Brush/Forest Areas is the one with the lowest overall score. Based on this analysis the No Further Action alternative is the preferred alternative for Natural Brush/Forest Areas (Sector 6A).

2.7 RECOMMENDED REMEDIAL ACTION

This section presents the recommended removal actions for the eight sectors investigated during the OE Investigation/Engineering Design for OOU6 at the former CCATF. These sectors include the Roads and Site Operation Building, the Pine Farm, the Landfill and Compost A Areas, the Pond Area, the Wetlands/Stream Area, the Natural Brush/Forest Area (Sectors 6A and 6B), EE/CA Grid 87, and the Uninvestigated Area. Table 2.13 depicts the sectors of the site, the alternatives evaluated for each sector, and the associated reduction of annual OE exposures and cost related to the implementation of each alternative, the preferred alternative based on overall ranking and the recommended removal action.

Table 2.12
Selection Criteria Application
Sector 6A (Natural Brush/Forest Area)
Former CCATF OE Engineering Design

ALTERNATIVES	EFFECTIVENESS (1)	IMPLEMENTABILITY(2)	COST(3)	TOTAL	RANK
Alt 1 - No Further Action	18.3	7.5	5.0	30.8	1
Alt 2 - Institutional Controls	--	--	--	--	--
Alt 3 - Surface clearance of OE	11.7	10.0	10.0	31.7	2
Alt 4 - Institutional Controls and Surface Clearance of OE	--	--	--	--	--
Alt 5 - Surface Clearance of OE with Subsurface Clearance of Selected Areas to a Depth of One Foot	--	--	--	--	--
Alt 6 - Surface Clearance of OE with Subsurface Clearance of Selected Areas to a Depth of Four Feet	--	--	--	--	--
Alt 7 - Surface Clearance of OE with Subsurface Clearance of Entire Areas to a Depth of One Foot.	10.0	12.5	15.0	37.5	3
Alt 8 - Surface Clearance of OE with Subsurface Clearance of Entire Areas to a Depth of Four Feet.	--	--	--	--	--
TOTAL	40	30	30	100	

Note: Ranking from best to worst; best=1

(1) Effectiveness is 40% of the total

(2) Implementability is 30% of the total

(3) cost is 30% of the total

-- Alternative screened out

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Table 2.13
Summary of Removal Alternatives for OOU6 Sectors
Former CCATF OE Engineering Design

SECTOR	REMOVAL ALTERNATIVES	REDUCTION OF EXPOSURES PER YEAR (1)	RANKING (2)	RECOMMENDED ALTERNATIVE	COST RANKING	SELECTED REMOVAL ACTION
1	Roads and Site Operation Bldg	Alt 1 - No Further Action	0	NA	NA	NA
2	Pine Farm	Alt 1 - No Further Action ⁽³⁾	4			
		Alt 3 - Surface clearance of OE	2	X	1	X ⁽⁴⁾
		Alt 7 - Surface Clearance of OE with Subsurface Clearance of Entire Areas to a Depth of One Foot.			2	
3	Landfill and Compost A Areas	Alt 6 - Surface Clearance of OE with Subsurface Clearance of Selected Areas to a Depth of Four Feet	0	NA	X	NA
4	Pond Area	Alt 3 - Surface clearance of OE	2			
		Alt 7 - Surface Clearance of OE with Subsurface Clearance of Entire Areas to a Depth of One Foot.			1	
		Alt 8 - Surface Clearance of OE with Subsurface Clearance of Entire Areas to a Depth of Four Feet.	0	X	2	
5	Wetlands	Alt 1 - No Further Action	0			3
6A.	Natural Brush/Forests - A	Alt 1 - No Further Action ⁽⁶⁾	NA	X	NA	X
		Alt 3 - Surface clearance of OE	7	X	1	X ⁽⁷⁾
		Alt 7 - Surface Clearance of OE with Subsurface Clearance of Entire Areas to a Depth of One Foot.	4		2	
6B.	Natural Brush/Forests - B	Alt 1 - No Further Action	2			3
			0	NA	X	NA

Note: (1) Per OE Cert Analysis
(2) Ranking from best to worst; best=1
For ranking purposes;
- Effectiveness is 40% of the total
- Implementability is 30% of the total
- Cost is 30% of the total

(3) with limited Surface and subsurface clearing to a depth of 1 ft in a half acre area for construction of future storage barn within sector.
(4) with emphasis on surface and subsurface clearance of OE to a depth of 4 ft.
(5) With emphasis on surface and subsurface clearance to a depth of 4 ft at Compost A and Landfill 2
(6) With limited surface clearing of OE in Compost B (approx 4% of entire sector)
(7) with emphasis on surface and subsurface clearance of OE at Compost B to a depth of 4 ft.

2.7.1 Recommended Remedial Action for the Wetlands/Streams, Roads and Site Operations Building, and the Uninvestigated Area

The recommended removal action for the Wetlands/Streams (Sector 5), the Roads and Site Operations Building (Sector 1), and the Uninvestigated Area (Sector 8) is No Further Action (Alternative 1). No sampling grids were established within these sectors during the OE Engineering Design. Due to potential destruction of ecological habitats in the Wetlands/Stream sector expressed by regulatory agencies, no remedial alternatives were evaluated for the sector. The Uninvestigated Area sector may need future investigation to ascertain potential ordnance density within the sector. However, extrapolation of adjacent sector data to the Uninvestigated Area sector was deemed unreliable and beyond the scope of this project. The Roads and Site Operations Building sector was cleared of OE items to a depth of four feet during the 1994/1995 TCRA. Therefore, implementation of any of the eight alternatives evaluated for the OOU6 sectors (except No Further Action) is not warranted. In addition, the risk assessment estimated the current annual number of exposures to OE items within this sector at 0. Therefore, No Further Action (Alternative 1) was selected for this sector.

2.7.2 Recommended Remedial Action for the Pine Farm

The recommended removal action for the Pine Farm (Sector 2) is the No Further Action alternative (Alternative 1). This alternative includes a limited removal action surface clearance and subsurface clearance of OE to a depth of one foot, at the site for the future storage barn, an area of approximately 0.5 acre. In addition, the alternative will include an educational program for the property owner, landfill operators, and recreational users to ensure that they are aware of the potential hazards posed by OE. This alternative satisfies the removal action goal of reducing the explosive threat associated with OE by minimizing the OE exposure and safety hazards to the public. The No Further Action alternative satisfies the evaluation criteria because it will meet all of the response objectives in an acceptable amount of time, pose limited threat, is readily implementable both from a technical and administrative standpoint, and can be accomplished at a reasonable cost. This alternative was selected after evaluating the eight alternatives separately under each criterion. Following this screening of the alternatives, the six remaining alternatives were then compared to each other to arrive at a ranking of the alternatives within each criterion. The rankings of the alternatives under the three categories of effectiveness, implementability, and cost were then compared to each other and resulted in an overall ranking of these remaining alternatives. The No Further Action alternative was selected as the highest ranked alternative.

2.7.3 Recommended Remedial Action for Landfill and Compost A Area (Sector 3)

The recommended removal action for the Landfill and Compost A Areas is surface clearance of OE with subsurface clearance of selected area to a depth of four feet (Alternative 6). The total area to be cleared is estimated at 5 acres and this area is in the southern half portion of Landfill 1. The remaining portions of this sector have been cleared of OE during the TCRA and are therefore, excluded from this proposed remedial action. The Subsurface Clearance of Selected Area to a Depth of Four Feet alternative

satisfies the evaluation criteria because it will meet all of the response objectives in an acceptable amount of time, pose limited threat, is readily implementable both from a technical and administrative standpoint, and can be accomplished at a reasonable cost. This alternative was selected after evaluating the eight alternatives separately under each criterion. Following this screening of the alternatives, only one alternative remained and was therefore ranked accordingly. The ranking considered the following categories; effectiveness, implementability, and cost. No comparison of alternatives was made because only one alternative remained. The Surface Clearance of OE with Subsurface Clearance of Selected Area to a Depth of Four Feet remained as the selected alternative.

2.7.4 Recommended Remedial Action for the Pond Area (Sector 4)

The recommended removal action for the Pond Area is Surface Clearance of OE with Subsurface Clearance of Entire Area to a Depth of One Foot(Alternative 7). This alternative satisfies the removal action goal of reducing the explosive threat associated with OE by minimizing the OE exposure and safety hazards to the public. The Subsurface Clearance of Entire Area to a Depth of One Foot alternative satisfies the evaluation criteria because it will meet all of the response objectives in an acceptable amount of time, pose limited threat, is readily implementable both from a technical and administrative standpoint, and can be accomplished at a reasonable cost. This alternative was selected after evaluating the eight alternatives separately under each criterion. Following this screening of the alternatives, the three remaining alternatives were then compared to each other to arrive at a ranking of the alternatives within each criterion. The rankings of the alternatives under the three categories of effectiveness, implementability, and cost were then compared to each other and resulted in an overall ranking of the three remaining alternatives. The Surface Clearance of OE with Subsurface Clearance of Entire Area to a Depth of One Foot alternative was selected as the highest ranked alternative.

2.7.5 Recommended Remedial Action for Natural Brush/ Forest Areas (Sectors 6A and 6B)

2.7.5.1 The recommended removal action for the Natural/Brush Forest Area (Sector 6A) is the No Further Action alternative (Alternative 1). This alternative includes a limited removal action, involving surface clearance of OE at the proposed site for compost B. The estimated annual OE exposures are 7 for this sector. Therefore, the explosive threat associated with OE to the public is low. The No Further Action alternative satisfies the evaluation criteria because it will meet all of the response objectives in an acceptable amount of time, pose limited threat, is readily implementable both from a technical and administrative standpoint, and can be accomplished at a reasonable cost. This alternative was selected after evaluating the eight alternatives separately under each criterion. Following this screening of the alternatives, the three remaining alternatives were then compared to each other to arrive at a ranking of the alternatives within each criterion. The rankings of the alternatives under the three categories of effectiveness, implementability, and cost were then compared to each other and resulted in an overall ranking of the three remaining alternatives. The No Further action alternative was selected as the highest ranked alternative.

2.7.5.2 The recommended removal action for the Natural/Brush Forest Area (Sector 6B) is the No Further Action alternative (Alternative 1). The estimated annual OE exposures are 0 for this sector. Therefore, the explosive threat associated with OE to the public is a minimum.

2.8 LIMITATIONS OF THIS REPORT

The Army is continuing its comprehensive OE investigation of OOU6 within the former CCATF. The Army will issue a final report following completion of all investigation activities at the CCATF. The Army's cleanup activities in connection with this site have been conducted under the provisions of CERCLA and DERP, and do not constitute an admission of any kind by the United States. The results of the investigations described above are based on the best available information to date and should not be taken as a representation that other OE items could not be discovered at the site in the future.

2.9 ARMY ASSURANCES

Consistent with its obligations under CERCLA and DERP, the Army remains responsible for any additional response actions necessary in relation to OE items associated with prior DoD activities at OOU6 within CCATF. Based on the results of the geophysical survey and intrusive investigations performed to date, the Army concludes that all appropriate and necessary steps have been taken to protect the public safety in regards to the eight sectors. In addition, the Army concludes that additional steps will be necessary to protect the public safety in relation to The Pine Farm, Landfills and Compost A Areas, Pond and Natural Brush Forest Areas. Additional actions will be conducted in these areas to address the remaining OE contamination. If additional OE items are discovered at the site in the future, the Army is committed by CERCLA and DERP to take such cleanup actions as may be necessary to address the OE items. In the event that OE items are found in the future, the individual locating the OE item should call 911 to ensure that the OE item is handled and disposed in a safe manner. Future land development work at OOU6, should be coordinated with the Corps of Engineers to ensure that adequate measures are taken to protect public safety.

2.10 RECONSIDERATION OF RECOMMENDATIONS WITH THE RESTORATION ADVISORY BOARD (RAB)

2.10.1 Upon submission of the recommendations of the OE Engineering Design at OOU6 to the Restoration Advisory Board and subsequent review with the Corps of Engineers, reconsideration of these recommendations was warranted. Specific factors governing reconsideration are:

- The type of ammunition (105mm projectiles) discovered/recovered at OOU6;
- Penetration potential of the ammunition; and
- Potential future land use with regard to intrusive activities to depth below two feet.

2.10.2 On the basis of these factors, the Corps of Engineers have opted to implement removal action (OE clearing) to a depth of four feet below land surface at the recommended portions at Sectors at OOU6. In this regard, all OE clearing work specified in the recommendations will involve surface and subsurface clearance of OE items to a depth of four feet at OOU6.

SECTION 3 DESIGN REPORT

3.1 DESIGN DRAWINGS

The Engineering Design drawings are provided in this section (see drawing attached to this report). These drawings include:

1. Title Sheet, Location Map, and Drawing Index (Drawing No. G-1)
2. Existing Conditions (Drawing No. G-2)
3. Property Ownership (Drawing No G-3)
4. Site Operations Map (Drawing No. G-4)
5. Remediation Sectors Map (Drawing No. G-5)
6. Clearing Plan (Drawing No. C-1)
7. Civil Details (Drawing No. C-2)

3.2 SPECIFICATIONS

Specifications applicable to the Engineering Design are provided in this section. As desired by the CEHNC, a classic design submittal is not required for this Design Report section. In this regard, the Specifications presented in this Section have been prepared consistent with the format of the entire OE Engineering Design Report. Standard design requirements have been modified to relate to OE remediation work and presented as applicable.

3.2.1 Summary of Remediation Work

3.2.1.1 To implement the most appropriate response action to reduce the public risk posed by OE/UXO at OOU6 remediation work is planned for the Pine Farm (Sector 2-PFS), Landfill and Compost A Area (Sector 3-LFS), the Pond Area (Sector 4-PNDS) and the Natural Brush/Forest Area A - NATA. The goal of the removal action described for each of these sectors is to minimize the public's exposure to potential hazardous OE items and to ensure acceptable level of protection to the public and the environment. On the basis of the results of the risk evaluations using the OECert model and the subsequent evaluation of removal alternatives in this OE Engineering Design report, remediation work is not recommended for the remaining sectors (Roads and Site Operation Building Area - Sector 1, and the Natural Brush/Forest Area B - Sector 6-NATB) within OOU6 except for the Grid 87 Area (Sector 7-87S) for which remediation work was recommended in the EE/CA report (ESE, 1996). During the preparation of this report, CEHNC has completed remediation of the Pond Area (Sector 4-PNDS). This action was warranted to minimize

OE exposure and safety hazards to workers on site since construction of the pond was in progress. Reference to the Pond Area in this section of the report documents the removal action recommended prior to implementation of a removal action in this sector.

3.2.1.2 The approved removal action for the Pine Farm (Sector 2-PFS) is surface clearance and subsurface clearance of OE to a depth of four feet below grade at the site of the future storage barn. The total area to be cleared is approximately 0.5 acre. No further action is proposed for the remainder of this sector. This remediation work will satisfy the removal action goal of reducing the explosive threat associated with OE in this sector by minimizing the OE exposure and safety hazards to workers at the future storage barn.

3.2.1.3 The approved removal action for the Landfill and Composting Areas (Sector 3-LFS) is surface clearance of OE with subsurface clearance of selected areas to a depth of four feet (Alternative 6). The total area to be cleared is estimated at 15 acres and this area includes the southern half portion of Landfill 1 (including Compost A) and Landfill 2. The remaining portions of this sector have been previously cleared of OE during the TCRA and are therefore, excluded from this proposed remedial action. The Subsurface Clearance of the Entire Area to a Depth of Four Feet will meet all of the response objectives in an acceptable amount of time, pose limited threat to the public, and is implementable both from a technical and administrative standpoint.

3.2.1.4 The approved removal action for the Pond Area (Sector 4-PNDS) is surface clearance of OE with subsurface clearance to a depth of four feet. The total area to be cleared is estimated at 24.86 acres (total acreage for the sector). The exact area to be occupied by the pond water is currently unknown and has not been deducted. When this information is available the actual pond area may be excluded from the remediation effort because this portion of the sector would be underwater. Activities planned for the Pond area by the property owner preclude intrusive activities within the pond. If adjustment is made to the area to be investigated by excluding the area covered by the pond water, a reduction in the level of effort and the estimated cost for this removal action would be warranted. This remediation work will satisfy the removal action goal of reducing the explosive threat associated with OE in this sector by minimizing the OE exposure and safety hazards to the public. At the time of publication of this report, remediation work has been completed at the Pond Area. Therefore, the Pond Area is not included in the Clearing Plan (Drawing No. C-1).

3.2.1.5 The approved removal action for the Natural Brush/Forest Area A (Sector 6A-NATA) is surface clearance of OE with subsurface clearance to a depth of four feet at Compost B. The total area to be cleared is approximately five acres. No further action is proposed for the remainder of this sector. This remediation work will satisfy the removal action goal of reducing the explosive threat associated with OE in this sector by minimizing the OE exposure and safety hazards to workers at the proposed Compost B Area.

3.2.2 Site Description

3.2.2.1 OOU6 is located within the boundaries of the former Camp Croft, but outside Croft State Park. It is situated off of Mimosa Lake Road and is adjacent to the south edge of U.S. Highway 176 bypass. OOU6 contains an area of 397.80 acres, as per the Division of Tract 'A' "Whitestone Tract" boundary survey map, dated January 24, 1994. The property is privately owned and is used for agricultural and industrial purposes including timber farming and industrial landfills. The topography of the site consists of rolling hills and small ravines. The elevation of the site ranges from a low elevation of approximately 560 feet above sea level in the extreme western portions of OOU6 near Isons Creek to elevations exceeding 700 feet above sea level in the northern portion of OOU6 and at Red Hill (former target area). The former CCATF is located in the Piedmont Physiographic Province of northern South Carolina. The area is underlain by fine-grained soils and saprolite which mantle bedrock. Bedrock in the area consists of Proterozoic to Lower Paleozoic hornblende gneiss, biotite schist, and granitic pegmatite.

3.2.2.2 Soils at the site consist of red-brown sandy silt to sandy clay. These grade into a moderately dense saprolite, as observed in excavations and road cuts near the current landfill area. The saprolite appears to contain abundant quartz, mica, and kaolinized feldspar; in general the color was dark red-brown to dark brown and dark gray. The saprolite exposures also exhibited strong remnant foliation and gneissic banding; the weathered pegmatites cut the foliation at shallow angles. A few subvertical, black-stained fracture zones were also visible in the exposures.

3.2.2.3 OOU6 encompasses all of the property owned by Dr. W. Brownlee Lowry (MD) and portions of properties owned by J. Larry Faulkenberry & Almond Forest Products, Inc., Robert E. Lee, Dr. Glenn L. Scott (MD), Neil Robinette, Timothy M. Chastain, Margie F. Purser, and Milliken & Co.

3.2.2.4 **Area and Sector Description.** Based on a combination of similarities in characteristics regarding physical site features, land use, historic attributes, locations of OE items recovered, and previously investigated/remediated areas, several sectors were delineated within OOU6. Specifically, the site was divided into eight sectors. Drawing No. G-5 depicts the location and configuration of the sectors. The rationale for dividing the OOU6 into sectors was to provide a basis by which the risk evaluation was conducted for the site. Each of the sectors was analyzed separately both for the risk assessment as well as the potential removal action alternatives due to the differences in the field investigation findings and differences in the current and anticipated use of each of these areas.

3.2.2.5 Due to overlap among portions of several of the sectors, a sector rank was established for determination of areal expanse of sectors and sectors to which OE Engineering Design sampling grids were assigned. This ranking is depicted on Figure 1-7 which shows Sector 7-87S overlapping both Sector 2-PFS and Sector 3-LFS.

3.2.2.6 **TCRA Roads and Site Operations Building.** This sector consists of existing site roads (1.76 acres) and the landfill operations building (0.08 acre) cleared of

ordnance during the TCRA (Figure 1-7). Currently a total of 7.07 acres of roadways exist within OOU6 for which OE clearance has not been conducted by representatives of the Corps of Engineers. These roadways are considered as "paths" and are evaluated as part of the sectors in which they reside. No information is available as to whether the County Roads (Highway 176 bypass and Deerwood Drive) within OOU6 were cleared, but since they are currently paved their acreage was excluded from Sector 1.

3.2.2.7 Pine Farm (PFS). This sector includes a large portion of the northern and north/central portions of the site that are thickly forested with pine trees. Many of these trees are planted in rows and are of similar size and height (about 10 feet). Based on visual observation of maturity, the pine trees were planted during the same general timeframe (about 5-7 years old). The Pine Farm areas cover a total of 38.94 acres (Figure 1-7). Forty-three sampling grids were established within this sector.

3.2.2.8 Landfills and Compost A Areas (LFS). An industrial landfill is operated by one of the property owners (Dr. Lowry) within the OOU6 site. The landfill layout at OOU6 includes Landfill 1 and Landfill 2. Landfill 1 is currently active along with several adjacent composting areas. The area for subsequent expansion of landfill operations (Landfill 2) has been defined by the property owner and approved by the Spartanburg County and the state regulatory agency. Landfill 1, the proposed Landfill 2, and the associated composting areas cover a total of 21.31 acres (Figure 1-7). Much of these areas were previously investigated/cleared of ordnance during the TCRA, therefore no investigation was planned for this area. However, concerns for inadequate coverage during the previous investigation in this area warranted CEHNC to request additional sampling grids in this sector. In this regard, eleven sampling grids were established to provide additional characterization data.

3.2.2.9 Pond (PNDS). Development of a manmade pond is currently underway by one of the property owners (Dr. Lowry) within OOU6. During the OE Engineering Design fieldwork, heavy brush clearing and grading work were in progress around the intended pond area. The grading effort could potentially influence a change in the topography at this portion of OOU6. Most of the vegetation cover and many of the trees were removed. The Pond Area encompasses approximately 24.86 acres (Figure 1-7). Forty-three sampling grids were established within the sector.

3.2.2.10 Wetlands (WLSS). A number of small streams and wetlands traverse OOU6. Many of these streams are intermittent and flow only during periods of significant rainfall. However, several perennial streams and wetland areas are present on the site. Five of these areas, although not contiguous, were grouped together as a sector. The combined acreage of these geomorphological features is approximately 3.91 acres. No sampling grids were established within this sector due to regulatory restrictions.

3.2.2.11 Natural Brush/Forest Area A and Area B (NATA/NATB). A large portion of OOU6 is undeveloped. Much of this area is covered by sparse to moderate hardwood forest and natural brush. Pine farms have not been cultivated although there is evidence of past hardwood timber harvests. The two extensive land areas falling into this category are generally located in the northern and south/central portions of OOU6,

respectively. The proposed Compost B is located in the Natural Brush/Forest Area A. The total acreage of these areas is approximately 169 acres (Figure 1-7). To adequately cover this sector, 150 sampling grids were established.

3.2.2.12 **EE/CA Grid 87 (87S).** This sector was defined to coincide with EE/CA Grid 87. This grid was previously investigated and deemed contaminated with ordnance. Grid 87 overlaps small portions of the Pine Farm and the Landfill and Composting Areas. The overlap areas are excluded from the acreage of the Pine Farm and the Landfill. EE/CA Grid 87 is comprised of approximately 30.17 acres (Figure 1-7). The approved Work Plan excluded this sector from the OE Engineering Design investigation since it had reportedly been significantly investigated during the EE/CA. However, during the OE Engineering Design field work four sampling grids were established at the request of CEHNC to investigate a small area at the southeast portion of Grid 87.

3.2.2.13 **Uninvestigated Area.** This area consists of all property within OOU6 for which access was not provided by the respective property owners during the OE Engineering Design field work. This area consists of approximately 114.92 acres of land and includes the parcel of land owned by Milliken & Co. lying west of Lake Mimosa Road and the three small parcels of privately owned land lying immediately east of Kennedy Creek. Table 3.1 presents a summary of the acreage for all sectors.

**TABLE 3.1
SECTOR ACREAGE OOU6 OE ENGINEERING DESIGN**

Sector No.	Design Code	Area Description	Acreage
1	Non assigned	Roads and Site Operations Building -	1.84
		TCRA Cleared Roads	1.76
		TCRA Cleared Building Area	0.08
2	PFS	Pine Farm	38.94
3	LFS	Landfills and Compost A	21.31
		Landfill 1, Proposed Landfill 2, and Compost A Areas	
4	PNDS	Pond Area	24.86
5	WLSS	Wetlands/Streams	3.91
6	NATA & NATB	Natural Brush/Forest	168.39
7	87s	EE/CA Grid 87	30.17
8	Non assigned	Uninvestigated Area (Access Denied)	114.92
		Milliken and Company Property (Western Portion of Site)	
		J. Faulkenberry & Almond Forest Products Property	
		Timothy M. Chastain Property (East Portion of Site)	
		Robert E. Lee Property (East Portion of Site)	
		Other small tract property owners	

3.2.3 Special Clauses (site access, environmental protection, work hours, etc.)

The remediation work shall be performed to ensure compliance with the National Environmental Policy Act (NEPA) and Army Regulation (AR) 200-2, so that activities at the site minimize potential adverse environmental impacts. At a minimum, the ERPP provided in the work plan for the Engineering Design shall be applicable. The ERPP will comply with all applicable South Carolina state and local statutes and regulations.

3.2.4 Safety, Health, and Emergency Response

3.2.4.1 Safety, Health, and Emergency Response are critical aspects of the remediation effort to be implemented at OOU6. In this regard, applicable specifications and requirements to ensure adherence to proper safety, health and emergency procedures must be addressed. To accomplish this task, a Site Safety and Health Plan (SSHP) must be prepared by the Contractor. A Site Safety and Health Plan (SSHP) outlines and specifies the work practices and procedures needed to ensure protection of site personnel, the environment, and the local community during the conduct of the remediation work at Ordnance Operable Unit 6 (OOU6). All site activities will be performed in accordance with this SSHP and applicable U.S. Army Engineering and Support Center, Huntsville (CEHNC), federal, state, and local regulations. The SSHP will include the following:

- Safety and Health Organization
- Task Description
- Hazard Identification
- Training Plans
- Site Control and Layout
- Hygiene and Sanitation
- Site Safety Procedures
- Emergency Response Plan
- Preparation of Logs, Reports, and Record Keeping

3.2.4.2 The SSHP must have prior approval by CEHNC before commencement of remediation work at the site. The safety and health of onsite personnel and the local community will be ensured by following all applicable requirements and regulations listed in the following publications:

- a. Occupational Safety and Health Administration (OSHA) General Industry Standards, 29 Code of Federal Regulations (CFR) 1910;
- b. OSHA Construction Standards, 29 CFR 1926;
- c. U.S. Army Corps of Engineers EM 385-1-1;
- d. Army Regulation (AR) 385-40 (with CEHNC Supplement 1), Accident Reporting and Records;

- e. U.S. Environmental Protection Agency (EPA) Hazardous Waste Management, 40 CFR 260-276, latest edition;
- f. Engineering Regulation (ER) 385-1-92, Safety and Occupational Health Document Requirements for Hazardous, Toxic, and Radioactive Waste (HTRW) and Ordnance and Explosives (OE) Activities, 18 March 1994.

3.2.4.3 In addition to the publications and regulations previously listed, the following documents shall be reviewed and used as reference material in the preparation of the SSHP:

- a. U.S. Department of Defense (DOD) 4145.26-M, Contractors' Safety Manual for Ammunition and Explosive.
- b. Occupational Safety and Health Guidance for Hazardous Waste Site Activities, U.S. Department of Health and Human Services, National Institute of Occupational Safety and Health (NIOSH), October 1985; and
- c. Threshold Limit Values and Biological Exposure Indices for 1993-94, American Conference of Governmental Industrial Hygienists (ACGIH), 1993.

3.2.5 Temporary Construction Facility

3.2.5.1 This section covers requirements for provision, maintenance, and removal of temporary on-site facilities necessary to perform the Work. The Contractor shall provide temporary facilities including but not limited to field offices, explosives storage magazines, fencing and gate, ordnance demolition areas, and utilities required to perform the Work.

3.2.5.2 This section includes:

- Requirements of Regulatory Agencies
- Submittals
- Construction of Utilities
- Construction Aids
- Roads and Parking
- Construction Equipment Staging Area
- Fences and Gates
- Security Office
- Special Controls
- Field Offices
- Magazine Storage Areas
- Removal of Construction Facilities and Temporary Controls

3.2.5.2.1 **REQUIREMENTS OF REGULATORY AGENCIES:** The Contractor shall make all necessary arrangements, secure all required permits, and pay all fees and

charges associated with obtaining, installing, maintaining and removal of the facilities and controls as required by local, state and federal authorities.

3.2.5.2.2 SUBMITTALS: Drawings and Data: Contractor shall submit the following shop drawings, catalog data, brochures, material lists and other data for all temporary support and process facilities in accordance with

A. Temporary Utility Submittals:

1. Copies of approval of local utility companies for Contractor's intended temporary utility plans.

B. Temporary Construction Submittals:

1. Layout of Magazine Storage Area and Ordnance Demolition Area.

C. Temporary Control Submittals:

1. Copies of permits and approvals for construction from governing local, state, and federal agencies.
2. Plan for disposal of OE items and metallic scrap, including agreements with the intended disposal authority.

D. Safety, Protection, and Security Submittals:

1. Safety requirements are described in Section 3.2.4 - SAFETY, HEALTH, AND EMERGENCY RESPONSE REQUIREMENTS.
2. Copies of survey notes taken to establish control points for structures affected by the work, and layout of survey control points.
3. Security plan.

3.2.5.2.3 CONSTRUCTION OF UTILITIES: Contractor shall furnish all material and services necessary to distribute utilities described below in 3.2.5.2.3-A, 3.2.5.2.3-B, 3.2.5.2.3-C, and 3.2.5.2.3-D, to the locations where Work is performed.

A. Power and Lighting:

1. **Power:** The Contractor shall determine, at his own expense, the type and amount of power available and make arrangements for obtaining all necessary electric service required for Contractor's operations under the Contract. The Contractor shall schedule all necessary arrangements for power supply to the Site such that no delay in the execution of the Work in accordance with the Contract Period occurs. The Contractor shall provide temporary power to perform the Work in a safe and satisfactory manner.
2. **Construction Lighting:** All Work conducted under conditions of insufficient daylight shall be suitably lighted to ensure proper work and to afford adequate facilities for inspection and safe working conditions. (No intrusive work shall be conducted under insufficient daylight.)

3. **Approval of Electrical Connection:** All temporary connections for electricity shall be subject to approval by the Corps of Engineers and the power company representative and shall be removed in like manner at Contractor's expense at completion of the Work.
4. **Separation of Circuits:** Unless otherwise permitted by the Corps of Engineers, circuits separate from lighting circuits shall be used for all power purposes.
5. **Construction Wiring:** All wiring for temporary electric light and power shall conform to the requirements of Subpart K of the OSHA Standards for Construction.

B. Water Supply:

1. **General:** Potable water shall be used for equipment washdown, construction and sanitary uses. Contractor shall be responsible for obtaining and maintaining in operational conditions an adequate water supply to the Site.
2. Contractor shall be solely responsible for the adequate functioning of Contractor's water supply system and solely liable for any claims arising from the use of same, including discharge, waste, or water therefrom.
3. **Removal of Water Connections:** Before final acceptance of the Work on the project, all temporary connections and piping installed by the Contractor shall be entirely removed, and all affected improvements shall be restored to their original condition or better and to the satisfaction of the Corps of Engineers.

C. Sanitation:

1. **Toilet Facilities:** Fixed or portable chemical toilets shall be provided wherever needed for the use by personnel on Site including CEHNC personnel, Contractor, and Subcontractor personnel. Toilets at Site shall conform to the requirements of Subpart D, Section 1926.51 of the OSHA Standards for Construction.
2. **Sanitary And Other Organic Waste:** All waste and refuse generated from sanitary facilities provided by Contractor, and trash from all field office and any other source related to Contractor's operations shall be disposed of away from the Site in a manner satisfactory to the Corps of Engineers and in accordance with all laws and regulations pertaining thereto. Disposal of all such waste shall be at the Contractor's expense.

D. Communications:

1. **Telephone Services:** Contractor shall provide and maintain at all times during the progress of the Work, at Contractor's own expense, telephones in good working order at the Contractor's field office. Such telephone shall be connected to an established exchange for local and long distance service.

3.2.5.2.4 CONSTRUCTION AIDS. Comply with OSHA requirements and applicable laws, ordinances, rules, regulations, and orders pertaining to construction machinery and equipment, hoists, cranes, scaffolding, staging, materials handling facilities, tools, appliances, and other construction aids. OSHA requirements shall govern where mandatory; otherwise, comply with most stringent requirements.

3.2.5.2.5 ROADS AND PARKING

A. Transportation Facilities:

1. Contractor shall make the necessary arrangements for delivery of donor explosives to and from the Site.

B. Access Road and Parking:

1. Contractor shall construct new or improve the existing unpaved road to the Site, as necessary, to provide access to the Site during the performance of the Work.
2. The area designated on the Drawing G-4 - SITE OPERATIONS MAP, as the Site Operations Building area shall be used for parking for the Contractor's personnel.
3. Contractor shall maintain all roads and parking areas in good repair. Maintenance activities for the access road and parking areas shall include dust suppression to eliminate nuisance conditions and placement and compaction of gravel where damage or erosion has occurred. Also, Contractor shall maintain proper grade along and across the roadway to minimize erosion or ponding.

3.2.5.2.6 CONSTRUCTION EQUIPMENT STAGING AREA

A. The Contractor shall use the area designated as Additional Staging Area on Drawing G-4 - SITE OPERATIONS MAP for equipment staging. The Contractor shall notify the Corps of Engineers of obstructions not shown or readily apparent by visual inspection of the staging area. If such obstructions adversely affect Contractor's operations, relocation will be considered.

B. See - MATERIALS AND EQUIPMENT for additional information regarding material and equipment handling and storage.

3.2.5.2.7 FENCES AND GATES

A. The only area requiring construction of a fence and gates at OOU6 is the Magazine Storage Area. The fence and access gates to the Magazine Storage Area were constructed during the OE Engineering Design field work. Therefore, no specification structures are needed in this Design Report.

B. The Contractor shall post warning signs on the fence and the gate in accordance with the local, state and federal requirements.

3.2.5.2.8 SECURITY OFFICE

- A. The Contractor shall obtain, install, and maintain a modular type mobile structure for use by the Security personnel during the Remedial Action. Potable water and communication equipment (telephone) must be available in the mobile structure.
- B. The Contractor shall install and maintain power, lighting, air conditioning and heating for the Security Office during the performance of Work.
- C. The Contractor shall remove the Security Office at the conclusion of the Remedial Action.

3.2.5.2.9 SPECIAL CONTROLS

- A. Noise Control: Comply with OSHA requirements for allowable noise levels during construction. Prevent noise disturbance to adjoining property owners and the public.

3.2.5.2.10 FIELD OFFICES

- A. The Contractor shall install and maintain two field offices: one office for himself and one office for the Corps of Engineers. The locations of the field offices shall be adjacent to the Site Operations Building shown on Drawing G-4 - SITE OPERATIONS MAP.
- B. The field offices shall be trailer-type mobile structures. The Contractor shall locate these structures to the locations as shown on the Drawings.
- C. The field offices shall be available for use prior to the start of Work at the Site, and shall remain on the Site through completion of the project.
- D. The Contractor shall provide all equipment, materials and services necessary to collect, store and dispose all liquid and solid waste generated by the use of the field offices in accordance with all applicable state and local regulations and requirements.
- E. The Contractor shall furnish utilities such as power, lighting, water, air conditioning, heating and telephone at each of the field offices. The Contractor shall maintain all utilities at the field offices in good working order throughout the performance of Work.

3.2.5.2.11 MAGAZINE STORAGE AREAS

- A. Fence construction work has been completed at the site for the Magazine Storage Area. Earthwork such as clearing, grading, grubbing, and stripping as required were performed prior to installation of the fence.
- B. The Magazine Storage Areas shall be locked at all times and an inventory of items stored within the magazines shall be conducted at the beginning and end of each day.

- C. The Contractor shall segregate and store OE items delivered from the excavations within the Magazine Storage Areas. Demolition of UXO shall be conducted periodically in order to minimize cumulative explosive weight in storage.
- D. The Contractor shall dispose of scrap metal and OE fragments rendered safe to a smelter facility at no cost to the government. Documentation of delivery shall be provided to the Corps of Engineers.

3.2.5.2.12 REMOVAL OF CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS. The Contractor shall remove all construction materials, facilities, and temporary controls used in the performance of this work from the site upon completing the work. Arrangements shall be made with CEHNC and the property owner to ensure minimum impact to site operations (Landfill operations) during demobilization efforts.

3.2.6 Ordnance Demolition Site(s) and Operations

3.2.6.1 To the extent practical, areas selected for ordnance demolition will be located within topographic lows such as site ravines. In this manner the ravine sidewalls will provide additional protection to personnel and reduce visual and audible impacts to nearby residents. In addition, this measure may allow for some reduction in the buffer zone that is recommended for this effort. Demolition sites will be selected/prepared and approved by CEHNC on an as-needed basis. When demolition of ordnance in place is required, appropriate measures will be taken to minimize fragmentation, such as placement of sandbags around and on top of the ordnance item.

3.2.6.2 An Explosive Management Plan shall be prepared and included in the work plan for the remediation work. The plan shall include procedures required for transportation and storage of donor explosives for demolition work, UXO safety concerns and precautions, disposal operations and transportation.

3.2.6.3 Requirements of the Army Technical Manual 60A 1-1-4 concerning Protection of Personnel Properties shall be reviewed and applicable portions of this manual for the desired remediation work shall be followed. Demolition operations shall be performed consistent with the requirements of the Technical Manual (TM) 60A-1-1-31 for EOD Demolition Operation.

3.2.7 Brush Clearance

3.2.7.1 This section covers the work necessary for all brush cutting activities necessary for preparation of parcels for OE clearance. Included will be removal of surface debris, removal of shrubs, removal of selected trees, and disposal of debris and refuse.

3.2.7.2 This section includes:

- Definition
- Materials
- Preparation

- Clearing
- Disposal of Materials

3.2.7.3 The Contractor shall provide labor, equipment, tools, materials, and services needed to accomplish all site brush clearance and debris disposal activities described herein and shown on the Drawings.

3.2.7.4 DEFINITION - Brush Clearing: Clearing shall consist of the removal of all brush and shrub vegetation to a height of less than 6 inches above ground surface within the sector of concern, unless specific instructions are provided in advance to protect endangered species/plants habitats or at the property owners request. Trees less than 3 inches in diameter at the base that could impede progress of the geophysical survey shall be felled and stockpiled in an area designated by the Corps of Engineers or agreed to by the property owner(s). Trees greater than 3 inches in diameter within a sector of concern shall be trimmed of branches to a height of 6 feet above ground surface. If cutting of a tree with diameter greater than 3 inches at the base is required to avoid interference with geophysical or intrusive efforts, approval must be requested from the Corps of Engineers before proceeding with this activity. The tree will be felled and sectioned using chain saws. The sectioned tree will be staged in the location designated for brush debris. The stockpiled trees and other vegetation designated for removal, including brush, grass, vegetative matter and other unsuitable materials within the project limits shall be disposed of in a manner satisfactory to the Corps of Engineers.

3.2.7.5 MATERIALS. No materials shall be provided to the Contractor by the Corps of Engineers to perform brush clearance activities.

3.2.7.6 PREPARATION.

3.2.7.6.1 The Contractor shall verify that existing plant life designated by the Corps of Engineers to remain within the area specified for clearing, is tagged or otherwise identified.

3.2.7.6.2 The Corps of Engineers will furnish property access agreements with property owners for conducting the work specified herein in the areas within the OOU6 boundary.

3.2.7.7 CLEARING. Limits of Clearing: All areas requiring clearing are described in Section 3.2.1 of the Design report and shown on Drawing G-5 - REMEDIATION SECTORS MAP and Drawing C-1 - CLEARING PLAN.

3.2.7.7.1 Clearing Operation.

1. The Contractor shall cut trees, shrubs, bushes and other vegetation within 6 inches of the ground surface.
2. The Contractor shall take precautions to prevent damage to the existing structures, mature trees, and vegetation that are designated to remain on the Site, tagged or otherwise identified. Where damage occurs, it shall be the

responsibility of the Contractor to notify the Corps of Engineers in a timely manner and to restore the damaged structure solely at the Contractor's cost to the satisfaction of the Corps of Engineers.

3. In cutting timber growth, the Contractor shall make cuts such that all trees are felled into the area to be cleared. Care shall be exercised not to damage existing trees or vegetation outside of the clearing limits.
4. Wounds caused by trimming or topping activities to the trees that are designated to remain shall be properly treated to protect the trees from insects and decay.

3.2.7.8 DISPOSAL OF MATERIALS. The Contractor shall be responsible for the disposal of all clearing debris. If desired by property owners, clearing debris may be left on-site. The Contractor shall comply with all applicable local, state and federal regulations, guidances and policies for the disposal of clearing debris. The Contractor shall be responsible for the lawful and safe disposal of all clearing debris.

3.2.8 Site Restoration

3.2.8.1 A variety of hybrid grasses have been cultivated by the property owner throughout the site for decorative purposes, erosion control, and as a wildlife food supply. In selected areas, the indigenous vegetation has been augmented by numerous immature hardwoods and fruit-bearing trees as well as shrubs. Other areas have been improved in support of landfill operations or recreational uses. During the course of the remediation of the site some impacts to the site land surface and/or vegetation are likely.

3.2.8.2 Excavations will be created during remediation activities. To the extent practical, the original soil will be returned to the hole. Any disturbed areas will be restored to original grade and contour, and, where possible, the existing ground cover will be replaced.

3.2.8.3 Remedial support zones will be established at the site that may be impacted by site activity. The Site Operations Trailer area will include a field trailer and parking for vehicles. Grading activities may be necessary in the Magazine Storage Area and Demolition Areas. Other areas may be impacted by vehicular traffic. These areas shall be restored to their pre-investigative state unless otherwise directed by the Corps of Engineers and agreed to by the property owner.

3.2.9 Permits and Required Submittals

3.2.9.1 The administrative requirements for compliance with state and local regulations will generally not factor into this investigation because of the general CERCLA exemption. However, the spirit of these regulations will be followed through close coordination with local regulatory agencies to ensure they are fully informed as to the nature of the work being conducted on the site and the need to comply with any local regulatory requirements.

3.2.9.2 The contractor shall obtain a permit from the Spartanburg County Office for the office trailer and to ensure necessary power and sanitary requirements are adequately met.

3.2.10 Transportation and Disposal of Ordnance and Scrap

3.2.10.1 It is assumed that demolition of all OE items will be performed onsite. Therefore, only transportation of scrap materials resulting from the ordnance demolition effort would be required. The contractor shall complete a DD Form 1348-1 and/or local form required by the Defense Reutilization Marketing office (DRMO). The contractor shall prepare a certificate and the contractor Senior UXO Supervisor shall sign the certificate which shall state the following;

“I certify that 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,”

3.2.10.2 DRMO turn-in documentation receipts shall be submitted as a component of the Removal Report.

3.2.10.3 If the DRMO does not accept scrap or if DRMO is not available locally, the contractor will arrange for a local scrap contractor to remove the scrap.

3.2.10.4 If UXO must be transported off-site for disposal, provisions of 49 CFR 100-199, DAPam 385-64, state and local laws shall be followed.

3.3.11 Requirements for the Closure Report

A closure report will be prepared following completion of the remediation work. The report will include all survey, geophysical and OE items removal data generated from the remediation work. The Contractor shall furnish copies of maps confirming remediation work accomplished and the report to CEHNC. A draft and a final version of the Closure Report will be submitted. After a detailed review of the draft Closure Report, responses to comments generated shall be incorporated into the final Closure Report.

SECTION 4
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APPENDIX A
OE ENGINEERING DESIGN
FIELD INVESTIGATION ACTIVITIES

APPENDIX A

OE ENGINEERING DESIGN

FIELD INVESTIGATION ACTIVITIES

A.1.1 INTRODUCTION

A.1.1.1 OE Engineering Design field investigations were conducted at the former Camp Croft Army Training Facility (CCATF), Ordnance Operable Unit 6, between December 1996 and February 1997 to determine the nature and extent of OE contamination. The information gathered from these site investigations was used to prepare the Engineering Design for the most appropriate response action to reduce the public safety risk posed by OE/UXO at the site. These investigations included:

- review of historical data (archival investigation);
- geophysical survey investigation;
- intrusive investigations; and
- integration of all of the data collected from these investigations into the former CCATF, Ordnance Operable Unit 6, Geographic Information System (GIS).

A.1.2 SITE VISIT AND ARCHIVAL INVESTIGATION

A.1.2.1 The site visit was conducted on August 28 and 29, 1996. The purpose of the site visit was to visually inspect, photograph, and videotape existing development at OOU6 and obtain historical site documentation to evaluate both past and current land use, assess the type and quantity of ordnance that has been used, and evaluate the site's potential for buried OE.

A.1.2.2 A review of the historical documents and studies conducted at the former CCATF provided sufficient information on the potential nature and locations of OE that may be present at the site. The historical documents reviewed included:

- the Preliminary Assessment Report prepared by the US Army Corps of Engineers, Charleston District in 1991;
- the ASR prepared by the US Army Corps of Engineers, Rock Island District in April 1994;
- the Time Critical Removal action (TCRA) Report prepared by HFA in 1995;
- the Engineering Evaluation/Cost analysis (EE/CA) Report prepared by ESE for CEHNC in 1996;
- the Evaluation and Mapping Report prepared by ESE for CEHNC in 1996;

- the SASR prepared by ESE for CEHNC in 1996; and
- the Supplemental Engineering Report prepared by ESE for CEHNC in 1996;

A.1.2.3 The site visit included activities such as gathering recorded documentation of planned development for the site, review of existing CCATF documents in the Spartanburg County Library, review of endangered species and wetlands concerns, establishment of contacts with local state agencies, and verification of local hospital routes and emergency (police, fire, etc.) jurisdictions. The findings of this record review are provided in Section 1.6.2 of the Engineering Design Report.

A.1.3 GEOGRAPHIC INFORMATION SYSTEM

A.1.3.1 Part of the former CCATF OOU6 site investigation included the use of a GIS. The GIS system employed on the project was able to assemble and configure site survey data and create a GIS tailored for the specific needs of the site. Existing CCATF GIS-CADD maps were provided by CEHNC to develop the initial investigation map for the site. The data gathered from the geophysical investigation was combined with the intrusive investigation data and was incorporated into the GIS to establish a profile for OE items found at the site. This information assisted in the evaluation of the potential cleanup costs of various levels of OE clearance at the site.

A.1.3.2 Specific areas where the GIS was used during the former CCATF OOU6 field investigation included the following: (1) land survey data was successfully transferred to establish a GIS base map that was used to plan and design the geophysical investigation; (2) the geophysical survey data was incorporated into the GIS and was used to direct the intrusive operations; and (3) the GIS was used to evaluate the geophysical and intrusive investigation data after completing the field work. These evaluations were made to determine the sensitivity of the geophysical survey equipment for various types of OE items found at the site (for example, percentage of false positives at each sector and the overall average for the site).

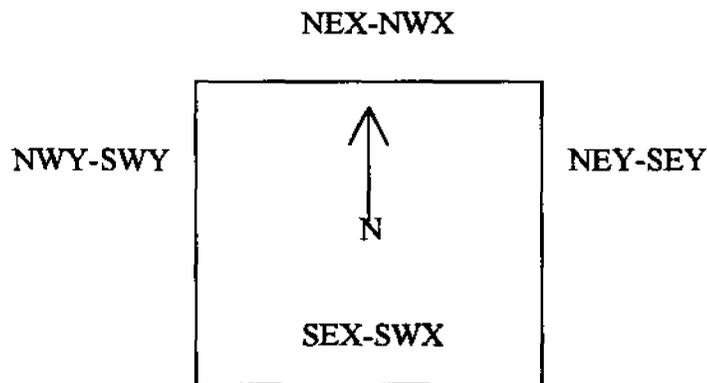
A.1.3.3 At the beginning of the field investigation, control points were set up throughout the site to accurately locate the geophysical survey sampling grids. The coordinates of each of these control points was entered into the GIS using the North American Datum of 1983 (NAD83) referenced to the South Carolina State Plane Grid System. These control points were used by the survey crews to locate the grid corners in the field. The grid corners were located to the nearest plus/minus 1 foot of the original GIS coordinates planned for the sampling grid unless precluded by site conditions. Where applicable, revisions to the GIS database were made to reflect field deviations.

A.1.3.4 50 foot by 50 foot squares sampling grids, oriented north-south to enable quick tracking of grid locations and access to each grid during subsequent investigations were established. The sampling grids were set up in clusters consisting generally of 4 individual grids, to reduce travel time between grids. Upon completion of the geophysical survey data acquired were transferred from field log books into the computer and subsequently into the GIS. Intrusive investigation teams then used the anomaly locations

(as flagged) to re-acquire and investigate the anomalies identified during the geophysical survey. Finally, upon completion of the intrusive investigation, the data was entered into GIS and was used to draw conclusions on the potential number and distribution of OE items that could be found across the remainder of the site.

A.1.3.5 QC of the location surveys of the grid corner was conducted by the survey team and by the Parsons ES GIS staff. All survey data collected when establishing grid corners was quality checked by entering the coordinates for each point into the Oracle database. The next step was to determine the length of each side of the square. The grid corners were to be + or - 1.0 foot in accuracy per work plan requirements.

A.1.3.6 Parsons ES constructed the equations to determine the accuracy and found that all grids met the requirements. The length of each segment was no longer than 51 feet or shorter than 49 feet in length. The results of the calculations for each grid are included in a summary table in Appendix B "Original Surveying and Mapping Data". The Title Page of this appendix will be revised to read "Original Surveying and Mapping Data and QC Results of Surveying Data". The calculations are based on the configuration depicted below:



A.1.4 GEOPHYSICAL SURVEY

A.1.4.1 Introduction

A.1.4.1.1 The geophysical survey at the former CCATF OOU6 was conducted between January 7 and February 7, 1997. The geophysical survey was conducted on 256 individual 50 foot by 50 foot grids. The coordinates of the grid corners were initially established in the field by a combination of GPS, total station, and tape and compass survey techniques. Survey control was established using local USGS and South Carolina State Plane Grid System benchmarks and control points established during previous investigations. Coordinates of each sampling grid were translated from North American Datum of 1983 references to the South Carolina State Plane Grid System.

A.1.4.1.2 The control points selected or used were all either recognizable surface features, monuments, or features found on maps. A visual survey of the control points was made by the Parsons ES site manager and the surveyors to assure their credibility.

Photographs were taken of each of the control points and the surrounding area for later identification.

A.1.4.1.3 Subsequently, field activities for the geophysical survey included the following tasks:

- setting up the equipment calibration verification test grid;
- setting up the survey sampling grids;
 - staking and surveying sampling grid corners;
 - extensive clearing of brush and small trees within sampling grids;
 - clearing of brush and small trees for access to sampling grids;
- calibration of the Geonics EM-61 instrument;
- geophysical survey data acquisition using a 3-foot lane spacing; and
- field data analysis.

A.1.4.1.4 Prior to the geophysical surveying of each sampling grid, a UXO certified expert surface cleared the sampling grids to ensure the safety of the geophysical survey crews. This clearing effort involved a visual inspection and use of a Schoenstedt fluxgate magnetometer.

A.1.4.2 Geophysical Survey Instrument

A.1.4.2.1 Two Geonics EM-61 Electromagnetic Time Domain Metal Detectors were used by Parsons ES personnel to perform the geophysical survey. The EM-61 instrument is a proven, state-of-the-art underground ordnance locating system. The instrument consists of a transmitter and receiver frame (1 meter wide), an electronics backpack, an optional cart configuration with an odometer, an audio data output jack, and a hand held automated data logger. Throughout this survey, the EM-61 instrument was operated with the frame on wheels and towed as a cart, with the exception of portions of the geophysical survey work conducted on February 7, 1997. The unit was operated in skirt mode on the final day of geophysical work due to a failure of the cart axle. The second unit had previously been returned to the rental agency therefore, it was not available for use. A photograph of the EM-61 being used in cart mode and in skirt mode are presented as Figures A.1 and A.2, respectively.

A.1.4.2.2 Portions of the geophysical investigation involved two geophysical teams operating onsite simultaneously. In these instances, the site manager assigned and controlled the locations of the survey teams in order to maintain a 100 foot buffer zone between EM-61 units to avoid potential equipment interferences. In addition, the teams regularly exchanged information pertaining to types of responses observed in sampling grids investigated and how they were interpreted.

FIGURE A.1
EM-61 APPLICATION IN CART MODE



Geophysical Investigation Team using the EM-61 equipment in Cart Mode at grid #46 in the Pine Farm (Sector 2).

FIGURE A.2
EM-61 APPLICATION IN SKIRT MODE



Geophysical Investigation Team using the EM-61 equipment in Skirt Mode at grid #273 in the Natural Brush/Forest (Sector 6).

A.1.4.3 Equipment Calibration Verification

A.1.4.3.1 A calibration verification grid, which measured 25 feet by 50 feet, was established to conduct daily functional checks of the geophysical investigation search instruments. The grid was established adjacent to the field trailer in an area previously cleared of ordnance by HFA during the 1994/1995 TCRA. The selected area was checked and cleared of any remaining anomalies (small UXO fragments). Specific OE items of interest at OOU6 included 60mm and 105mm projectiles (reportedly, these were the OE items fired into the target area at OOU6). Therefore, four inert 25-pound 105mm Howitzer projectiles (105mm base ejection illumination/smoke rounds with mechanical timer fuze) and four mock 60mm mortars were buried in eight different locations at depths of one foot, two feet, three feet, and four feet respectively to serve as known anomalous sources for calibration verification purposes. The EM-61 units were operated over the known anomalous sources and the maximum observed readings were recorded daily in the geophysical logbooks. The EM-61 instruments' factory-set calibration was verified by comparing the initial day's readings (the baseline) to subsequent daily measurements. No daily reading differed by more than 25% of the baseline readings as required by the approved Work Plan. These calibration confirmation procedures conformed to the manufacturer's standard instructions and were performed to ensure that the equipment functioned within the allowable tolerances established by the manufacturer and required for this project. The Schoenstedt magnetic locators and Foerster FEREX Mk 26 magnetometers were checked and adjusted daily over the same grid to ensure that the instruments were functioning within their acceptable range.

A.1.4.3.2 One of the property owners (Dr. Lowry) voluntarily provided the four 105mm inert ordnance items buried in the calibration grid. These ordnance items were previously found on-site by workers on his property within OOU6.

A.1.4.3.3 On January 20, 1997, additional items were "seeded" in the calibration verification grid at the request of the Corps of Engineers. Previous site investigations had identified the potential presence of 60mm mortars at the site but no inert ordnance was available. Four equivalent 60mm ordnance items were constructed from steel pipes and steel end caps as specified by the Corps. These mock ordnance items were also buried in four different locations at depths of one foot, two feet, three feet, and four feet respectively to serve as anomalous sources for calibration purposes.

A.1.4.3.4 The calibration verification grid was restored to its original preinvestigation condition on February 26, 1997. The four inert 105mm projectiles were excavated and returned as requested to Dr. Lowry. The four mock 60mm mortars were excavated and disposed off-site.

A.1.5.4 Survey Area Coverage

A.1.5.4.1 The total area geophysically surveyed at the former CCATF OOU6 was approximately 14.74 acres based on 256 surveyed 50-foot by 50-foot sampling grids. This constitutes 5.57% coverage of the 264.65 acres of the site for which access was granted. On the basis of the designated sectors, approximately 2.47 of 38.94 acres were

geophysically investigated in the Pine Farm, 0.63 of 21.31 acres was geophysically investigated in the Landfill and Composting sector, 2.47 of 25.32 acres were geophysically investigated in the Pond Area, 8.61 of 169.05 acres were geophysically investigated in the Natural Brush/Forest Areas, and 0.23 of 30.17 acres was geophysically investigated in the EE/CA Grid 87 sector. No geophysical investigations were conducted within the Roads and Site Operations Building Sector and the Wetlands/Streams sector.

A.1.5.4.2 A total of 256 individual sampling grids were geophysically investigated. One grid, Grid 199, was geophysically investigated twice because sizable metallic debris was discovered during QC activity conducted following the intrusive investigation. The sampling grids were uniform in size at 0.057 acre (50 feet by 50 feet). The geophysical investigation identified 2,310 anomalies. The locations of the geophysical survey grids, are presented in Figure 1.5 in the main section of this report. Table 1.5 also in the main section of this report presents a summary of the geophysical survey investigation's results. The geophysical survey data is included in Appendix C.

A.1.5.5 Field Data Acquisition

A.1.5.5.1 The geophysical survey was performed using a "mag and flag" methodology. The EM-61 instruments were pulled across the sampling grids in survey lanes (traversing north-south) approximately 3 feet wide to provide full coverage of the grids. The operator of each instrument was able to see the measurements on a digital display on the data recorder and also wore a set of headphones which transmitted a sound that varied in frequency from low to high pitches. The pitch was dependent on the strength of the magnetic field in the subsurface and correlated directly with the instrument readings. The operator used the recorder display and the sound in the headphones to determine the approximate xy location of anomalies within the sampling grids. The measurement on the digital display was then recorded. Four measurements were recorded: background top and bottom coil readings and peak top and bottom coil readings. Field observation of the magnitude of the EM-61 response and empirical judgment were used to interpret observed readings as recognizable anomalous conditions. Information gathered during the survey of the initial sets of sampling grids was also used to refine follow-on field interpretation of observed data. Once an anomaly was located, a survey flag was inserted into the ground to mark the location and numbered for reference. The anomaly numbering was sequential and was reinitiated to zero for each sampling grid.

A.1.5.5.2 In some sampling grids, an elevated EM-61 response was observed over a wide lateral area indicating the potential for the presence of multiple or a large source material(s). In these cases, specific comments were made and recorded in the field log book and multiple survey flags displaying the same anomaly number were placed around the anomalous area. The highest EM-61 reading and the approximate affected area of the anomaly were then recorded in the field log book for reference.

A.1.5.5.3 The geophysical data was manually recorded in field logbooks during the field work. The data was compiled and provided to COE after completing the field work

in March 1997. A copy of the data file created from the field log is included in Appendix C, with the Site Characterization Data. Consistent with the work plan, no electronic data files were collected during the EM-61 surveying.

A.1.5.5.4 No OE-related items (other than small fragments) were discovered on the grid surfaces during the geophysical investigation or brush cutting or clearance activities. As stated previously, ordnance avoidance surface clearance was conducted by UXO-certified personnel during brush cutting activities thus negating the Work Plan escort requirement for the EM-61 geophysical survey teams. This deviation from the approved Work Plan was approved by CEHNC.

A.1.6 INTRUSIVE INVESTIGATION

A.1.6.1 The purpose of the intrusive investigation was to verify the EM-61's effectiveness to accurately locate OE items at the former CCATF OOU6. The intrusive investigation had the following two objectives:

- to safely and efficiently excavate, identify, and document OE recovered from the site; and
- to establish a database from which the Engineering Design could be prepared.

A.1.6.2 Upon completion of the geophysical survey at a sampling grid, the grid became available for intrusive investigation by the UXO subcontractor, UXB International. The Parsons ES site manager, in conjunction with the UXB site supervisor, daily selected grids for intrusive investigation from the pool of sampling grids for which the geophysical investigation was completed. Factors considered when selecting a grid for intrusive investigation included proximity of on-going geophysical activities, areas where the property owner's (or property owner's representative) actions may jeopardize continued grid investigation, landfill operations, weather-related effects/issues, site manager discretion, etc. Of the 256 individual sampling grids geophysically investigated, 98% (251) of the grids had all of the anomalies detected within the grid intrusively investigated. Five sampling grids (74, 75, 96, 148, and 160) were deleted from the project after the geophysical investigation but prior to the intrusive investigation. These grids were deleted upon discovery that portions of the grids may encroach adjacent property from which access had not been granted. The grid corner stakes and anomaly location flags were removed and no intrusive investigation was conducted at these locations.

A.1.6.3 The intrusive investigation was conducted at the site with little disruption to local residents or onsite workers. An exclusion zone was established as approved by the CEHNC Project Safety Manager to avoid any dangerous effects due to fragmentation or over-pressure from an accidental OE detonation during intrusive operations.

A.1.6.4 Prior to commencement of the intrusive investigation on January 16, 1997, the Magazine Storage Area was prepared. The location selected in the field (approved by the Corps of Engineers and the property owner) was in an open area between OE Engineering Design sampling grids 61 and 64 (see Figure 1.7 in the main section of the

report). This location was previously utilized for a magazine storage area by HFA during the TCRA and had been precleared of ordnance. The lightning suppression rods for the former magazine storage area were available for reuse. On January 13 and 14 the fencing subcontractor constructed a security fence around the location for the magazine(s). The magazines arrived at the site on January 15, 1997 via flatbed truck and were secured in the approved configuration within the fence limits. All explosives and detonators were stored within the magazines. The magazines remained double-locked at all times and the security fence was kept locked when the Magazine Storage Area was not actively in use.

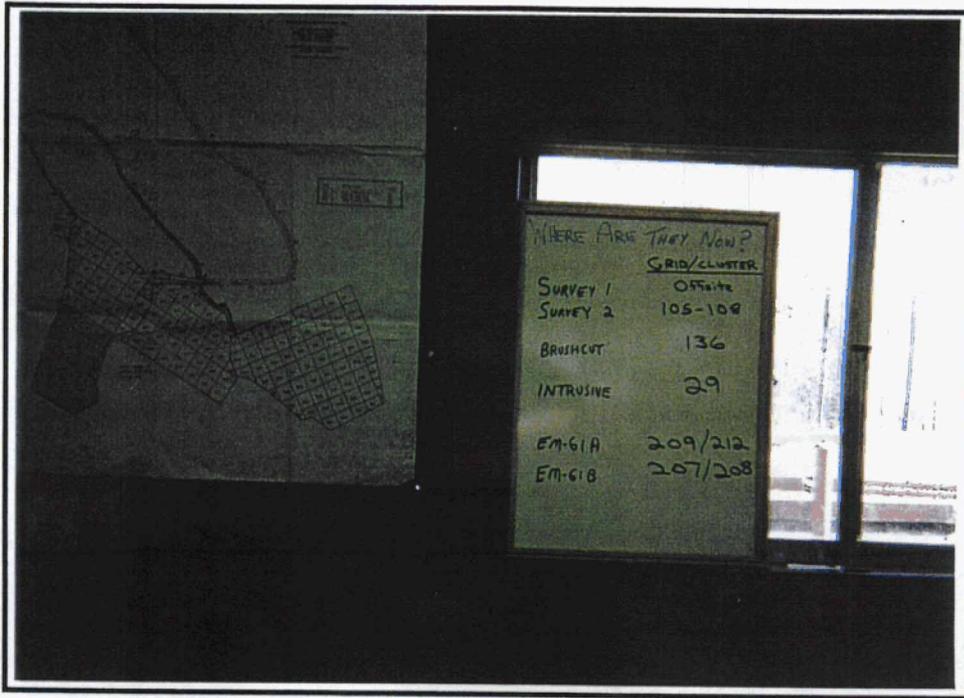
A.1.6.5 The locations of the intrusive team(s) on the site was maintained in the field trailer by the site manager on maps and a dry-erase tracking board. The tracking board showed intrusive team number and sampling grid number under investigation. The site map identified the location of the sampling grid within OOU6. Completion of intrusive activities in one grid and movement to another was monitored via dedicated site radios and updated on the tracking board. Other onsite personnel were notified of movement as necessary. A photograph of one of the tracking boards at the site is shown in Figure A.3.

A.1.6.6 High precision survey methods were not used to identify the locations of individual recoveries of ordnance scrap, ordnance fragments, shrapnel, small arms ammunition and metallic debris. A weight summary by category by anomaly was recorded on the field dig sheets along with any other significant visual observations. The locations of the ordnance items were measured from grid corner stakes using a standard measuring tape and the data was promptly recorded in the field dig sheets.

A.1.6.7 Discovery of both live and inert ordnance items was immediately relayed from the intrusive team to the Parsons site manager. Data (location, photographs, depths) for inert ordnance items were recorded by the intrusive team. Following the discovery of live ordnance, the area was secured. An exclusion zone was established by the UXO subcontractor based on the net documented explosive weight of the ordnance item (5 pounds for a 105mm) and calculated fragmentation distances. The Parsons site manager was immediately notified. He then communicated the information to the project manager. The project manager informed the Corps of Engineers. In addition, a Corps of Engineers representative (CEHNC Safety), Mr. Jim Anelle, was notified at the HFA trailer located within Croft State Park. Mr. Anelle proceeded to the OOU6 site and observed/witnessed detonation in place of the UXO. No UXO was identified as containing military toxic chemical agents during the site investigation.

A.1.6.8 GIS maps were developed to illustrate the locations of the anomalies where ordnance was recovered. All of the identified anomalies within a sampling grid were assigned a unique identifier. Easting and northing coordinates for each of the anomalies with other pertinent attributes (for example, type item recovered and weight) were input into the Relational Interface System (RIS) schema in Oracle. Computer Aided Drafting and Design (CADD) drawings depicting the quantity and locations of anomalies within each grid geophysically investigated were also developed.

FIGURE A.3
INTRUSIVE TEAM TRACKING BOARD



Tracking board used for monitoring location of geophysical and UXO Intrusive Investigation teams during the OE Engineering Design field work.

A.1.6.9 The intrusive investigation was completed by February 26, 1997. 14 inert 105mm illumination/smoke rounds recovered at the site were officially demilitarized on February 27, 1997 for disposal to a local recycler.

A.1.6.10 The Schoenstedt and Mk26 equipment were used to confirm the locations of the EM-61 anomalies flagged by Parsons ES personnel during the geophysical investigation. After confirmation, the intrusive team excavated small amounts of soil and continuously rechecked the excavation with the Mk26 instrument until the item was isolated. A 3 foot radius excavation was made around each flagged anomaly up to a depth of 4 feet. An estimated weight of the recovered item(s) was recorded for each anomaly by category. The categories consisted of ordnance, UXO fragments/scrap, and nonUXO scrap. This information was recorded on the intrusive dig sheets along with other grid-specific information (See Appendix C).

A.1.6.11 Intrusive procedures were modified to accommodate several site-specific conditions encountered in the field. Magnetic rocks and metallic soil layers were encountered within some anomaly excavations. Occasionally excavation of an anomaly reached a depth of 4 feet and no objects were recovered and the geophysical instrument still identified a subsurface magnetic field. In these instances excavation activity was ceased, the occurrence noted on the intrusive dig sheets, and the excavation was backfilled. Other experience included excavation of anomalies at several grids that led to the unearthing of very large objects (usually with a backhoe) such as concrete slabs with rebar reinforcement, large mechanical parts, and other items difficult to handle but not OE-related. In these instances the objects were noted on the intrusive dig sheets, but no object weights were recorded. The intrusive data for each grid was entered into the GIS database.

A.1.6.12 Not all the sources of the flagged anomalies identified by the EM-61 geophysical survey crews were confirmed by the intrusive operations. A total of 324 of the 2293 (2311 minus 18 deleted grid anomalies) or 14.1% of the anomalies excavated from the 251 individual sampling grids were identified as "false positives. Magnetic rocks and soil containing ferrous constituents may be responsible for these false positives.

A.1.7. QA AND QC INVESTIGATIONS

A.1.7.1 Upon completion of the intrusive investigation of sampling grids, a quality control (QC) check of 10% of the area of each grid was conducted by the UXO subcontractor using the Foerster Mk26 magnetometer. The Mk26 instrument was used to identify if any other potential sources existed within the grid investigated that were not flagged by the geophysical survey team. All anomalies identified during the QC effort were intrusively investigated to confirm their source. No OE items were found at any locations investigated. However, small to medium size metal objects including fragments of OE scrap were recovered at some of these locations. Due to the presence of several OE fragments and metal debris in some areas, the EM-61 survey teams screened these items out to discern anomalies that are likely due to the presence of ordnance. In these cases, consideration was given to the readings observed for various buried ordnance in the calibration grid so as not to screen out potential UXO.

A.1.7.2 Several large metal objects, consisting of plow blades and horseshoes, were recovered during the QC of grid 199. This grid was established in an area apparently used for miscellaneous dumping in the past. The geophysical survey of this grid was repeated and numerous anomalies flagged. The second intrusive investigation of this grid recovered a variety of nonUXO scrap items. Follow-up QC did not identify any further significant findings. No further investigation of this grid was conducted. The QC report for each grid investigated during the OE Engineering Design is provided in Appendix F.

A.1.7.3 Upon completion of the QC investigation of sampling grids, a quality assurance (QA) check of each grid was conducted using the Foerster Mk26 magnetometer by a CEHNC representative. The exact procedures applied and the percentage of area coverage of each grid was not made known to the site manager. However, no significant findings in any of the grids were identified.

A.1.8. SITE SECURITY

A.1.8.1 As a result of the presence of an active, operating landfill on the site, safety procedures were established. During landfill business hours, trucks carrying waste for disposal periodically entered the site via Mimosa Lake Road. These trucks were subsequently weighed at the scalehouse area where the temporary project trailer was also set up. Upon entry of a truck onsite, the site manager (or other appointed monitor) would radio to the intrusive team(s) to stop work if intrusive activities were within approximately 200 feet or in visual communication of the landfill access roadway or similar area where the truck might travel. Intrusive work would cease until the truck had emptied its load and returned to the scalehouse area (generally less than 15 minutes). Active intrusive activities were temporarily suspended any time unauthorized/unqualified persons (property owner, property owner representatives, visitors, etc.) were in visual contact with the intrusive team(s). Upon discovery of an OE item, personnel in the area were further reduced until the item was identified/secured.

A.1.8.2 The locations of the intrusive team(s) on the site was maintained in the field trailer by the site manager on maps and a dry-erase tracking board. The tracking board showed intrusive team number and sampling grid number under investigation. The site map identified the location of the sampling grid within OOU6. Completion of intrusive activities in one grid and movement to another was monitored via dedicated site radios and updated on the tracking board. Other onsite personnel were notified of movement as necessary.

A.1.9 OE ITEM AND OE SCRAP SEGREGATION, DEMOLITION, AND DISPOSAL

A.1.9.1 Suspect OE items that were found at the site were analyzed by the Senior UXO Field Supervisor and the Site Safety Officer. OE items that were recovered during the intrusive investigation were handled in one of two different ways. OE items that were intact but deemed non-hazardous were segregated and kept within the fence enclosing the magazine area. Since these items contained complete or partial fuzes, demilitarization was required before certification of inert could be provided. Potentially hazardous OE items

were destroyed in place following securing of the effected area. A photograph depicting the segregated items recovered at OOU6 is shown in Figure A-4.

A.1.9.2 Non-Hazardous OE Recovery. OE related items regarded as non-hazardous (inert) were routinely segregated and relocated to the designated magazine area during the intrusive investigation. A total of 14 OE items were recovered as summarized in Table A-1. Additionally, items that were non-OE related were segregated and stored at this location. This activity was supervised by the Senior UXO Field Supervisor and the Site Safety Officer. At the completion of the intrusive investigation, these items were removed from the site.

A.1.9.3 Non-OE Items. Non-OE items recovered during the intrusive investigation included horseshoes, rebar, plow blades and parts, nails, barbed wire fencing, pipes, metal survey flags, household debris, building structure debris, and other miscellaneous metallic debris. All of the non-OE items were collected and stored adjacent to the magazine area unless the size of the object precluded recovery. At the completion of the intrusive investigation, approximately 314 pounds of non-OE related scrap were recovered from the site.

A.1.9.4 Demolition Operations Two demolition operations were conducted during the intrusive investigation to render safe the one potentially hazardous OE item and demilitarize the 14 inert ordnance items. The first demolition operation was performed on February 18, 1997. The potentially hazardous OE item was rendered safe during this operation. A small amount of HE material remained after detonation and was collected and stored at the magazine area. The post demolition crater was backfilled to grade. No additional restoration was required as the local topography was currently being altered in support of the pond construction.

A.1.9.5 The second demolition operation involved the destruction of 14 inert OE items in order to certify them for disposal by a local scrap recycler. During the second demolition activity the remaining HE from the first demolition operation was detonated. The second demolition operation took place on February 27, 1997. The demolition area, located near sampling grid 262 in the southern portion of OOU6, was backfilled and regraded to pre-operation conditions.

A.1.9.6 On February 27, 1997 the remains of the potentially hazardous OE items rendered safe, the non-hazardous OE items, and the non-OE-related items recovered during the intrusive investigation were removed from the site by Arrow Steel Products, Inc., located at 1621 Union Street in Spartanburg, South Carolina. Documentation of removal of scrap materials from the site is included as an attachment to this Appendix.

FIGURE A.4
NON-HAZARDOUS SEGREGATED OE ITEMS



Segregated OE Items and other scrap materials recovered from sampling grids at OOU6 during the OE Engineering Design field work.

TABLE A.1
CCATF OOU6 OE INVESTIGATION/ENGINEERING DESIGN
LIST OF POTENTIALLY HAZARDOUS OE ITEMS*

SECTOR ⁽¹⁾	ITEM	GRID	GIS	Coordinates		ANOMALY #	DATE OF DEMOLITION	DEPTH	WEIGHT	EM-61 Reading (mV) ⁽²⁾
	ID	ID	ID	Northing	Easting			FOUND		
2	105 BE	48	9904801001	1113144' 3"	1764026' 7"	10	2/27/97	6" tail/24" nose	25 lbs.	101/90
2	105 BE	61	9906100602	1112838' 3"	1764696' 3"	6	2/27/97	8", horizontal	25 lbs.	213/205
2	105 BE	66	9906601001	1112622'	1765070'	10	2/27/97	12", horizontal	25 lbs.	118/111
2	105 BE	81	9908101101	1112493' 8"	1764043' 4"	11	2/27/97	6", horizontal	25 lbs.	452/416
2	105 BE	83	9908300101	1112319'	1764039'	1	2/27/97	4", horizontal	25 lbs.	221/218
2	105 BE	83	9908300502	1112338'	1764055'	5	2/27/97	4" tail/nose at surface	25 lbs.	71/56
2	105 BE	85	9908500302	1112647' 8"	1764286' 1"	3	2/27/97	3", horizontal	25 lbs.	131/121
2	105 BE	110	9911001002	1112172' 6"	1764098' 3"	10	2/27/97	6", horizontal	25 lbs.	70/59
4	105 BE	131	9913100201	1111156' 5"	1763196' 5"	2	2/18/97	18" tail/6" nose	25 lbs.	25/31
4	105 BE	133	9913301101	1111426' 2"	1763464'	11	2/27/97	24", horizontal	25 lbs.	110/96
4	105 BE	137	9913700101	1111079' 6"	1763469' 8"	1	2/27/97	24", horizontal	25 lbs.	60/52
4	105 BE	155	9915500302	1111452'	1763964' 10	3	2/27/97	4", horizontal	25 lbs.	114/104
4	105 BE	166	9916600401	1111076'	1762895' 3"	4	2/27/97	24", horizontal	25 lbs.	102/90
4	105 BE	174	9917400101	1111260'	1763634' 6"	1	2/27/97	24", horizontal	25 lbs.	159/147
2	105 BE	205	9920500701	1110846' 10	1764519' 2"	7	2/27/97	4", horizontal	25 lbs.	169/157

* Sorted by sector, ordnance items, and depth.

105BE = 105mm illumination/smoke projectile with mechanical timer (inert)

105HE = 105mm High Explosive projectile with point detonating fuze (live)

(1) Sector 2 - Pine Farm; Sector 4 - Pond

(2) EM-61 measurement unit is millivolt (mV) and the measurement is read from the instrument for the upper (top) and the lower (bottom) coils (for example, 101/90).

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A.1.10 RECOVERED ORDNANCE ITEMS AND DESCRIPTION

A.1.10.1 Only 105mm projectiles, one HE and 14 BE illumination/smoke rounds, were recovered during the 1996/1997 Engineering Design field investigation. A photograph depicting a typical 105 mm round (illumination round and the HE round) is presented in Figure 1.9 in Section 1.6.8 of this Report. Detailed descriptions of these OE items are also provided in Section 1.6.8 of the OE Engineering Design Report.

ATTACHMENT A
SCRAP DISPOSAL DOCUMENTATION

UXB International, Inc.
DORRANCE WOODFIELD SUITES

Check Number:

Date:

Number of Pages to Follow:

To: Old American
Edwin Thomas

From: UXB International

Comments: Cert. of Deposit for
Camp Cost



LXB International Inc.

Certificate of Inspection

Contract Number: 7206.002

Contract Name: Camp Craft - Spartanburg, SC

I, JAMES TAMIKO certify that 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.

James Tamiko
Signature of LXB, UXO Supervisor

5/8/97
Date

Item Description	Quantity	Weight
105mm Base Ejection w/PT Fuz (cont)	14 ea.	594 lbs
(Above items were demilitarized)		
105mm HE Trap w/M48 Fuz	1 ea	Blow In Place
Empty		



Arrow Steel Products, Inc.

P.O. Box 2525 · 1621 Union Street · Spartanburg, S.C. 29304 · Phone (864) 585-3435 Fax (864) 585-3438

February 27, 1997

This is to document that on February 27, 1997, at 1300 hrs., scrap materials (total weight estimated at 1,668 pounds) were picked up at OOU6, Camp Croft, Spartanburg, S.C. by Arrow Steel Products, Inc. The scrap was picked up for disposal at no cost to the Government.

Per OOU6 Engineering Design field work inventory, the scrap consisted of inert ordnance items (rendered safe) and nonhazardous scrap.

J. Ricky Tammenbaum
Chief Operating Officer
Arrow Steel Products, Inc.

APPENDIX B
ORIGINAL SURVEYING AND MAPPING DATA,
QC RESULTS OF SURVEYING DATA,
GPS CONTROL DATA, AND FIELD SURVEY NOTES

APPENDIX B
ORIGINAL SURVEYING AND MAPPING DATA

This appendix includes detailed listing of Site Survey and Mapping Data for the Sampling Grid at OOU6 including QC results of the Original Surveying and Mapping Data, GPS Control Data and Survey Work Field Notes prepared during the OE Engineering Design Field Work.

SW CORNER

GRID	SW_E	SW_N	NW_E	NW_N	NE_E	NE_N	SE_E	SE_N
1	1764339.00000	1114152.00000	1764339.00000	1114202.00000	1764389.00000	1114202.00000	1764389.00000	1114152.00000
2	1764259.00000	1114097.00000	1764259.00000	1114147.00000	1764309.00000	1114147.00000	1764309.00000	1114097.00000
3	1764250.21911	1113923.17752	1764250.24162	1113973.12424	1764300.22700	1113973.12400	1764300.22694	1113923.22534
4	1764423.00000	1114083.00000	1764423.00000	1114133.00000	1764473.00000	1114133.00000	1764473.00000	1114083.00000
5	1764453.37100	1113913.98800	1764453.37132	1113963.98821	1764503.12484	1113964.20623	1764503.38578	1113913.98824
6	1764245.04727	1113812.86699	1764245.04700	1113862.88200	1764295.04092	1113862.88186	1764295.34205	1113812.51370
7	1764417.00000	1113737.00000	1764417.00000	1113787.00000	1764467.00000	1113787.00000	1764467.00000	1113737.00000
8	1764517.19457	1113768.34701	1764517.19500	1113818.57100	1764567.22185	1113818.57111	1764567.24342	1113768.37664
9	1763941.22145	1113757.16754	1763941.24922	1113807.28416	1763991.18066	1113807.32093	1763991.18100	1113757.16800
10	1763912.01582	1113643.98583	1763911.88860	1113693.98341	1763961.96055	1113693.89903	1763961.96100	1113643.98600
11	1764018.87400	1113640.03400	1764018.87409	1113690.03405	1764068.77410	1113690.51965	1764068.77400	1113640.03400
12	1764173.16900	1113583.95400	1764173.16904	1113634.02857	1764223.15229	1113634.03144	1764223.08239	1113583.95379
13	1764566.00000	1113570.00000	1764566.00000	1113620.00000	1764616.00000	1113620.00000	1764616.00000	1113570.00000
14	1764494.00000	1113494.00000	1764494.00000	1113544.00000	1764544.00000	1113544.00000	1764544.00000	1113494.00000
15	1764555.00000	1113412.00000	1764555.00000	1113462.00000	1764605.00000	1113462.00000	1764605.00000	1113412.00000
16	1764607.00000	1113493.00000	1764607.00000	1113543.00000	1764657.00000	1113543.00000	1764657.00000	1113493.00000
17	1764798.00000	1113694.00000	1764798.00000	1113744.00000	1764848.00000	1113744.00000	1764848.00000	1113694.00000
18	1764718.00000	1113674.00000	1764718.00000	1113724.00000	1764768.00000	1113724.00000	1764768.00000	1113674.00000
19	1764787.00000	1113608.00000	1764787.00000	1113658.00000	1764837.00000	1113658.00000	1764837.00000	1113608.00000
20	1764866.00000	1113648.00000	1764866.00000	1113698.00000	1764916.00000	1113698.00000	1764916.00000	1113648.00000
21	1763656.00000	1113485.00000	1763656.00000	1113535.00000	1763706.00000	1113535.00000	1763706.00000	1113485.00000
22	1763586.00000	1113419.00000	1763586.00000	1113469.00000	1763636.00000	1113469.00000	1763636.00000	1113419.00000
23	1763679.00000	1113395.00000	1763679.00000	1113445.00000	1763729.00000	1113445.00000	1763729.00000	1113395.00000
24	1763748.00000	1113413.00000	1763748.00000	1113463.00000	1763798.00000	1113463.00000	1763798.00000	1113413.00000
25	1764220.00000	1113425.00000	1764220.00000	1113475.00000	1764270.00000	1113475.00000	1764270.00000	1113425.00000
26	1764150.00000	1113350.00000	1764150.00000	1113400.00000	1764200.00000	1113400.00000	1764200.00000	1113350.00000
27	1764224.00000	1113256.00000	1764224.00000	1113306.00000	1764274.00000	1113306.00000	1764274.00000	1113256.00000
28	1764300.00000	1113350.00000	1764300.00000	1113400.00000	1764350.00000	1113400.00000	1764350.00000	1113350.00000
29	1764545.00000	1113219.00000	1764545.00000	1113269.00000	1764595.00000	1113269.00000	1764595.00000	1113219.00000
30	1764494.00000	1113136.00000	1764494.00000	1113186.00000	1764544.00000	1113186.00000	1764544.00000	1113136.00000
31	1764524.00000	1113017.00000	1764524.00000	1113067.00000	1764574.00000	1113067.00000	1764574.00000	1113017.00000
32	1764577.00000	1113125.00000	1764577.00000	1113175.00000	1764627.00000	1113175.00000	1764627.00000	1113125.00000
33	1765042.00000	1113466.00000	1765042.00000	1113516.00000	1765092.00000	1113516.00000	1765092.00000	1113466.00000
34	1764968.00000	1113369.00000	1764968.00000	1113419.00000	1765018.00000	1113419.00000	1765018.00000	1113369.00000
35	1765066.00000	1113292.00000	1765066.00000	1113342.00000	1765116.00000	1113342.00000	1765116.00000	1113292.00000
36	1765053.48185	1113384.19397	1765053.48807	1113434.20134	1765103.56522	1113434.09773	1765103.56500	1113384.19400
37	1765019.00000	1113129.00000	1765019.00000	1113179.00000	1765069.00000	1113179.00000	1765069.00000	1113129.00000
38	1765158.18800	1112964.48000	1765158.18755	1113014.41954	1765208.07711	1113014.41021	1765208.03288	1112964.48019
39	1765023.00000	1112979.00000	1765023.00000	1113029.00000	1765073.00000	1113029.00000	1765073.00000	1112979.00000

40	1765087.00000	1113059.00000	1765087.00000	1113109.00000	1765137.00000	1113109.00000	1765137.00000	1113059.00000
41	1765333.00000	1113110.00000	1765333.00000	1113160.00000	1765383.00000	1113160.00000	1765383.00000	1113110.00000
42	1765273.00000	1113018.00000	1765273.00000	1113068.00000	1765323.00000	1113068.00000	1765323.00000	1113018.00000
43	1765339.00000	1112921.00000	1765339.00000	1112971.00000	1765389.00000	1112971.00000	1765389.00000	1112921.00000
44	1765394.00000	1113001.00000	1765394.00000	1113051.00000	1765444.00000	1113051.00000	1765444.00000	1113001.00000
45	1763950.00000	1113218.00000	1763950.00000	1113268.00000	1764000.00000	1113268.00000	1764000.00000	1113218.00000
46	1763876.00000	1113150.00000	1763876.00000	1113200.00000	1763926.00000	1113200.00000	1763926.00000	1113150.00000
47	1763950.00000	1113050.00000	1763950.00000	1113100.00000	1764000.00000	1113100.00000	1764000.00000	1113050.00000
48	1764009.00000	1113139.00000	1764009.00000	1113189.00000	1764059.00000	1113189.00000	1764059.00000	1113139.00000
49	1763434.00000	1113106.00000	1763434.00000	1113156.00000	1763484.00000	1113156.00000	1763484.00000	1113106.00000
50	1763384.00000	1113056.00000	1763384.00000	1113106.00000	1763434.00000	1113106.00000	1763434.00000	1113056.00000
51	1763442.00000	1112993.00000	1763442.00000	1113043.00000	1763492.00000	1113043.00000	1763492.00000	1112993.00000
52	1763550.00000	1113050.00000	1763550.00000	1113100.00000	1763600.00000	1113100.00000	1763600.00000	1113050.00000
53	1763758.00000	1112963.00000	1763758.00000	1113013.00000	1763808.00000	1113013.00000	1763808.00000	1112963.00000
54	1763651.00000	1112887.00000	1763651.00000	1112937.00000	1763701.00000	1112937.00000	1763701.00000	1112887.00000
55	1763677.54260	1112813.75380	1763677.54260	1112863.75380	1763727.54620	1112863.75370	1763727.54620	1112813.75380
56	1763789.00000	1112849.00000	1763789.00000	1112899.00000	1763839.00000	1112899.00000	1763839.00000	1112849.00000
57	1764191.00000	1112950.00000	1764191.00000	1113000.00000	1764241.00000	1113000.00000	1764241.00000	1112950.00000
58	1764128.00000	1112885.00000	1764128.00000	1112935.00000	1764178.00000	1112935.00000	1764178.00000	1112885.00000
59	1764220.00000	1112833.00000	1764220.00000	1112883.00000	1764270.00000	1112883.00000	1764270.00000	1112833.00000
60	1764266.00000	1112898.00000	1764266.00000	1112948.00000	1764316.00000	1112948.00000	1764316.00000	1112898.00000
61	1764673.00000	1112798.00000	1764673.00000	1112848.00000	1764723.00000	1112848.00000	1764723.00000	1112798.00000
62	1764631.00000	1112698.00000	1764631.00000	1112748.00000	1764681.00000	1112748.00000	1764681.00000	1112698.00000
63	1764756.00000	1112619.00000	1764756.00000	1112669.00000	1764806.00000	1112669.00000	1764806.00000	1112619.00000
64	1764792.00000	1112716.00000	1764792.00000	1112766.00000	1764842.00000	1112766.00000	1764842.00000	1112716.00000
65	1765114.00000	1112700.00000	1765114.00000	1112750.00000	1765164.00000	1112750.00000	1765164.00000	1112700.00000
66	1765049.00000	1112622.00000	1765049.00000	1112672.00000	1765099.00000	1112672.00000	1765099.00000	1112622.00000
67	1765117.00000	1112540.00000	1765117.00000	1112590.00000	1765167.00000	1112590.00000	1765167.00000	1112540.00000
68	1765181.00000	1112601.00000	1765181.00000	1112651.00000	1765231.00000	1112651.00000	1765231.00000	1112601.00000
69	1765468.00000	1112781.00000	1765468.00000	1112831.00000	1765518.00000	1112831.00000	1765518.00000	1112781.00000
70	1765420.00000	1112703.00000	1765420.00000	1112753.00000	1765470.00000	1112753.00000	1765470.00000	1112703.00000
71	1765483.00000	1112649.00000	1765483.00000	1112699.00000	1765533.00000	1112699.00000	1765533.00000	1112649.00000
72	1765545.00000	1112713.00000	1765545.00000	1112763.00000	1765595.00000	1112763.00000	1765595.00000	1112713.00000
73	1763187.00000	1112905.00000	1763187.00000	1112955.00000	1763237.00000	1112955.00000	1763237.00000	1112905.00000
74	1763105.00000	1112834.00000	1763105.00000	1112884.00000	1763155.00000	1112884.00000	1763155.00000	1112834.00000
75	1763184.00000	1112748.00000	1763184.00000	1112798.00000	1763234.00000	1112798.00000	1763234.00000	1112748.00000
76	1763251.00000	1112824.00000	1763251.00000	1112874.00000	1763301.00000	1112874.00000	1763301.00000	1112824.00000
77	1765487.86979	1111313.57156	1765487.86979	1111363.57156	1765537.86931	1111363.57108	1765537.86979	1111313.57156
78	1765411.43898	1111309.39294	1765411.43898	1111359.39294	1765461.43850	1111359.39246	1765461.43898	1111309.39294
79	1765240.27000	1111255.21000	1765240.27000	1111305.21000	1765290.26952	1111305.20952	1765290.27000	1111255.21000

80	1765356.13612	1111239.39840	1765356.13612	1111289.39840	1765406.13564	1111289.39792	1765406.13612	1111239.39840
81	1764029.00000	1112473.00000	1764029.00000	1112523.00000	1764079.00000	1112523.00000	1764079.00000	1112473.00000
82	1763996.00000	1112374.00000	1763996.00000	1112424.00000	1764046.00000	1112424.00000	1764046.00000	1112374.00000
83	1764039.00000	1112288.00000	1764039.00000	1112338.00000	1764089.00000	1112338.00000	1764089.00000	1112288.00000
84	1764103.00000	1112365.00000	1764103.00000	1112415.00000	1764153.00000	1112415.00000	1764153.00000	1112365.00000
85	1764276.00000	1112627.00000	1764276.00000	1112677.00000	1764326.00000	1112677.00000	1764326.00000	1112627.00000
86	1764206.00000	1112574.00000	1764206.00000	1112624.00000	1764256.00000	1112624.00000	1764256.00000	1112574.00000
87	1764283.00000	1112476.00000	1764283.00000	1112526.00000	1764333.00000	1112526.00000	1764333.00000	1112476.00000
88	1764344.00000	1112547.00000	1764344.00000	1112597.00000	1764394.00000	1112597.00000	1764394.00000	1112547.00000
89	1765631.00000	1112424.00000	1765631.00000	1112474.00000	1765681.00000	1112474.00000	1765681.00000	1112424.00000
90	1765562.00000	1112349.00000	1765562.00000	1112399.00000	1765612.00000	1112399.00000	1765612.00000	1112349.00000
91	1765653.00000	1112293.00000	1765653.00000	1112343.00000	1765703.00000	1112343.00000	1765703.00000	1112293.00000
92	1765721.00000	1112355.00000	1765721.00000	1112405.00000	1765771.00000	1112405.00000	1765771.00000	1112355.00000
93	1765756.00000	1112168.00000	1765756.00000	1112218.00000	1765806.00000	1112218.00000	1765806.00000	1112168.00000
94	1765696.00000	1112089.00000	1765696.00000	1112139.00000	1765746.00000	1112139.00000	1765746.00000	1112089.00000
95	1765784.00000	1112026.00000	1765784.00000	1112076.00000	1765834.00000	1112076.00000	1765834.00000	1112026.00000
96	1765849.00000	1112106.00000	1765849.00000	1112156.00000	1765899.00000	1112156.00000	1765899.00000	1112106.00000
97	1766032.62233	1111010.55509	1766032.62233	1111060.55509	1766082.62185	1111060.55461	1766082.62233	1111010.55509
98	1765875.72000	1110816.72000	1765875.72000	1110866.72000	1765925.71952	1110866.71952	1765925.72000	1110816.72000
99	1766126.73020	1110766.21890	1766126.73020	1110816.21890	1766176.72972	1110816.21842	1766176.73020	1110766.21890
100	1766021.20576	1110854.17591	1766021.20576	1110904.17591	1766071.20529	1110904.17543	1766071.20576	1110854.17591
101	1765953.13973	1110458.84450	1765953.13973	1110508.84450	1766003.13979	1110508.84450	1766003.13973	1110458.84450
102	1765934.18000	1110374.12000	1765934.18000	1110424.12000	1765984.17952	1110424.11952	1765984.18000	1110374.12000
103	1766009.02163	1110192.75526	1766009.02163	1110242.75526	1766059.02115	1110242.75478	1766059.02163	1110192.75526
104	1766050.36337	1110371.20220	1766050.36337	1110421.20220	1766100.36289	1110421.20175	1766100.36337	1110371.20220
105	1764923.09527	1111450.08663	1764923.09527	1111500.08663	1764973.09479	1111500.08615	1764973.09527	1111450.08663
106	1764932.48501	1111317.64258	1764932.48501	1111367.64258	1764982.48453	1111367.64210	1764982.48501	1111317.64258
107	1765047.83824	1111322.35041	1765047.83824	1111372.35041	1765097.83776	1111372.34993	1765097.83824	1111322.35041
108	1765049.12000	1111401.24000	1765049.12000	1111451.24000	1765099.11952	1111451.23952	1765099.12000	1111401.24000
109	1764181.00000	1112169.00000	1764181.00000	1112219.00000	1764231.00000	1112219.00000	1764231.00000	1112169.00000
110	1764087.00000	1112128.00000	1764087.00000	1112178.00000	1764137.00000	1112178.00000	1764137.00000	1112128.00000
111	1764224.87000	1112041.84000	1764224.87000	1112091.84000	1764274.87000	1112091.84000	1764274.87000	1112041.84000
112	1764323.00000	1112114.00000	1764323.00000	1112164.00000	1764373.00000	1112164.00000	1764373.00000	1112114.00000
113	1762575.00000	1112204.00000	1762575.00000	1112254.00000	1762625.00000	1112254.00000	1762625.00000	1112204.00000
114	1762519.00000	1112118.00000	1762519.00000	1112168.00000	1762569.00000	1112168.00000	1762569.00000	1112118.00000
115	1762602.00000	1112040.00000	1762602.00000	1112090.00000	1762652.00000	1112090.00000	1762652.00000	1112040.00000
116	1762652.00000	1112134.00000	1762652.00000	1112184.00000	1762702.00000	1112184.00000	1762702.00000	1112134.00000
117	1762884.00000	1112301.00000	1762884.00000	1112351.00000	1762934.00000	1112351.00000	1762934.00000	1112301.00000
118	1762823.00000	1112204.00000	1762823.00000	1112254.00000	1762873.00000	1112254.00000	1762873.00000	1112204.00000
119	1762893.00000	1112121.00000	1762893.00000	1112171.00000	1762943.00000	1112171.00000	1762943.00000	1112121.00000

120	1762961.00000	1112204.00000	1762961.00000	1112254.00000	1763011.00000	1112254.00000	1763011.00000	1112204.00000
121	1763927.15680	1111363.61740	1763927.15680	1111413.61740	1763977.15680	1111413.61730	1763977.15680	1111363.61730
122	1763821.18350	1111317.33640	1763821.18350	1111367.33640	1763871.18350	1111367.33640	1763871.18340	1111317.33640
123	1763780.65630	1111187.97280	1763780.65630	1111237.97280	1763830.65630	1111237.97280	1763830.65630	1111187.97280
124	1763903.48630	1111297.26880	1763903.48630	1111347.26880	1763953.48630	1111347.26870	1763953.48630	1111297.26870
125	1763762.89380	1110992.65420	1763762.89380	1111042.65420	1763812.89380	1111042.65420	1763812.89380	1110992.65420
126	1763670.01050	1111001.50680	1763670.01050	1111051.50680	1763720.01050	1111051.50680	1763720.01050	1111001.50680
127	1763682.02510	1111642.22940	1763682.02510	1111692.22940	1763732.02510	1111692.22940	1763732.02510	1111642.22940
128	1763608.51850	1111598.90750	1763608.51850	1111648.90750	1763658.51850	1111648.90750	1763658.51850	1111598.90750
129	1763243.60020	1111217.10030	1763243.60020	1111267.10030	1763293.60020	1111267.10030	1763293.60020	1111217.10030
130	1763098.14080	1111121.00000	1763098.14080	1111171.64080	1763148.14080	1111171.64080	1763148.14080	1111121.64080
131	1763176.73860	1111137.77250	1763176.73860	1111187.77250	1763226.73860	1111187.77250	1763226.73860	1111137.77250
132	1763325.36280	1111314.54110	1763325.36280	1111364.54110	1763375.36280	1111364.54110	1763375.36280	1111314.54110
133	1763412.76250	1111387.08290	1763412.76250	1111437.08290	1763462.76250	1111437.08290	1763462.76250	1111387.08290
134	1763415.53490	1111300.96620	1763415.53490	1111350.96620	1763465.53490	1111350.96620	1763465.53490	1111300.96620
135	1763513.64990	1111344.25880	1763513.64990	1111394.25880	1763563.64990	1111394.25880	1763563.64990	1111344.25880
136	1763493.27090	1111478.08100	1763493.27090	1111528.08100	1763543.27090	1111528.08100	1763543.27090	1111478.08100
137	1763461.07420	1111036.38800	1763461.07420	1111086.38800	1763511.07420	1111086.38800	1763511.07420	1111036.38800
138	1763563.86320	1110971.82480	1763563.86320	1111021.82480	1763613.86320	1111021.82480	1763613.86320	1110971.82480
139	1763352.59510	1110798.39670	1763352.59510	1110848.39670	1763402.59510	1110848.39670	1763402.59510	1110798.39670
140	1763426.13660	1110826.61270	1763426.13660	1110876.61270	1763476.13660	1110876.61270	1763476.13660	1110826.61270
141	1763599.36110	1111515.03510	1763599.36110	1111565.03510	1763649.36110	1111565.03510	1763649.36110	1111515.03510
142	1763748.48620	1111668.18610	1763748.48620	1111718.18610	1763798.48620	1111718.18610	1763798.48620	1111668.18610
143	1762761.00000	1111362.00000	1762761.00000	1111412.00000	1762811.00000	1111412.00000	1762811.00000	1111362.00000
144	1762824.00000	1111450.00000	1762824.00000	1111500.00000	1762874.00000	1111500.00000	1762874.00000	1111450.00000
145	1763327.00000	1111713.00000	1763327.00000	1111763.00000	1763377.00000	1111763.00000	1763377.00000	1111713.00000
146	1763276.00000	1111626.00000	1763276.00000	1111676.00000	1763326.00000	1111676.00000	1763326.00000	1111626.00000
147	1763350.00000	1111550.00000	1763350.00000	1111600.00000	1763400.00000	1111600.00000	1763400.00000	1111550.00000
148	1763401.00000	1111638.00000	1763401.00000	1111688.00000	1763451.00000	1111688.00000	1763451.00000	1111638.00000
149	1763860.00000	1111813.00000	1763860.00000	1111863.00000	1763910.00000	1111863.00000	1763910.00000	1111813.00000
150	1763772.00000	1111770.00000	1763772.00000	1111820.00000	1763822.00000	1111820.00000	1763822.00000	1111770.00000
151	1763851.00000	1111687.00000	1763851.00000	1111737.00000	1763901.00000	1111737.00000	1763901.00000	1111687.00000
152	1763995.00000	1111735.00000	1763995.00000	1111785.00000	1764045.00000	1111785.00000	1764045.00000	1111735.00000
153	1764025.31370	1111518.47140	1764025.31370	1111568.47140	1764075.31370	1111568.47140	1764075.31370	1111518.47140
154	1763952.02400	1111491.91500	1763952.02400	1111541.91500	1764002.02400	1111541.91500	1764002.02400	1111491.91500
155	1763979.83370	1111426.48720	1763979.83370	1111476.48720	1764029.83370	1111476.48710	1764029.83370	1111426.48710
156	1763674.00000	1111340.00000	1763674.00000	1111390.00000	1763724.00000	1111390.00000	1763724.00000	1111340.00000
157	1765861.00000	1111781.00000	1765861.00000	1111831.00000	1765911.00000	1111831.00000	1765911.00000	1111781.00000
158	1765798.00000	1111700.00000	1765798.00000	1111750.00000	1765848.00000	1111750.00000	1765848.00000	1111700.00000
159	1765884.00000	1111643.00000	1765884.00000	1111693.00000	1765934.00000	1111693.00000	1765934.00000	1111643.00000

160	1765948.00000	1111725.00000	1765948.00000	1111775.00000	1765998.00000	1111775.00000	1765998.00000	1111725.00000
161	1766375.00000	1111941.00000	1766375.00000	1111991.00000	1766425.00000	1111991.00000	1766425.00000	1111941.00000
162	1766280.00000	1111902.00000	1766280.00000	1111952.00000	1766330.00000	1111952.00000	1766330.00000	1111902.00000
163	1766365.00000	1111826.00000	1766365.00000	1111876.00000	1766415.00000	1111876.00000	1766415.00000	1111826.00000
164	1766458.00000	1111879.00000	1766458.00000	1111929.00000	1766508.00000	1111929.00000	1766508.00000	1111879.00000
165	1762635.50150	1111052.35020	1762635.50150	1111102.35020	1762685.50150	1111102.35020	1762685.50150	1111052.00000
166	1762845.23210	1111068.76180	1762845.23210	1111118.76180	1762895.23210	1111118.76180	1762895.23210	1111068.76180
167	1762801.37660	1110948.53010	1762801.37660	1110998.53010	1762851.37660	1110998.53010	1762851.37660	1110948.53010
168	1762742.00000	1111057.00000	1762742.00000	1111107.00000	1762792.00000	1111107.00000	1762792.00000	1111057.00000
169	1763037.00000	1110950.00000	1763037.00000	1111000.00000	1763087.00000	1111000.00000	1763087.00000	1110950.00000
170	1762929.00000	1110931.00000	1762929.00000	1110981.00000	1762979.00000	1110981.00000	1762979.00000	1110931.00000
171	1762929.00000	1110831.00000	1762929.00000	1110881.00000	1762979.00000	1110881.00000	1762979.00000	1110831.00000
172	1763039.81200	1110876.21400	1763039.81200	1110926.21400	1763089.81200	1110926.21400	1763089.81200	1110876.21400
173	1763659.91580	1111123.76660	1763659.91580	1111173.76660	1763709.91580	1111173.76660	1763709.91580	1111123.76660
174	1763627.22410	1111240.17340	1763627.22410	1111290.17340	1763677.22410	1111290.17340	1763677.22410	1111240.17340
175	1763514.97390	1111161.57230	1763514.97390	1111211.57230	1763564.97390	1111211.57230	1763564.97390	1111161.57230
176	1763573.59250	1111085.93480	1763573.59250	1111135.93480	1763623.59250	1111135.93480	1763623.59250	1111085.93480
177	1763980.00000	1111136.00000	1763980.00000	1111186.00000	1764030.00000	1111186.00000	1764030.00000	1111136.00000
178	1763900.00000	1111087.00000	1763900.00000	1111137.00000	1763950.00000	1111137.00000	1763950.00000	1111087.00000
179	1763991.00000	1111013.00000	1763991.00000	1111063.00000	1764041.00000	1111063.00000	1764041.00000	1111013.00000
180	1764077.00000	1111092.00000	1764077.00000	1111142.00000	1764127.00000	1111142.00000	1764127.00000	1111092.00000
181	1764425.00000	1111120.00000	1764425.00000	1111170.00000	1764475.00000	1111170.00000	1764475.00000	1111120.00000
182	1764343.00000	1111036.00000	1764343.00000	1111086.00000	1764393.00000	1111086.00000	1764393.00000	1111036.00000
183	1764419.00000	1110857.00000	1764419.00000	1111007.00000	1764469.00000	1111007.00000	1764469.00000	1110957.00000
184	1764487.00000	1111028.00000	1764487.00000	1111078.00000	1764537.00000	1111078.00000	1764537.00000	1111028.00000
185	1766758.00000	1111393.00000	1766758.00000	1111443.00000	1766808.00000	1111443.00000	1766808.00000	1111393.00000
186	1766660.00000	1111300.00000	1766660.00000	1111350.00000	1766710.00000	1111350.00000	1766710.00000	1111300.00000
187	1766755.00000	1111213.00000	1766755.00000	1111263.00000	1766805.00000	1111263.00000	1766805.00000	1111213.00000
188	1766821.00000	1111299.00000	1766821.00000	1111349.00000	1766871.00000	1111349.00000	1766871.00000	1111299.00000
189	1767071.00000	1111519.00000	1767071.00000	1111569.00000	1767121.00000	1111569.00000	1767121.00000	1111519.00000
190	1767042.00000	1111427.00000	1767042.00000	1111477.00000	1767092.00000	1111477.00000	1767092.00000	1111427.00000
191	1767112.00000	1111370.00000	1767112.00000	1111420.00000	1767162.00000	1111420.00000	1767162.00000	1111370.00000
192	1767162.00000	1111448.00000	1767162.00000	1111498.00000	1767212.00000	1111498.00000	1767212.00000	1111448.00000
193	1763259.00000	1110663.00000	1763259.00000	1110713.00000	1763309.00000	1110713.00000	1763309.00000	1110663.00000
194	1763206.00000	1110592.00000	1763206.00000	1110642.00000	1763256.00000	1110642.00000	1763256.00000	1110592.00000
195	1763248.00000	1110525.00000	1763248.00000	1110575.00000	1763298.00000	1110575.00000	1763298.00000	1110525.00000
196	1763331.00000	1110611.00000	1763331.00000	1110661.00000	1763381.00000	1110661.00000	1763381.00000	1110611.00000
197	1763754.00000	1110637.00000	1763754.00000	1110687.00000	1763804.00000	1110687.00000	1763804.00000	1110637.00000
198	1763673.00000	1110555.00000	1763673.00000	1110605.00000	1763723.00000	1110605.00000	1763723.00000	1110555.00000
199	1763745.00000	1110469.00000	1763745.00000	1110519.00000	1763795.00000	1110519.00000	1763795.00000	1110469.00000

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200	1763836.00000	1110565.00000	1763836.00000	1110615.00000	1763886.00000	1110615.00000	1763886.00000	1110565.00000
201	1764136.00000	1110701.00000	1764136.00000	1110751.00000	1764186.00000	1110751.00000	1764186.00000	1110701.00000
202	1764056.00000	1110651.00000	1764056.00000	1110701.00000	1764106.00000	1110701.00000	1764106.00000	1110651.00000
203	1764141.00000	1110565.00000	1764141.00000	1110615.00000	1764191.00000	1110615.00000	1764191.00000	1110565.00000
204	1764235.00000	1110638.00000	1764235.00000	1110688.00000	1764285.00000	1110688.00000	1764285.00000	1110638.00000
205	1764495.00000	1110807.00000	1764495.00000	1110857.00000	1764545.00000	1110857.00000	1764545.00000	1110807.00000
206	1764415.00000	1110743.00000	1764415.00000	1110793.00000	1764465.00000	1110793.00000	1764465.00000	1110743.00000
207	1764496.00000	1110666.00000	1764496.00000	1110716.00000	1764546.00000	1110716.00000	1764546.00000	1110666.00000
208	1764529.00000	1110726.00000	1764529.00000	1110776.00000	1764579.00000	1110776.00000	1764579.00000	1110726.00000
209	1764971.00000	1110775.00000	1764971.00000	1110825.00000	1765021.00000	1110825.00000	1765021.00000	1110775.00000
210	1764898.00000	1110684.00000	1764898.00000	1110734.00000	1764948.00000	1110734.00000	1764948.00000	1110684.00000
211	1764976.00000	1110649.00000	1764976.00000	1110699.00000	1765026.00000	1110699.00000	1765026.00000	1110649.00000
212	1765106.00000	1110697.00000	1765106.00000	1110747.00000	1765156.00000	1110747.00000	1765156.00000	1110697.00000
213	1765326.00000	1110913.00000	1765326.00000	1110963.00000	1765376.00000	1110963.00000	1765376.00000	1110913.00000
214	1765256.00000	1110806.00000	1765256.00000	1110856.00000	1765306.00000	1110856.00000	1765306.00000	1110806.00000
215	1765330.00000	1110725.00000	1765330.00000	1110775.00000	1765380.00000	1110775.00000	1765380.00000	1110725.00000
216	1765353.21022	1110810.07605	1765353.21022	1110860.07605	1765403.21022	1110860.07605	1765403.21022	1110810.07605
217	1765733.00000	1110730.00000	1765733.00000	1110780.00000	1765783.00000	1110780.00000	1765783.00000	1110730.00000
218	1765665.00000	1110651.00000	1765665.00000	1110701.00000	1765715.00000	1110701.00000	1765715.00000	1110651.00000
219	1765747.00000	1110587.00000	1765747.00000	1110637.00000	1765797.00000	1110637.00000	1765797.00000	1110587.00000
220	1765815.00000	1110668.00000	1765815.00000	1110718.00000	1765865.00000	1110718.00000	1765865.00000	1110668.00000
221	1766708.00000	1110920.00000	1766708.00000	1110970.00000	1766758.00000	1110970.00000	1766758.00000	1110920.00000
222	1766643.00000	1110859.00000	1766643.00000	1110909.00000	1766693.00000	1110909.00000	1766693.00000	1110859.00000
223	1766732.00000	1110811.00000	1766732.00000	1110861.00000	1766782.00000	1110861.00000	1766782.00000	1110811.00000
224	1766800.00000	1110883.00000	1766800.00000	1110933.00000	1766850.00000	1110933.00000	1766850.00000	1110883.00000
225	1763681.00000	1110189.00000	1763681.00000	1110239.00000	1763731.00000	1110239.00000	1763731.00000	1110189.00000
226	1763603.00000	1110115.00000	1763603.00000	1110165.00000	1763653.00000	1110165.00000	1763653.00000	1110115.00000
227	1763668.00000	1110054.00000	1763668.00000	1110104.00000	1763718.00000	1110104.00000	1763718.00000	1110054.00000
228	1763759.00000	1110106.00000	1763759.00000	1110156.00000	1763809.00000	1110156.00000	1763809.00000	1110106.00000
229	1764347.00000	1110355.00000	1764347.00000	1110405.00000	1764397.00000	1110405.00000	1764397.00000	1110355.00000
230	1764286.00000	1110282.00000	1764286.00000	1110332.00000	1764336.00000	1110332.00000	1764336.00000	1110282.00000
231	1764359.00000	1110228.00000	1764359.00000	1110278.00000	1764409.00000	1110278.00000	1764409.00000	1110228.00000
232	1764426.00000	1110287.00000	1764426.00000	1110337.00000	1764476.00000	1110337.00000	1764476.00000	1110287.00000
233	1765208.48237	1110548.30162	1765208.48237	1110598.30162	1765258.48237	1110598.30162	1765258.48237	1110548.30162
234	1765152.67855	1110462.79453	1765152.67855	1110512.79453	1765202.67855	1110512.79453	1765202.67855	1110462.79453
235	1765177.00000	1110397.00000	1765177.00000	1110447.00000	1765227.00000	1110447.00000	1765227.00000	1110397.00000
236	1765259.00000	1110462.00000	1765259.00000	1110512.00000	1765309.00000	1110512.00000	1765309.00000	1110462.00000
237	1766424.00000	1110498.00000	1766424.00000	1110548.00000	1766474.00000	1110548.00000	1766474.00000	1110498.00000
238	1766348.88333	1110326.81302	1766348.88195	1110376.81198	1766398.88347	1110376.81309	1766398.88393	1110326.81444
239	1766425.00000	1110383.00000	1766425.00000	1110433.00000	1766475.00000	1110433.00000	1766475.00000	1110383.00000

SWRNER

240	1766559.00000	1110430.00000	1766559.00000	1110480.00000	1766609.00000	1110480.00000	1766609.00000	1110430.00000
241	1766961.00000	1110509.00000	1766961.00000	1110559.00000	1767011.00000	1110559.00000	1767011.00000	1110509.00000
242	1766875.00000	1110444.00000	1766875.00000	1110494.00000	1766925.00000	1110494.00000	1766925.00000	1110444.00000
243	1766959.00000	1110355.00000	1766959.00000	1110405.00000	1767009.00000	1110405.00000	1767009.00000	1110355.00000
244	1767049.00000	1110447.00000	1767049.00000	1110497.00000	1767099.00000	1110497.00000	1767099.00000	1110447.00000
245	1764917.00000	1110226.00000	1764917.00048	1110275.99952	1764967.00000	1110276.00000	1764967.00000	1110226.00000
246	1764942.00000	1110124.00000	1764942.00000	1110174.00000	1764992.00000	1110174.00000	1764992.00000	1110124.00000
247	1764960.00000	1110050.00000	1764960.00000	1110100.00000	1765010.00000	1110100.00000	1765010.00000	1110050.00000
248	1765026.00000	1110127.00000	1765026.00000	1110177.00000	1765076.00000	1110177.00000	1765076.00000	1110127.00000
249	1765521.00000	1110304.00000	1765521.00000	1110354.00000	1765571.00000	1110354.00000	1765571.00000	1110304.00000
250	1765386.00000	1110226.00000	1765386.00000	1110276.00000	1765436.00000	1110276.00000	1765436.00000	1110226.00000
251	1765526.00000	1110162.00000	1765526.00000	1110212.00000	1765576.00000	1110212.00000	1765576.00000	1110162.00000
252	1765617.00000	1110226.00000	1765617.00000	1110276.00000	1765667.00000	1110276.00000	1765667.00000	1110226.00000
253	1764750.00000	1109938.00000	1764750.00000	1109988.00000	1764800.00000	1109988.00000	1764800.00000	1109938.00000
254	1764678.00000	1109881.00000	1764678.00000	1109931.00000	1764728.00000	1109931.00000	1764728.00000	1109881.00000
255	1764699.00000	1109803.00000	1764699.00000	1109853.00000	1764749.00000	1109853.00000	1764749.00000	1109803.00000
256	1764841.00000	1109887.00000	1764841.00000	1109937.00000	1764891.00000	1109937.00000	1764891.00000	1109887.00000
257	1765241.00000	1110006.00000	1765241.00000	1110056.00000	1765291.00000	1110056.00000	1765291.00000	1110006.00000
258	1765151.00000	1109924.00000	1765151.00000	1109974.00000	1765201.00000	1109974.00000	1765201.00000	1109924.00000
259	1765229.00000	1109825.00000	1765229.00000	1109875.00000	1765279.00000	1109875.00000	1765279.00000	1109825.00000
260	1765313.00000	1109980.00000	1765313.00000	1110030.00000	1765363.00000	1110030.00000	1765363.00000	1109980.00000
261	1766091.00000	1110065.00000	1766091.00000	1110115.00000	1766141.00000	1110115.00000	1766141.00000	1110065.00000
262	1766022.00000	1109963.00000	1766022.00000	1110013.00000	1766072.00000	1110013.00000	1766072.00000	1109963.00000
263	1766101.00000	1109876.00000	1766101.00000	1109926.00000	1766151.00000	1109926.00000	1766151.00000	1109876.00000
264	1766140.00000	1109989.00000	1766140.00000	1110039.00000	1766190.00000	1110039.00000	1766190.00000	1109989.00000
265	1766648.00000	1110223.00000	1766648.00000	1110273.00000	1766698.00000	1110273.00000	1766698.00000	1110223.00000
266	1766570.00000	1110128.00000	1766570.00000	1110178.00000	1766620.00000	1110178.00000	1766620.00000	1110128.00000
267	1766659.00000	1110042.00000	1766659.00000	1110092.00000	1766709.00000	1110092.00000	1766709.00000	1110042.00000
268	1766706.00000	1110131.00000	1766706.00000	1110181.00000	1766756.00000	1110181.00000	1766756.00000	1110131.00000
269	1764282.00000	1109627.00000	1764282.00048	1109676.99952	1764332.00000	1109677.00000	1764332.00000	1109627.00000
270	1764256.00000	1109538.00000	1764256.00000	1109588.00000	1764306.00000	1109588.00000	1764306.00000	1109538.00000
271	1764280.00048	1109421.00048	1764280.00000	1109471.00000	1764330.00000	1109471.00000	1764330.00000	1109421.00000
272	1764393.00000	1109550.00000	1764393.00000	1109600.00000	1764443.00000	1109600.00000	1764443.00000	1109550.00000
273	1764617.30000	1109706.54000	1764617.30000	1109756.54000	1764667.29952	1109756.53952	1764667.30000	1109706.54000
274	1764540.29748	1109617.53692	1764540.29748	1109667.53692	1764590.29700	1109667.53644	1764590.29748	1109617.53692
275	1764615.30030	1109544.54234	1764615.30030	1109594.54234	1764665.29982	1109594.54186	1764665.30030	1109544.54234
276	1764684.30091	1109629.53894	1764684.30091	1109679.53894	1764734.30043	1109679.53846	1764734.30091	1109629.53894
277	1765545.00000	1109796.00000	1765545.00000	1109846.00000	1765595.00000	1109846.00000	1765595.00000	1109796.00000
278	1765517.00000	1109710.00000	1765517.00000	1109760.00000	1765567.00000	1109760.00000	1765567.00000	1109710.00000
279	1765675.00000	1109632.00000	1765675.00000	1109682.00000	1765725.00000	1109682.00000	1765725.00000	1109632.00000

SWORN

280	1765649.00000	1109749.00000	1765649.00000	1109799.00000	1765699.00000	1109799.00000	1765699.00000	1109749.00000
281	1766078.00000	1109599.00000	1766078.00000	1109649.00000	1766128.00000	1109649.00000	1766128.00000	1109599.00000
282	1765982.00000	1109550.00000	1765982.00000	1109600.00000	1766032.00000	1109600.00000	1766032.00000	1109550.00000
283	1766069.00000	1109479.00000	1766069.00000	1109529.00000	1766119.00000	1109529.00000	1766119.00000	1109479.00000
284	1766164.00000	1109537.00000	1766164.00000	1109587.00000	1766214.00000	1109587.00000	1766214.00000	1109537.00000
285	1764698.00000	1109243.00000	1764698.00000	1109293.00000	1764748.00000	1109293.00000	1764748.00000	1109243.00000
286	1764599.00000	1109224.00000	1764599.00000	1109274.00000	1764649.00000	1109274.00000	1764649.00000	1109224.00000
287	1764683.30437	1109070.29410	1764683.30437	1109120.29410	1764733.30389	1109120.29362	1764733.30437	1109070.29410
288	1764607.77603	1109054.41125	1764607.77603	1109104.41125	1764657.77555	1109104.41077	1764657.77603	1109054.41125
289	1765154.00000	1109288.00000	1765154.00000	1109338.00000	1765204.00000	1109338.00000	1765204.00000	1109288.00000
290	1765071.00000	1109223.00000	1765071.00000	1109273.00000	1765121.00000	1109273.00000	1765121.00000	1109223.00000
291	1765163.00000	1109162.00000	1765163.00000	1109212.00000	1765213.00000	1109212.00000	1765213.00000	1109162.00000
292	1765241.00000	1109234.00000	1765241.00000	1109284.00000	1765291.00000	1109284.00000	1765291.00000	1109234.00000
293	1765689.00000	1109268.00000	1765689.00000	1109318.00000	1765739.00000	1109318.00000	1765739.00000	1109268.00000
294	1765577.00000	1109204.00000	1765577.00000	1109254.00000	1765627.00000	1109254.00000	1765627.00000	1109204.00000
295	1765693.00000	1109133.00000	1765693.00000	1109183.00000	1765743.00000	1109183.00000	1765743.00000	1109133.00000
296	1765760.00000	1109208.00000	1765760.00000	1109258.00000	1765810.00000	1109258.00000	1765810.00000	1109208.00000
297	1765209.00000	1108810.00000	1765209.00000	1108860.00000	1765259.00000	1108860.00000	1765259.00000	1108810.00000
298	1765206.00000	1108738.00000	1765206.00000	1108788.00000	1765256.00000	1108788.00000	1765256.00000	1108738.00000
299	1765285.00000	1108673.00000	1765285.00000	1108723.00000	1765335.00000	1108723.00000	1765335.00000	1108673.00000
300	1765278.00000	1108747.00000	1765278.00000	1108797.00000	1765328.00000	1108797.00000	1765328.00000	1108747.00000

SW CORNER

GRID	SW_X_COORD	SW_Y_COORD	NW_X_COORD	NW_Y_COORD	NE_X_COORD	NE_Y_COORD	SE_X_COORD	SE_Y_COORD
1	1764339.00000	1114152.00000	1764339.00000	1114202.00000	1764389.00000	1114202.00000	1764389.00000	1114152.00000
2	1764259.00000	1114097.00000	1764259.00000	1114147.00000	1764309.00000	1114147.00000	1764309.00000	1114097.00000
3	1764250.21911	1113923.17752	1764250.24162	1113973.12424	1764300.22700	1113973.12400	1764300.22694	1113923.22534
4	1764423.00000	1114083.00000	1764423.00000	1114133.00000	1764473.00000	1114133.00000	1764473.00000	1114083.00000
5	1764453.37100	1113913.98800	1764453.37132	1113963.98821	1764503.12484	1113964.20623	1764503.38578	1113913.98824
6	1764245.04727	1113812.86699	1764245.04700	1113862.88200	1764295.04092	1113862.88186	1764295.34205	1113812.51370
7	1764417.00000	1113737.00000	1764417.00000	1113787.00000	1764467.00000	1113787.00000	1764467.00000	1113737.00000
8	1764517.19457	1113768.34701	1764517.19500	1113818.57100	1764567.22185	1113818.57111	1764567.24342	1113768.37664
9	1763941.22145	1113757.16754	1763941.24922	1113807.28416	1763991.18066	1113807.32093	1763991.18100	1113757.16800
10	1763912.01562	1113643.98583	1763911.88860	1113693.98341	1763961.96055	1113693.89903	1763961.96100	1113643.98600
11	1764018.87400	1113640.03400	1764018.87409	1113690.03405	1764068.77410	1113690.51965	1764068.77400	1113640.03400
12	1764173.16900	1113583.95400	1764173.16904	1113634.02857	1764223.15229	1113634.03144	1764223.08239	1113583.95379
13	1764566.00000	1113570.00000	1764566.00000	1113620.00000	1764616.00000	1113620.00000	1764616.00000	1113570.00000
14	1764494.00000	1113494.00000	1764494.00000	1113544.00000	1764544.00000	1113544.00000	1764544.00000	1113494.00000
15	1764555.00000	1113412.00000	1764555.00000	1113462.00000	1764605.00000	1113462.00000	1764605.00000	1113412.00000
16	1764607.00000	1113493.00000	1764607.00000	1113543.00000	1764657.00000	1113543.00000	1764657.00000	1113493.00000
17	1764798.00000	1113694.00000	1764798.00000	1113744.00000	1764848.00000	1113744.00000	1764848.00000	1113694.00000
18	1764718.00000	1113674.00000	1764718.00000	1113724.00000	1764768.00000	1113724.00000	1764768.00000	1113674.00000
19	1764787.00000	1113608.00000	1764787.00000	1113658.00000	1764837.00000	1113658.00000	1764837.00000	1113608.00000
20	1764866.00000	1113648.00000	1764866.00000	1113698.00000	1764916.00000	1113698.00000	1764916.00000	1113648.00000
21	1763656.00000	1113485.00000	1763656.00000	1113535.00000	1763706.00000	1113535.00000	1763706.00000	1113485.00000
22	1763586.00000	1113419.00000	1763586.00000	1113469.00000	1763636.00000	1113469.00000	1763636.00000	1113419.00000
23	1763679.00000	1113395.00000	1763679.00000	1113445.00000	1763729.00000	1113445.00000	1763729.00000	1113395.00000
24	1763748.00000	1113413.00000	1763748.00000	1113463.00000	1763798.00000	1113463.00000	1763798.00000	1113413.00000
25	1764220.00000	1113425.00000	1764220.00000	1113475.00000	1764270.00000	1113475.00000	1764270.00000	1113425.00000
26	1764150.00000	1113350.00000	1764150.00000	1113400.00000	1764200.00000	1113400.00000	1764200.00000	1113350.00000
27	1764224.00000	1113256.00000	1764224.00000	1113306.00000	1764274.00000	1113306.00000	1764274.00000	1113256.00000
28	1764300.00000	1113350.00000	1764300.00000	1113400.00000	1764350.00000	1113400.00000	1764350.00000	1113350.00000
29	1764545.00000	1113219.00000	1764545.00000	1113269.00000	1764595.00000	1113269.00000	1764595.00000	1113219.00000
30	1764494.00000	1113136.00000	1764494.00000	1113186.00000	1764544.00000	1113186.00000	1764544.00000	1113136.00000
31	1764524.00000	1113017.00000	1764524.00000	1113067.00000	1764574.00000	1113067.00000	1764574.00000	1113017.00000
32	1764577.00000	1113125.00000	1764577.00000	1113175.00000	1764627.00000	1113175.00000	1764627.00000	1113125.00000
33	1765042.00000	1113466.00000	1765042.00000	1113516.00000	1765092.00000	1113516.00000	1765092.00000	1113466.00000
34	1764968.00000	1113369.00000	1764968.00000	1113419.00000	1765018.00000	1113419.00000	1765018.00000	1113369.00000
35	1765066.00000	1113292.00000	1765066.00000	1113342.00000	1765116.00000	1113342.00000	1765116.00000	1113292.00000
36	1765053.48185	1113384.19397	1765053.48807	1113434.20134	1765103.56522	1113434.09773	1765103.56500	1113384.19400
37	1765019.00000	1113129.00000	1765019.00000	1113179.00000	1765069.00000	1113179.00000	1765069.00000	1113129.00000
38	1765158.18800	1112964.48000	1765158.18755	1113014.41954	1765208.07711	1113014.41021	1765208.03288	1112964.48019
39	1765023.00000	1112979.00000	1765023.00000	1113029.00000	1765073.00000	1113029.00000	1765073.00000	1112979.00000

40	1765087.00000	1113059.00000	1765087.00000	1113109.00000	1765137.00000	1113109.00000	1765137.00000	1113059.00000
41	1765333.00000	1113110.00000	1765333.00000	1113160.00000	1765383.00000	1113160.00000	1765383.00000	1113110.00000
42	1765273.00000	1113018.00000	1765273.00000	1113068.00000	1765323.00000	1113068.00000	1765323.00000	1113018.00000
43	1765339.00000	1112921.00000	1765339.00000	1112971.00000	1765389.00000	1112971.00000	1765389.00000	1112921.00000
44	1765394.00000	1113001.00000	1765394.00000	1113051.00000	1765444.00000	1113051.00000	1765444.00000	1113001.00000
45	1763950.00000	1113218.00000	1763950.00000	1113268.00000	1764000.00000	1113268.00000	1764000.00000	1113218.00000
46	1763876.00000	1113150.00000	1763876.00000	1113200.00000	1763926.00000	1113200.00000	1763926.00000	1113150.00000
47	1763950.00000	1113050.00000	1763950.00000	1113100.00000	1764000.00000	1113100.00000	1764000.00000	1113050.00000
48	1764009.00000	1113139.00000	1764009.00000	1113189.00000	1764059.00000	1113189.00000	1764059.00000	1113139.00000
49	1763434.00000	1113106.00000	1763434.00000	1113156.00000	1763484.00000	1113156.00000	1763484.00000	1113106.00000
50	1763384.00000	1113056.00000	1763384.00000	1113106.00000	1763434.00000	1113106.00000	1763434.00000	1113056.00000
51	1763442.00000	1112993.00000	1763442.00000	1113043.00000	1763492.00000	1113043.00000	1763492.00000	1112993.00000
52	1763550.00000	1113050.00000	1763550.00000	1113100.00000	1763600.00000	1113100.00000	1763600.00000	1113050.00000
53	1763758.00000	1112963.00000	1763758.00000	1113013.00000	1763808.00000	1113013.00000	1763808.00000	1112963.00000
54	1763651.00000	1112887.00000	1763651.00000	1112937.00000	1763701.00000	1112937.00000	1763701.00000	1112887.00000
55	1763677.54260	1112813.75380	1763677.54260	1112863.75380	1763727.54620	1112863.75370	1763727.54620	1112813.75380
56	1763789.00000	1112849.00000	1763789.00000	1112899.00000	1763839.00000	1112899.00000	1763839.00000	1112849.00000
57	1764191.00000	1112950.00000	1764191.00000	1113000.00000	1764241.00000	1113000.00000	1764241.00000	1112950.00000
58	1764128.00000	1112885.00000	1764128.00000	1112935.00000	1764178.00000	1112935.00000	1764178.00000	1112885.00000
59	1764220.00000	1112833.00000	1764220.00000	1112883.00000	1764270.00000	1112883.00000	1764270.00000	1112833.00000
60	1764266.00000	1112898.00000	1764266.00000	1112948.00000	1764316.00000	1112948.00000	1764316.00000	1112898.00000
61	1764673.00000	1112798.00000	1764673.00000	1112848.00000	1764723.00000	1112848.00000	1764723.00000	1112798.00000
62	1764631.00000	1112698.00000	1764631.00000	1112748.00000	1764681.00000	1112748.00000	1764681.00000	1112698.00000
63	1764756.00000	1112619.00000	1764756.00000	1112669.00000	1764806.00000	1112669.00000	1764806.00000	1112619.00000
64	1764792.00000	1112716.00000	1764792.00000	1112766.00000	1764842.00000	1112766.00000	1764842.00000	1112716.00000
65	1765114.00000	1112700.00000	1765114.00000	1112750.00000	1765164.00000	1112750.00000	1765164.00000	1112700.00000
66	1765049.00000	1112622.00000	1765049.00000	1112672.00000	1765099.00000	1112672.00000	1765099.00000	1112622.00000
67	1765117.00000	1112540.00000	1765117.00000	1112590.00000	1765167.00000	1112590.00000	1765167.00000	1112540.00000
68	1765181.00000	1112601.00000	1765181.00000	1112651.00000	1765231.00000	1112651.00000	1765231.00000	1112601.00000
69	1765468.00000	1112781.00000	1765468.00000	1112831.00000	1765518.00000	1112831.00000	1765518.00000	1112781.00000
70	1765420.00000	1112703.00000	1765420.00000	1112753.00000	1765470.00000	1112753.00000	1765470.00000	1112703.00000
71	1765483.00000	1112649.00000	1765483.00000	1112699.00000	1765533.00000	1112699.00000	1765533.00000	1112649.00000
72	1765545.00000	1112713.00000	1765545.00000	1112763.00000	1765595.00000	1112763.00000	1765595.00000	1112713.00000
73	1763187.00000	1112905.00000	1763187.00000	1112955.00000	1763237.00000	1112955.00000	1763237.00000	1112905.00000
74	1763105.00000	1112834.00000	1763105.00000	1112884.00000	1763155.00000	1112884.00000	1763155.00000	1112834.00000
75	1763184.00000	1112748.00000	1763184.00000	1112798.00000	1763234.00000	1112798.00000	1763234.00000	1112748.00000
76	1763251.00000	1112824.00000	1763251.00000	1112874.00000	1763301.00000	1112874.00000	1763301.00000	1112824.00000
77	1765487.86979	1111313.57156	1765487.86979	1111363.57156	1765537.86931	1111363.57108	1765537.86979	1111313.57156
78	1765411.43898	1111309.39294	1765411.43898	1111359.39294	1765461.43850	1111359.39246	1765461.43898	1111309.39294
79	1765240.27000	1111255.21000	1765240.27000	1111305.21000	1765290.26952	1111305.20952	1765290.27000	1111255.21000

80	1765356.13612	1111239.39840	1765356.13612	1111289.39840	1765406.13564	1111289.39792	1765406.13612	1111239.39840
81	1764029.00000	1112473.00000	1764029.00000	1112523.00000	1764079.00000	1112523.00000	1764079.00000	1112473.00000
82	1763996.00000	1112374.00000	1763996.00000	1112424.00000	1764046.00000	1112424.00000	1764046.00000	1112374.00000
83	1764039.00000	1112288.00000	1764039.00000	1112338.00000	1764089.00000	1112338.00000	1764089.00000	1112288.00000
84	1764103.00000	1112365.00000	1764103.00000	1112415.00000	1764153.00000	1112415.00000	1764153.00000	1112365.00000
85	1764276.00000	1112627.00000	1764276.00000	1112677.00000	1764326.00000	1112677.00000	1764326.00000	1112627.00000
86	1764206.00000	1112574.00000	1764206.00000	1112624.00000	1764256.00000	1112624.00000	1764256.00000	1112574.00000
87	1764283.00000	1112476.00000	1764283.00000	1112526.00000	1764333.00000	1112526.00000	1764333.00000	1112476.00000
88	1764344.00000	1112547.00000	1764344.00000	1112597.00000	1764394.00000	1112597.00000	1764394.00000	1112547.00000
89	1765631.00000	1112424.00000	1765631.00000	1112474.00000	1765681.00000	1112474.00000	1765681.00000	1112424.00000
90	1765562.00000	1112349.00000	1765562.00000	1112399.00000	1765612.00000	1112399.00000	1765612.00000	1112349.00000
91	1765653.00000	1112293.00000	1765653.00000	1112343.00000	1765703.00000	1112343.00000	1765703.00000	1112293.00000
92	1765721.00000	1112355.00000	1765721.00000	1112405.00000	1765771.00000	1112405.00000	1765771.00000	1112355.00000
93	1765756.00000	1112168.00000	1765756.00000	1112218.00000	1765806.00000	1112218.00000	1765806.00000	1112168.00000
94	1765696.00000	1112089.00000	1765696.00000	1112139.00000	1765746.00000	1112139.00000	1765746.00000	1112089.00000
95	1765784.00000	1112026.00000	1765784.00000	1112076.00000	1765834.00000	1112076.00000	1765834.00000	1112026.00000
96	1765849.00000	1112106.00000	1765849.00000	1112156.00000	1765899.00000	1112156.00000	1765899.00000	1112106.00000
97	1766032.62233	1111010.55509	1766032.62233	1111060.55509	1766082.62185	1111060.55461	1766082.62233	1111010.55509
98	1765875.72000	1110816.72000	1765875.72000	1110866.72000	1765925.71952	1110866.71952	1765925.72000	1110816.72000
99	1766126.73020	1110766.21890	1766126.73020	1110816.21890	1766176.72972	1110816.21842	1766176.73020	1110766.21890
100	1766021.20576	1110854.17591	1766021.20576	1110904.17591	1766071.20529	1110904.17543	1766071.20576	1110854.17591
101	1765953.13973	1110458.84450	1765953.13973	1110508.84450	1766003.13979	1110508.84450	1766003.13973	1110458.84450
102	1765934.18000	1110374.12000	1765934.18000	1110424.12000	1765984.17952	1110424.11952	1765984.18000	1110374.12000
103	1766009.02163	1110192.75526	1766009.02163	1110242.75526	1766059.02115	1110242.75478	1766059.02163	1110192.75526
104	1766050.36337	1110371.20220	1766050.36337	1110421.20220	1766100.36289	1110421.20175	1766100.36337	1110371.20220
105	1764923.09527	1111450.08663	1764923.09527	1111500.08663	1764973.09479	1111500.08615	1764973.09527	1111450.08663
106	1764932.48501	1111317.64258	1764932.48501	1111367.64258	1764982.48453	1111367.64210	1764982.48501	1111317.64258
107	1765047.83824	1111322.35041	1765047.83824	1111372.35041	1765097.83776	1111372.34993	1765097.83824	1111322.35041
108	1765049.12000	1111401.24000	1765049.12000	1111451.24000	1765099.11952	1111451.23952	1765099.12000	1111401.24000
109	1764181.00000	1112169.00000	1764181.00000	1112219.00000	1764231.00000	1112219.00000	1764231.00000	1112169.00000
110	1764087.00000	1112128.00000	1764087.00000	1112178.00000	1764137.00000	1112178.00000	1764137.00000	1112128.00000
111	1764224.87000	1112041.84000	1764224.87000	1112091.84000	1764274.87000	1112091.84000	1764274.87000	1112041.84000
112	1764323.00000	1112114.00000	1764323.00000	1112164.00000	1764373.00000	1112164.00000	1764373.00000	1112114.00000
113	1762575.00000	1112204.00000	1762575.00000	1112254.00000	1762625.00000	1112254.00000	1762625.00000	1112204.00000
114	1762519.00000	1112118.00000	1762519.00000	1112168.00000	1762569.00000	1112168.00000	1762569.00000	1112118.00000
115	1762602.00000	1112040.00000	1762602.00000	1112090.00000	1762652.00000	1112090.00000	1762652.00000	1112040.00000
116	1762652.00000	1112134.00000	1762652.00000	1112184.00000	1762702.00000	1112184.00000	1762702.00000	1112134.00000
117	1762884.00000	1112301.00000	1762884.00000	1112351.00000	1762934.00000	1112351.00000	1762934.00000	1112301.00000
118	1762823.00000	1112204.00000	1762823.00000	1112254.00000	1762873.00000	1112254.00000	1762873.00000	1112204.00000
119	1762893.00000	1112121.00000	1762893.00000	1112171.00000	1762943.00000	1112171.00000	1762943.00000	1112121.00000

120	1762961.00000	1112204.00000	1762961.00000	1112254.00000	1763011.00000	1112254.00000	1763011.00000	1112204.00000
121	1763927.15680	1111363.61740	1763927.15680	1111413.61740	1763977.15680	1111413.61730	1763977.15680	1111363.61730
122	1763821.18350	1111317.33640	1763821.18350	1111367.33640	1763871.18350	1111367.33640	1763871.18340	1111317.33640
123	1763780.65630	1111187.97280	1763780.65630	1111237.97280	1763830.65630	1111237.97280	1763830.65630	1111187.97280
124	1763903.48630	1111297.26880	1763903.48630	1111347.26880	1763953.48630	1111347.26870	1763953.48630	1111297.26870
125	1763762.89380	1110992.65420	1763762.89380	1111042.65420	1763812.89380	1111042.65420	1763812.89380	1110992.65420
126	1763670.01050	1111001.50680	1763670.01050	1111051.50680	1763720.01050	1111051.50680	1763720.01050	1111001.50680
127	1763682.02510	1111642.22940	1763682.02510	1111692.22940	1763732.02510	1111692.22940	1763732.02510	1111642.22940
128	1763608.51850	1111598.90750	1763608.51850	1111648.90750	1763658.51850	1111648.90750	1763658.51850	1111598.90750
129	1763243.60020	1111217.10030	1763243.60020	1111267.10030	1763293.60020	1111267.10030	1763293.60020	1111217.10030
130	1763098.14080	1111121.00000	1763098.14080	1111171.64080	1763148.14080	1111171.64080	1763148.14080	1111121.64080
131	1763176.73860	1111137.77250	1763176.73860	1111187.77250	1763226.73860	1111187.77250	1763226.73860	1111137.77250
132	1763325.36280	1111314.54110	1763325.36280	1111364.54110	1763375.36280	1111364.54110	1763375.36280	1111314.54110
133	1763412.76250	1111387.08290	1763412.76250	1111437.08290	1763462.76250	1111437.08290	1763462.76250	1111387.08290
134	1763415.53490	1111300.96620	1763415.53490	1111350.96620	1763465.53490	1111350.96620	1763465.53490	1111300.96620
135	1763513.64990	1111344.25880	1763513.64990	1111394.25880	1763563.64990	1111394.25880	1763563.64990	1111344.25880
136	1763493.27090	1111478.08100	1763493.27090	1111528.08100	1763543.27090	1111528.08100	1763543.27090	1111478.08100
137	1763461.07420	1111036.38800	1763461.07420	1111086.38800	1763511.07420	1111086.38800	1763511.07420	1111036.38800
138	1763563.86320	1110971.82480	1763563.86320	1111021.82480	1763613.86320	1111021.82480	1763613.86320	1110971.82480
139	1763352.59510	1110798.39670	1763352.59510	1110848.39670	1763402.59510	1110848.39670	1763402.59510	1110798.39670
140	1763426.13660	1110826.61270	1763426.13660	1110876.61270	1763476.13660	1110876.61270	1763476.13660	1110826.61270
141	1763599.36110	1111515.03510	1763599.36110	1111565.03510	1763649.36110	1111565.03510	1763649.36110	1111515.03510
142	1763748.48620	1111668.18610	1763748.48620	1111718.18610	1763798.48620	1111718.18610	1763798.48620	1111668.18610
143	1762761.00000	1111362.00000	1762761.00000	1111412.00000	1762811.00000	1111412.00000	1762811.00000	1111362.00000
144	1762824.00000	1111450.00000	1762824.00000	1111500.00000	1762874.00000	1111500.00000	1762874.00000	1111450.00000
145	1763327.00000	1111713.00000	1763327.00000	1111763.00000	1763377.00000	1111763.00000	1763377.00000	1111713.00000
146	1763276.00000	1111626.00000	1763276.00000	1111676.00000	1763326.00000	1111676.00000	1763326.00000	1111626.00000
147	1763350.00000	1111550.00000	1763350.00000	1111600.00000	1763400.00000	1111600.00000	1763400.00000	1111550.00000
148	1763401.00000	1111638.00000	1763401.00000	1111688.00000	1763451.00000	1111688.00000	1763451.00000	1111638.00000
149	1763860.00000	1111813.00000	1763860.00000	1111863.00000	1763910.00000	1111863.00000	1763910.00000	1111813.00000
150	1763772.00000	1111770.00000	1763772.00000	1111820.00000	1763822.00000	1111820.00000	1763822.00000	1111770.00000
151	1763851.00000	1111687.00000	1763851.00000	1111737.00000	1763901.00000	1111737.00000	1763901.00000	1111687.00000
152	1763995.00000	1111735.00000	1763995.00000	1111785.00000	1764045.00000	1111785.00000	1764045.00000	1111735.00000
153	1764025.31370	1111518.47140	1764025.31370	1111568.47140	1764075.31370	1111567.47140	1764075.31370	1111518.47140
154	1763952.02400	1111491.91500	1763952.02400	1111541.91500	1764002.02400	1111541.91500	1764002.02400	1111491.91500
155	1763979.83370	1111426.48720	1763979.83370	1111476.48720	1764029.83370	1111476.48710	1764029.83370	1111426.48710
156	1763674.00000	1111340.00000	1763674.00000	1111390.00000	1763724.00000	1111390.00000	1763724.00000	1111340.00000
157	1765861.00000	1111781.00000	1765861.00000	1111831.00000	1765911.00000	1111831.00000	1765911.00000	1111781.00000
158	1765798.00000	1111700.00000	1765798.00000	1111750.00000	1765848.00000	1111750.00000	1765848.00000	1111700.00000
159	1765884.00000	1111643.00000	1765884.00000	1111693.00000	1765934.00000	1111693.00000	1765934.00000	1111643.00000

160	1765948.00000	1111725.00000	1765948.00000	1111775.00000	1765998.00000	1111775.00000	1765998.00000	1111725.00000
161	1766375.00000	1111941.00000	1766375.00000	1111991.00000	1766425.00000	1111991.00000	1766425.00000	1111941.00000
162	1766280.00000	1111902.00000	1766280.00000	1111952.00000	1766330.00000	1111952.00000	1766330.00000	1111902.00000
163	1766365.00000	1111826.00000	1766365.00000	1111876.00000	1766415.00000	1111876.00000	1766415.00000	1111826.00000
164	1766458.00000	1111879.00000	1766458.00000	1111929.00000	1766508.00000	1111929.00000	1766508.00000	1111879.00000
165	1762635.50150	1111052.35020	1762635.50150	1111102.35020	1762685.50150	1111102.35020	1762685.50150	1111052.00000
166	1762845.23210	1111068.76180	1762845.23210	1111118.76180	1762895.23210	1111118.76180	1762895.23210	1111068.76180
167	1762801.37660	1110948.53010	1762801.37660	1110998.53010	1762851.37660	1110998.53010	1762851.37660	1110948.53010
168	1762742.00000	1111057.00000	1762742.00000	1111107.00000	1762792.00000	1111107.00000	1762792.00000	1111057.00000
169	1763037.00000	1110950.00000	1763037.00000	1111000.00000	1763087.00000	1111000.00000	1763087.00000	1110950.00000
170	1762929.00000	1110931.00000	1762929.00000	1110981.00000	1762979.00000	1110981.00000	1762979.00000	1110931.00000
171	1762929.00000	1110831.00000	1762929.00000	1110881.00000	1762979.00000	1110881.00000	1762979.00000	1110831.00000
172	1763039.81200	1110876.21400	1763039.81200	1110926.21400	1763089.81200	1110926.21400	1763089.81200	1110876.21400
173	1763659.91580	1111123.76660	1763659.91580	1111173.76660	1763709.91580	1111173.76660	1763709.91580	1111123.76660
174	1763627.22410	1111240.17340	1763627.22410	1111290.17340	1763677.22410	1111290.17340	1763677.22410	1111240.17340
175	1763514.97390	1111161.57230	1763514.97390	1111211.57230	1763564.97390	1111211.57230	1763564.97390	1111161.57230
176	1763573.59250	1111085.93480	1763573.59250	1111135.93480	1763623.59250	1111135.93480	1763623.59250	1111085.93480
177	1763980.00000	1111136.00000	1763980.00000	1111186.00000	1764030.00000	1111186.00000	1764030.00000	1111136.00000
178	1763900.00000	1111087.00000	1763900.00000	1111137.00000	1763950.00000	1111137.00000	1763950.00000	1111087.00000
179	1763991.00000	1111013.00000	1763991.00000	1111063.00000	1764041.00000	1111063.00000	1764041.00000	1111013.00000
180	1764077.00000	1111092.00000	1764077.00000	1111142.00000	1764127.00000	1111142.00000	1764127.00000	1111092.00000
181	1764425.00000	1111120.00000	1764425.00000	1111170.00000	1764475.00000	1111170.00000	1764475.00000	1111120.00000
182	1764343.00000	1111036.00000	1764343.00000	1111086.00000	1764393.00000	1111086.00000	1764393.00000	1111036.00000
183	1764419.00000	1110957.00000	1764419.00000	1111007.00000	1764469.00000	1111007.00000	1764469.00000	1110957.00000
184	1764487.00000	1111028.00000	1764487.00000	1111078.00000	1764537.00000	1111078.00000	1764537.00000	1111028.00000
185	1766758.00000	1111393.00000	1766758.00000	1111443.00000	1766808.00000	1111443.00000	1766808.00000	1111393.00000
186	1766660.00000	1111300.00000	1766660.00000	1111350.00000	1766710.00000	1111350.00000	1766710.00000	1111300.00000
187	1766755.00000	1111213.00000	1766755.00000	1111263.00000	1766805.00000	1111263.00000	1766805.00000	1111213.00000
188	1766821.00000	1111299.00000	1766821.00000	1111349.00000	1766871.00000	1111349.00000	1766871.00000	1111299.00000
189	1767071.00000	1111519.00000	1767071.00000	1111569.00000	1767121.00000	1111569.00000	1767121.00000	1111519.00000
190	1767042.00000	1111427.00000	1767042.00000	1111477.00000	1767092.00000	1111477.00000	1767092.00000	1111427.00000
191	1767112.00000	1111370.00000	1767112.00000	1111420.00000	1767162.00000	1111420.00000	1767162.00000	1111370.00000
192	1767162.00000	1111448.00000	1767162.00000	1111498.00000	1767212.00000	1111498.00000	1767212.00000	1111448.00000
193	1763259.00000	1110663.00000	1763259.00000	1110713.00000	1763309.00000	1110713.00000	1763309.00000	1110663.00000
194	1763206.00000	1110592.00000	1763206.00000	1110642.00000	1763256.00000	1110642.00000	1763256.00000	1110592.00000
195	1763248.00000	1110525.00000	1763248.00000	1110575.00000	1763298.00000	1110575.00000	1763298.00000	1110525.00000
196	1763331.00000	1110611.00000	1763331.00000	1110661.00000	1763381.00000	1110661.00000	1763381.00000	1110611.00000
197	1763754.00000	1110637.00000	1763754.00000	1110687.00000	1763804.00000	1110687.00000	1763804.00000	1110637.00000
198	1763673.00000	1110555.00000	1763673.00000	1110605.00000	1763723.00000	1110605.00000	1763723.00000	1110555.00000
199	1763745.00000	1110469.00000	1763745.00000	1110519.00000	1763795.00000	1110519.00000	1763795.00000	1110469.00000

200	1763836.00000	1110565.00000	1763836.00000	1110615.00000	1763886.00000	1110615.00000	1763886.00000	1110565.00000
201	1764136.00000	1110701.00000	1764136.00000	1110751.00000	1764186.00000	1110751.00000	1764186.00000	1110701.00000
202	1764056.00000	1110651.00000	1764056.00000	1110701.00000	1764106.00000	1110701.00000	1764106.00000	1110651.00000
203	1764141.00000	1110565.00000	1764141.00000	1110615.00000	1764191.00000	1110615.00000	1764191.00000	1110565.00000
204	1764235.00000	1110638.00000	1764235.00000	1110688.00000	1764285.00000	1110688.00000	1764285.00000	1110638.00000
205	1764495.00000	1110807.00000	1764495.00000	1110857.00000	1764545.00000	1110857.00000	1764545.00000	1110807.00000
206	1764415.00000	1110743.00000	1764415.00000	1110793.00000	1764465.00000	1110793.00000	1764465.00000	1110743.00000
207	1764496.00000	1110666.00000	1764496.00000	1110716.00000	1764546.00000	1110716.00000	1764546.00000	1110666.00000
208	1764529.00000	1110726.00000	1764529.00000	1110776.00000	1764579.00000	1110776.00000	1764579.00000	1110726.00000
209	1764971.00000	1110775.00000	1764971.00000	1110825.00000	1765021.00000	1110825.00000	1765021.00000	1110775.00000
210	1764898.00000	1110684.00000	1764898.00000	1110734.00000	1764948.00000	1110734.00000	1764948.00000	1110684.00000
211	1764976.00000	1110649.00000	1764976.00000	1110699.00000	1765026.00000	1110699.00000	1765026.00000	1110649.00000
212	1765106.00000	1110697.00000	1765106.00000	1110747.00000	1765156.00000	1110747.00000	1765156.00000	1110697.00000
213	1765326.00000	1110913.00000	1765326.00000	1110963.00000	1765376.00000	1110963.00000	1765376.00000	1110913.00000
214	1765256.00000	1110806.00000	1765256.00000	1110856.00000	1765306.00000	1110856.00000	1765306.00000	1110806.00000
215	1765330.00000	1110725.00000	1765330.00000	1110775.00000	1765380.00000	1110775.00000	1765380.00000	1110725.00000
216	1765353.21022	1110810.07605	1765353.21022	1110860.07605	1765403.21022	1110860.07605	1765403.21022	1110810.07605
217	1765733.00000	1110730.00000	1765733.00000	1110780.00000	1765783.00000	1110780.00000	1765783.00000	1110730.00000
218	1765665.00000	1110651.00000	1765665.00000	1110701.00000	1765715.00000	1110701.00000	1765715.00000	1110651.00000
219	1765747.00000	1110587.00000	1765747.00000	1110637.00000	1765797.00000	1110637.00000	1765797.00000	1110587.00000
220	1765815.00000	1110668.00000	1765815.00000	1110718.00000	1765865.00000	1110718.00000	1765865.00000	1110668.00000
221	1766708.00000	1110920.00000	1766708.00000	1110970.00000	1766758.00000	1110970.00000	1766758.00000	1110920.00000
222	1766643.00000	1110859.00000	1766643.00000	1110909.00000	1766693.00000	1110909.00000	1766693.00000	1110859.00000
223	1766732.00000	1110811.00000	1766732.00000	1110861.00000	1766782.00000	1110861.00000	1766782.00000	1110811.00000
224	1766800.00000	1110883.00000	1766800.00000	1110933.00000	1766850.00000	1110933.00000	1766850.00000	1110883.00000
225	1763681.00000	1110189.00000	1763681.00000	1110239.00000	1763731.00000	1110239.00000	1763731.00000	1110189.00000
226	1763603.00000	1110115.00000	1763603.00000	1110165.00000	1763653.00000	1110165.00000	1763653.00000	1110115.00000
227	1763668.00000	1110054.00000	1763668.00000	1110104.00000	1763718.00000	1110104.00000	1763718.00000	1110054.00000
228	1763759.00000	1110106.00000	1763759.00000	1110156.00000	1763809.00000	1110156.00000	1763809.00000	1110106.00000
229	1764347.00000	1110355.00000	1764347.00000	1110405.00000	1764397.00000	1110405.00000	1764397.00000	1110355.00000
230	1764286.00000	1110282.00000	1764286.00000	1110332.00000	1764336.00000	1110332.00000	1764336.00000	1110282.00000
231	1764359.00000	1110228.00000	1764359.00000	1110278.00000	1764409.00000	1110278.00000	1764409.00000	1110228.00000
232	1764426.00000	1110287.00000	1764426.00000	1110337.00000	1764476.00000	1110337.00000	1764476.00000	1110287.00000
233	1765208.48237	1110548.30162	1765208.48237	1110598.30162	1765258.48237	1110598.30162	1765258.48237	1110548.30162
234	1765152.67855	1110462.79453	1765152.67855	1110512.79453	1765202.67855	1110512.79453	1765202.67855	1110462.79453
235	1765177.00000	1110397.00000	1765177.00000	1110447.00000	1765227.00000	1110447.00000	1765227.00000	1110397.00000
236	1765259.00000	1110462.00000	1765259.00000	1110512.00000	1765309.00000	1110512.00000	1765309.00000	1110462.00000
237	1766424.00000	1110498.00000	1766424.00000	1110548.00000	1766474.00000	1110548.00000	1766474.00000	1110498.00000
238	1766348.88333	1110328.81302	1766348.88195	1110376.81198	1766398.88347	1110376.81309	1766398.88393	1110326.81444
239	1766425.00000	1110383.00000	1766425.00000	1110433.00000	1766475.00000	1110433.00000	1766475.00000	1110383.00000

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243	1766959.00000	1110355.00000	1766959.00000	1110405.00000	1767009.00000	1110405.00000	1767009.00000	1110355.00000
244	1767049.00000	1110447.00000	1767049.00000	1110497.00000	1767099.00000	1110497.00000	1767099.00000	1110447.00000
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247	1764960.00000	1110050.00000	1764960.00000	1110100.00000	1765010.00000	1110100.00000	1765010.00000	1110050.00000
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250	1765386.00000	1110226.00000	1765386.00000	1110276.00000	1765436.00000	1110276.00000	1765436.00000	1110226.00000
251	1765386.00000	1110226.00000	1765386.00000	1110276.00000	1765576.00000	1110212.00000	1765576.00000	1110162.00000
252	1765617.00000	1110226.00000	1765617.00000	1110276.00000	1765667.00000	1110276.00000	1765667.00000	1110226.00000
253	1764750.00000	1109938.00000	1764750.00000	1109988.00000	1764800.00000	1109988.00000	1764800.00000	1109938.00000
254	1764678.00000	1109881.00000	1764678.00000	1109931.00000	1764728.00000	1109931.00000	1764728.00000	1109881.00000
255	1764699.00000	1109803.00000	1764699.00000	1109853.00000	1764749.00000	1109853.00000	1764749.00000	1109803.00000
256	1764841.00000	1109887.00000	1764841.00000	1109937.00000	1764891.00000	1109937.00000	1764891.00000	1109887.00000
257	1765241.00000	1110006.00000	1765241.00000	1110056.00000	1765291.00000	1110056.00000	1765291.00000	1110006.00000
258	1765151.00000	1109924.00000	1765151.00000	1109974.00000	1765201.00000	1109974.00000	1765201.00000	1109924.00000
259	1765229.00000	1109825.00000	1765229.00000	1109875.00000	1765279.00000	1109875.00000	1765279.00000	1109825.00000
260	1765313.00000	1109980.00000	1765313.00000	1110030.00000	1765363.00000	1110030.00000	1765363.00000	1109980.00000
261	1766091.00000	1110065.00000	1766091.00000	1110115.00000	1766141.00000	1110115.00000	1766141.00000	1110065.00000
262	1766022.00000	1109963.00000	1766022.00000	1110013.00000	1766072.00000	1110013.00000	1766072.00000	1109963.00000
263	1766101.00000	1109876.00000	1766101.00000	1109926.00000	1766151.00000	1109926.00000	1766151.00000	1109876.00000
264	1766140.00000	1109989.00000	1766140.00000	1110039.00000	1766190.00000	1110039.00000	1766190.00000	1109989.00000
265	1766648.00000	1110223.00000	1766648.00000	1110273.00000	1766698.00000	1110273.00000	1766698.00000	1110223.00000
266	1766570.00000	1110128.00000	1766570.00000	1110178.00000	1766620.00000	1110178.00000	1766620.00000	1110128.00000
267	1766659.00000	1110042.00000	1766659.00000	1110092.00000	1766709.00000	1110092.00000	1766709.00000	1110042.00000
268	1766706.00000	1110131.00000	1766706.00000	1110181.00000	1766756.00000	1110181.00000	1766756.00000	1110131.00000
269	1764282.00000	1109627.00000	1764282.00048	1109676.99952	1764332.00000	1109677.00000	1764332.00000	1109627.00000
270	1764256.00000	1109538.00000	1764256.00000	1109588.00000	1764306.00000	1109588.00000	1764306.00000	1109538.00000
271	1764280.00048	1109421.00048	1764280.00000	1109471.00000	1764330.00000	1109471.00000	1764330.00000	1109421.00000
272	1764393.00000	1109550.00000	1764393.00000	1109600.00000	1764443.00000	1109600.00000	1764443.00000	1109550.00000
273	1764617.30000	1109706.54000	1764617.30000	1109756.54000	1764667.29952	1109756.53952	1764667.30000	1109706.54000
274	1764540.29748	1109617.53692	1764540.29748	1109667.53692	1764590.29700	1109667.53644	1764590.29748	1109617.53692
275	1764615.30030	1109544.54234	1764615.30030	1109594.54234	1764665.29982	1109594.54186	1764665.30030	1109544.54234
276	1764684.30091	1109629.53894	1764684.30091	1109679.53894	1764734.30043	1109679.53846	1764734.30091	1109629.53894
277	1765545.00000	1109796.00000	1765545.00000	1109846.00000	1765595.00000	1109846.00000	1765595.00000	1109796.00000
278	1765517.00000	1109710.00000	1765517.00000	1109760.00000	1765567.00000	1109760.00000	1765567.00000	1109710.00000
279	1765675.00000	1109632.00000	1765675.00000	1109682.00000	1765725.00000	1109682.00000	1765725.00000	1109632.00000

280	1765649.00000	1109749.00000	1765649.00000	1109799.00000	1765699.00000	1109799.00000	1765699.00000	1109749.00000
281	1766078.00000	1109599.00000	1766078.00000	1109649.00000	1766128.00000	1109649.00000	1766128.00000	1109599.00000
282	1765982.00000	1109550.00000	1765982.00000	1109600.00000	1766032.00000	1109600.00000	1766032.00000	1109550.00000
283	1766069.00000	1109479.00000	1766069.00000	1109529.00000	1766119.00000	1109529.00000	1766119.00000	1109479.00000
284	1766164.00000	1109537.00000	1766164.00000	1109587.00000	1766214.00000	1109587.00000	1766214.00000	1109537.00000
285	1764698.00000	1109243.00000	1764698.00000	1109293.00000	1764748.00000	1109293.00000	1764748.00000	1109243.00000
286	1764599.00000	1109224.00000	1764599.00000	1109274.00000	1764649.00000	1109274.00000	1764649.00000	1109224.00000
287	1764683.30437	1109070.29410	1764683.30437	1109120.29410	1764733.30389	1109120.29362	1764733.30437	1109070.29410
288	1764607.77603	1109054.41125	1764607.77603	1109104.41125	1764657.77555	1109104.41077	1764657.77603	1109054.41125
289	1765154.00000	1109288.00000	1765154.00000	1109338.00000	1765204.00000	1109338.00000	1765204.00000	1109288.00000
290	1765071.00000	1109223.00000	1765071.00000	1109273.00000	1765121.00000	1109273.00000	1765121.00000	1109223.00000
291	1765163.00000	1109162.00000	1765163.00000	1109212.00000	1765213.00000	1109212.00000	1765213.00000	1109162.00000
292	1765241.00000	1109234.00000	1765241.00000	1109284.00000	1765291.00000	1109284.00000	1765291.00000	1109234.00000
293	1765689.00000	1109268.00000	1765689.00000	1109318.00000	1765739.00000	1109318.00000	1765739.00000	1109268.00000
294	1765577.00000	1109204.00000	1765577.00000	1109254.00000	1765627.00000	1109254.00000	1765627.00000	1109204.00000
295	1765693.00000	1109133.00000	1765693.00000	1109183.00000	1765743.00000	1109183.00000	1765743.00000	1109133.00000
296	1765760.00000	1109208.00000	1765760.00000	1109258.00000	1765810.00000	1109258.00000	1765810.00000	1109208.00000
297	1765209.00000	1108810.00000	1765209.00000	1108860.00000	1765259.00000	1108860.00000	1765259.00000	1108810.00000
298	1765206.00000	1108738.00000	1765206.00000	1108788.00000	1765256.00000	1108788.00000	1765256.00000	1108738.00000
299	1765285.00000	1108673.00000	1765285.00000	1108723.00000	1765335.00000	1108723.00000	1765335.00000	1108673.00000
300	1765278.00000	1108747.00000	1765278.00000	1108797.00000	1765328.00000	1108797.00000	1765328.00000	1108747.00000

QC RESULTS OF SURVEY DATA

	NWY - SWY	NEY-SEY	SEX-SWX	NEX-NWX
	50.00000	50.00000	50.00000	50.00000
	50.00000	50.00000	50.00000	50.00000
	49.94672	49.89866	50.00783	49.98538
	50.00000	50.00000	50.00000	50.00000
	50.00021	50.21799	50.01478	49.75352
	50.01501	50.36816	50.29478	49.99392
	50.00000	50.00000	50.00000	50.00000
	50.22399	50.19447	50.04885	50.02685
	50.11662	50.15293	49.95955	49.93144
	49.99758	49.91303	49.94538	50.07195
	50.00005	50.48565	49.90000	49.90001
	50.07457	50.07765	49.91339	49.98325
	50.00000	50.00000	50.00000	50.00000
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	50.00000	50.00000	50.00000	50.00000
	50.00000	50.00000	50.00000	50.00000
	50.00000	50.00000	50.00000	50.00000
	50.00737	49.90373	50.08315	50.07715
	50.00000	50.00000	50.00000	50.00000
	49.93954	49.93002	49.84468	49.88956
	50.00000	50.00000	50.00000	50.00000

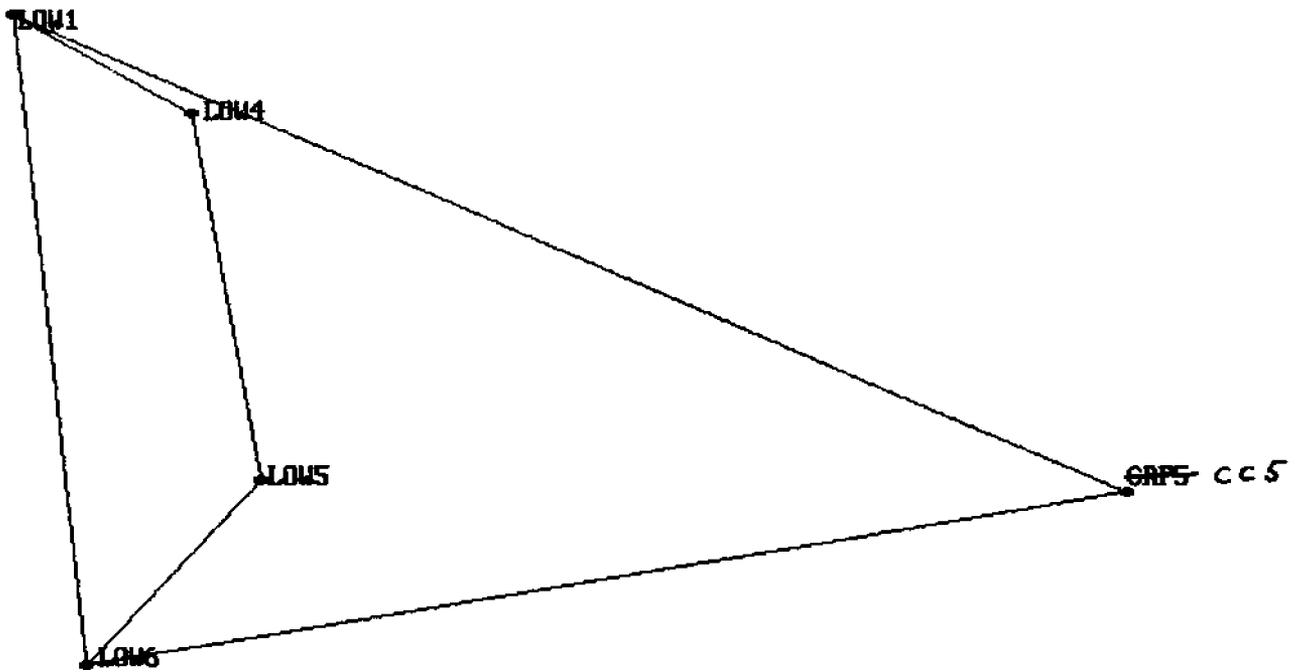
	50.00000	50.00000	50.00000	50.00000
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	50.00000	50.00000	50.00000	50.00000
	50.00000	50.00000	50.00000	50.00000
	50.00000	49.99952	50.00000	49.99952
	50.00000	49.99952	50.00000	49.99952
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	50.00000	50.00000	50.00000	50.00000
	50.00000	50.00000	50.00000	50.00000

**FIELD GPS CONTROL DATA
AND
FIELD SURVEY NOTES**

12/13/96

Original Coords. on NAD 83 Geographic Coordinates
Translated Coords. on NAD 83 State Plane - SC 3900, U.S. FT

NAME	INPUT	OUTPUT
CC5	34 53 10.63712 N 081 46 30.25733 W	1111699.45021 N 1767538.13167 E
Convergence Scale Factor		-00 25 46.91685 1.000019254
LOWERY 1	34 53 26.94200 N 081 47 16.29600 W	1113376.91004 N 1763715.26597 E
Convergence Scale Factor		-00 26 12.44066 1.000020940
LOWERY 4	34 53 23.55892 N 081 47 08.82530 W	1113030.13483 N 1764335.00769 E
Convergence Scale Factor		-00 26 08.29891 1.000020590
LOWERY 5	34 53 10.76261 N 081 47 05.90198 W	1111734.55098 N 1764568.70920 E
Convergence Scale Factor		-00 26 06.67822 1.000019267
LOWERY 6	34 53 04.24258 N 081 47 13.15630 W	1111079.95887 N 1763959.34009 E
Convergence Scale Factor		-00 26 10.70001 1.000018594



200m

ESC = EXIT F6 = FULL VIEW F8 = SET UPPER LEFT F7 = SET LOWER RIGHT

INDEX

Property of UXE BENTON COUNTY, MO

CAMP CROFT

Address 21011 L...

1A 20111 Camp

Telephone ...

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This Book is manufactured of a High Grade 50% Rag Paper having a Water Resisting Surface, and is sewed with Nylon Waterproof Thread.

CAMP CROFT
7266 - 6031
STAKE CRIDS

CAMP CROFT STAKE GRIDS
 X @ Lowery 1 #3301 BS LOWERY 4 3307
 N 1113376.9100 N 1113030.1348
 E 1763715.2660 E 1764335.0077
 BS A2 119-13-45 710.16 (R)
 BS X 0-00-00 710.22 (F)

12-14-96 (349)
 SW = 1-300
 NW = 1001-1300
 NE = 2001-2300
 SE = 3001-3300

1-2
 C. STODDARD
 MARK HOLLEY
 TOPCON 201 H40216
 PRISM POLE TRI-BANCH
 CLEAR, CALM, 50°

STA	REC #	ASDLT #
GRID 21 NW	1021	4001
21 NE	2021	4002
21 SE	3021	4003
23 SW	23	4004
23 NE	2023	4005
23 SE	3023	4006

STA	PT #	X RIGHT	HD	DESC
CP "TED"	4007	351-06-14	171-06-14	181.31
		0-00-00	180-00-00	
		D 351-06-14	171-06-11	
		M 351-06-12.5	181.31	SET HT

N 1113313.9104
 E 1763885.2789

GRID	REC #	ASDLT #
24 SW	24	4008
24 NW	1024	4009

CAMP CROFT STAKE GRIDS

12-14-96

1-4
SAME CONDITIONS

π@ 23 SW # 4004

BS Lower 1 #3301

N 1113395.0166

N 1113376.9100

E 1763678.9910

E 1763715.2660

BS A2 116-31-34

40.54 (E)

BS K 0-00-00

40.52 (F)

GRID	REC	ASLT
23NW	1023	4027
21SW	21	4028

CAMP CROFT STAKE GRIDS
 π@ CP 47 NW #404 BS CP "TED" #307
 N 1113099.9831 N 1113313.9104
 E 1763950.1030 E 1763885.2789
 BS AZ 343-08-32 223.53(R)
 BS X 0-00-00 223.53(F)

GRID	REC	ASSET
47SW	47	4029
47SE	3047	4030
47NE	2047	4031

π@ CP BAD # 329 BS CP "TED" #307
 N 1113679.2777 N 1113313.9104
 E 1764301.9855 E 1763885.2789
 BS AZ 228-45-21 554.20(R)
 BS X 0-00-00 554.18(F)

GRID	REC	ASSET	STA	PT #	X	RIGHT	HD	DESC
12 SW	308	308	CP "TEE"	312	2 155-18-35	335-18-41	202.44	
12 NW	309	4033			0-00-00	180-00-03		
12 NE	310	4034			0 155-18-35	155-18-38		
12 SE	311	4035			m 155-18	-36.5	202.44	SET HT
7SW	7	4036						
7SE	3007	4037	CP "OFF"	313	2 120-34-45	300-34-46	360.50	
6NW	1006	4038			0-00-00	180-00-10		
					p 120-34-45	120-34-36		
					m 120-34	-40.5	360.50	

12-15-96

1-5
 C. STODDARD
 MARK HOLLEY ROD
 BILL JAKUBOWSKI ROD
 TOPCON 201 H40216
 PRISM POLE & TRI-BENCH
 CLEAR, CALM 40°-55°

N 1113864.1210
 E 1764384.5380

N 1114033.5489
 E 1764384.5380

CAMP CROFT STAKE GRIDS
 T@ CP "TEE" #312 BS CP "BAD" #329
 N 11138.64.1210 N 1113679.2777
 E 1764384.5380 E 1764306.9855
 BS A2 204-03-57
 BS X 0-00-00 202.44(R)
 202.42(F)

12-15-96

1-6
 SAME CONDITIONS

GRID	REC	ASDCT
7NW	1007	4039
7NE	2007	4040
6NE	315	4041
6SE	316	4042
6SW	317	4043
6NW	314	314
5SW	318	318
5NW	319	4044
5NE	320	4045
5SE	321	4046
8NW	322	322
8NE	323	4047

T@ 8NW # 322

BS CP "TEE" # 312

BS A2 289-00-59, BS X 0-00-00 140.35 (R)
 110.37 (F)

GRID	REC	ASDCT
8NE	323	4047
8SE	324	4048
8SW	330	4049

CAMP CROFT SET GRIDS
 X@ CP "OFF" # 313 BS CP "BAD" # 329
 N 1114033.5489 N 1113679.2777
 E 1764235.2611 E 1764301.9855
 DS AZ 169-26-01
 BS X 0-00-00 360.50 (R)
 360.51 (F)

12-15-96

SAME CONDITIONS

1-7

GRIDS	REC	ASBLT
3NE	331	331
3SE	332	4050
3SW	333	4051
3NW	334	4052

STA	REC #	X LIGHT	HD	
CP "TEE"	312	329-17-03	225.81	RECORD
"	312	329-17-28	225.86	FIELD

GRID	REC	ASBLT
4SW	4	4053

X@ 4SW # 4053
 BS CP "OFF" # 313
 BS AZ 255-13-58 BS X 0-00-00 194.19 (R)
 194.20 (F)

GRID	REC	ASBLT
4NW	1004	4054 TEE
4NE	2004	4055
4SE	2004	4056

CAMP CROFT 7206 SET GRIDS

π@ CP "ISE" #325	BS CP "TD" #307
N 1113640.1347	N 1113313.9104
E 1764068.7747	E 1763885.2789
BS AZ 209-21-25	374.29 (R)
BS X 0-00-00	374.30 (F)

GRID	PEC	ASDET
11NW	327	4057
11NE	328	4058
10SE	335	335
10SW	336	4059
10NW	337	4060
10NE	338	4061
9SE	339	339
9SW	340	4062
9NW	341	4063
9NE	342	4064

12-16-96

C. STODDARD 1-8

MARK HOLLETT RD
 TOPCON 201 HHOZ16
 PRISM POLE FTAIL-BASH
 CLEAR, CALM 30°

CAMP ELEV 7206 SET GRIDS

TOP 20 SW

BS 18 SW

BS AZ 279-57-50

BS X 0-00-00

130.27(R)
167.43(F)

12-16-96

SAME CONDITIONS

1-9

Grids	REC	ASBLT
18SW	18	4065
18NW	1018	4066
18NE	2018	4067
18SE	3018	4068
17SW	17	4069
17NW	1017	4070
17NE	2017	4071
17SE	3017	4072
19SW	19	4073
19NW	1019	4074
19NE	2019	4075
19SE	3019	4076
20NW	1020	4077
20NE	2020	4078
20SE	3020	4079

CAMP CLINT 7206 SET GRIDS

T@ 34 SW # 34
 BS LINE 34 SW # 34 TO 33 SW # 33
 BS AZ 37-20-22 122.05(R)
 BS χ 0-00-00 119.58(F)

GRID	REC	ASBLT	
33SW	33	4080	2.432
34NW	1034	4081	
34NE	2034	4082	
34SE	3034	4083	
35SW	35	4084	
35NW	1035	4085	
35NE	2035	4086	

T@ 35 SW # 1081
 BS 34 SW # 34
 BS AZ 308-07-18 BS χ 0-00-00

GRID	REC	ASBLT	
35SE	3035	4087	
36SE	343	343	
36SW	344	4088	
36NW	345	4090	
36NE	346	4089	

12-16-96

1-10
SAME CONDITIONS

T@ 33 SW # 33
 BS LINE 33 SW # TO 34 SW # 34
 BS AZ 217-20-22 122.05(R)
 BS χ 0-00-00 119.58(F)

GRID	REC	ASBLT	
36NE	346	4079	
36NW	345	4090	
33NW	1033	4091	
33NE	2033	4092	
33SE	3033	4093	

1-11

CAMP CROFT 7206
STAKE GRIDS

Camp Croft 7206 STAKE GALLS

X @ 11 SW # 14

BS 13 SW # 13

BS LINE 14 SW To 13 SW

BS AZ ~~104~~ 43-27-07

BS # 0-00-00 104.69(A)
(F)

GRID REC ASLT

X @ 14 SW # 11

BS CP "BAD" # 329

BS AZ 313-58-37

BS # 0-00-00 266.83(E)
247.63(F)

GRID	REC	ASLT	GRID	REC	ASLT
13 NW	1013	4094	14 SE	2014	4104
13 NE	2013	4095	14 E	2014	4106
13 SE	3013	4096	14 NW	1014	4107
16 NW	1016	4097			
16 NE	2016	4098%			
16 SE	3016	4099			
16 SW	16	4100			
15 NW	1015	4094			
15 SW	15	4094			
15 SE	15	4094			
15 NE	2015	4104			

12-17-96

C. STODDARD #17

MARK HOLLEY ROLL

TOPCAN 201 HHOZIG

PRISM POLE

OVERCAST, LIGHT RAIN

AND FOG 40°-50°

WINDS CALM.

1-12

CAMP CROFT 7206 STAKE GRIDS

T@ 62 SW #62
 BS 61 SW #62
 BS LINE 62 SW TO 61 SW
 BS AZ ²²202-46-57
 BS X 0-00-00 108.46(R)
 101.42(F)

GRID	REC	ASBT
61 SW	61	4108
62 NW	1062	4109
62 NE	2062	4110
62 SE	3062	4111
63 NW	1063	4112
63 SW	63	4113

T@ 61 SW # 4108
 BS 62 SW #62
 BS LINE 61 SW TO 62 SW
 BS AZ 202-46-56
 BS X 0-00-00 108.55(R)
 108.46(F)

GRID	REC	ASBT
61 NW	1061	4114
61 NE	2061	4115
61 SE	3061	4116
61 SW	1061	4117
61 SW	64	4118
61 SW	74	4119

12-17-96

1-13 SAME CONDITIONS

T@ 64 NW # 4117
 BS 61 SW # 4108
 BS LINE 64 NW TO 61 SW
 BS AZ 295-00-39
 BS X 0-00-00

GRID	REC	ASBT
64 NE	2064	4120

T@ 63 NW # 4112
 BS 63 SW # 4113
 BS LINE 63 NW TO 63 SW
 BS AZ 180-19-42
 BS X 0-00-00 50.23(R)
 50.25(F)

T@ 63 SW # 4113
 BS 63 NW # 4112
 BS LINE 63 SW TO 63 NW
 BS AZ 0-19-42
 BS X 0-00-00 50.23(R)
 50.25(F)

GRID	REC	ASBT	GRID	REC	ASBT
63 NE	2063	4121	63 SE	3063	4122

1-14

CAMP CROFT 7206
SET & GRIDS

CAMP CROFT 7206 1/2 SET GRIDS

12-18-96

C. STODDARD

1-15

T@ 58 SW #58
 BS 60 SW #61
 BS LINE 58 SW TO 60 SW
 BS AZ 84-37-06
 BS X 0-00-00

138.61 (C)
 134.53 (F)

MARK HOWLEY ROD
 CLINT MORRIS CUTTER
 TOPCON GTS 201 HORIZ 14
 PRISM POINT
 CLEAR, CALM 35°-
 PARTLY CLOUDY

GRID	REC	ASBLT
60 SW	60	4123
59 SW	59	4124
59 NW	1059	4125
58 NW	1058	4126
58 NE	2058	4127
58 SE	3058	4128

T@ 60 SW #423
 BS 58 SW #58
 BS LINE 60 SW TO 58 SW
 BS AZ 264-37-04
 BS X 0-00-00

138.51 (C)
 (F)

GRID	REC	ASBLT
57 NW	1057	4129
57 NE	2057	4130
57 SW	57	4131
57 SE	3057	4132

GRID	REC	ASBLT
59 NE	2059	4133
59 SE	3059	4134

GRID	REC	ASBLT
60 NW	1060	4135
60 NE	2060	4136
60 SE	3060	4137

CAMP CROFT 7206 STAKE GRIDS

12-18-96

1-17
SAME CONDITIONS

π @ 40 SW #40

BS 37 SW #37

BS LINE 40 SW TO 37 SW

BS AZ 315-49-49

BS X 0-00-00

97.59 (R)

77.41 (F)

GRID	REC	ASBLT
37 SW	37	4152
37 NW	1037	4153
37 NE	2037	4154
37 SE	3037	4155
40 NW	1040	4156
40 NE	2040	4157
40 SE	3040	4158
39 NE	2039	4159
39 SE	3039	4160
39 SW	39	4161 ^{9/8}
39 NW	1039	4162
38 SW	347	347
38 SE	350	4163
38 NE	349	4164
38 NW	348	4165

CAMP CROFT 7206
STAK GRIDS

CAMP CROFT 7206 STAKE GRIDS

T@ 43 SW # 43
 BS 41 SW # 11
 BS AZ 358-10-54
 BS X 0-00-00

189.10(R)
 202.02(F)

GRIDS	REC	ASBLT
41 SW	41	4166
41 NW	1041	4167 ^s
41 NE	2041	4168
41 SE	3041	4168
44 NW	1044	4169
44 SW	44	4170
44 SE	3044	4171
43 SE	3043	4172
43 NE	2043	4173
43 NW	1043	4174
42 SE	3042	4175
42 NE	2042	4176
42 NW	1042	4177
42 SW	42	4178
44		

1934 POSSIBLE RESHOOT

12-19-96

C. STODOLSKI

1-19

MARK HOLLEY R.D.
 TAPCAN GTS 201 H46216
 PRISM POLE
 MOSTLY CLEAR LIGHT BREEZE
 32°-40° ±

T@ 44 NW # 469
 BS 43 SW # 43
 BS AZ 202-55-08
 BS X 0-00-00

141.14(R)
 141.12(F)

GRID	REC	ASBLT
44 NE	2044	4179
44 NE	2041	4180

CAMP CROFT 7206
STAKE GRIDS

CAMP CROTT 7206 STAKE GRIDS

π@ 67 SW #67
 BS 65 SW #65
 BS AZ 358-55-33
 BS X 0-00-00 $\frac{160.03(R)}{141.05(F)}$

GRIDS	REC	ASBLT	π@ 65 SW # 4197
65 SW	65	4197	BS 67 SW # 67
65 SE	3065	4198	BS AZ 178-55-33
68 NW	1068	4199	BS X 0-00-00 $\frac{160.03(R)}{160.16(F)}$
68 SW	68	4200	
67 NE	2067	4201	GRID REC ASBLT
67 SE	3067	4202	66 NE 2066 4207
67 NW	1067	4203	65 NW 1065 4208
66 SE	3066	4204	65 NE 2065 4209
66 SW	66	4205	68 NE 2068 4210
66 NW	1066	4206	60 SE 3068 4211

π@ 86 SW #86
 BS 85 SW #85
 BS AZ 52-52-09
 BS X 0-00-00 $\frac{87.80(R)}{75.39(F)}$

GRID	REC	ASBLT	GRID	REC	ASBLT
85 SW	85	4212	85 SW	87	4216
86 NE	2086	4213	87 NW	1087	4217
86 NW	1086	4214			
86 SE	3086	4215			

12-20-96

C. STODDARD MTR
 MARK 110111 P
 TOPCON GTS 201 H#0226
 PRISM POLE
 CLEAR, CALM 30°-40°

CAMP CROFT 7206
STAKE GRIDS

GRID STAKE 7206

STA TO	STA	M. AZIMUTH	HD	IT #
87SW*	87SE	95-00-00	50 FT	500+
87SE	87NE	5-00-00	50 FT	
85SW*	85NW	5-00-00	50 FT	
85SW*	85SE	95-00-00	50 FT	
85SE	85NE	5-00-00	"	
85SE	88NE	153-02-10	35 FT	
88NW	88SW	185-00-00	50 FT	
88NW	88NE	95-00-00	50 FT	
88NW	88SE	145-00-00	70.71'	
84SW*	84SE	95-00-00	50 FT	
84SW*	84NW	5-00-00	50 FT	
84SE	84NE	5-00-00	50 FT	
83SW	83NW	5-00-00	50 FT	
83SW*	83SE	95-00-00	50 FT	
83SE	83NE	5-00-00	50 FT	
83NW	82SE	16-00-13	36.67'	
82SE	82SW	275-00-00	50 FT	
82SE	82NE	5-00-00	50 FT	
82SW	82NW	5-00-00	50 FT	
82NE	81SW	345-51-59	51.86'	
82NE	81SE	38-57-33	59.08	
81SE	81NE	5-00-00	50 FT	
81NE	81NW	275-00-00	50 FT	

1-6-97

CERARD WILLIS 1-24
C. STODDARD

MARK HOLLEY

SUNTO 613174
PARTLY CLDY, CALM 40°-55°

NOTE: ADDING 5°
TO ALL AZIMUTHS TO
CONVERT TO MAGNETIC

NOTE: FOR CALLING
POINTS FOR 726 GRIDZERS
SUBTRACT 5° FOR
M. AZIMUTH.

SW = 1
NW = 1001
NE = 2001
SE = 3001

NOTE: ALL STATIONS
WITH A * BY IT, IS
A GPS POINT

DESC

SET LATH

" "

" "

" "

" "

" "

SET HUB

" LATH

" "

" "

" "

" "

" "

" "

" "

" "

" "

" "

" "

" "

SET HUB

SET LATH

" "

" "

GRID STAKE 7206

1-6-97

SAME CONDITIONS

STA TO	STA	M. AZIMUTH	HD	PT #
112 SW*	112 NW	5-00-00	50 FT	
112 SW	112 SE	95-00-00	50 FT	
112 SW*	112 NE	50-00-00	70.71'	
111 SW*	111 SE	95-00-00	50 FT	
111 SW	111 NW	5-00-00	50 FT	
111 SE	111 NE	5-00-00	50 FT	
109 SW*	109 NW	5-00-00	50 FT	
109 SW	109 SE	95-00-00	50 FT	
109 SW*	109 NE	50-00-00	70.71'	
109 SW*	110 NE	285-33-36	44.91'	
109 SW*	110 SE	232-01-17	60.14'	
110 SE	110 SW	275-00-00	50 FT	
110 SW	110 NW	5-00-00	50 FT	
93 SW	93 NW	5-00-00	5	

DESC

SET LATH

" "

" "

" "

" "

" "

" "

" "

" "

" "

" "

" "

SET HUD

" LATH

NEEDS TO BE RE-GPS THIS POINT

NOTE: AFTER THINKING ABOUT IT
I DECIDED THAT ALL POINTS
SET WITH COMPASS AND TAPES
I WILL NOT HAND CALC.
REFER TO RECORD CALCS
FOR FIELD WORK.

CAMP CROFT 7206
STAKE GRIDS

CAMP. CROFT 7206 STAKE GRID

1-7-97

1-27

C. STODDARD

MARK HOLLEY

SUN TO 613174

OVERCAST SOME LIGHT RAIN

CALM HD⁹ = 50°

STA TO STA	M. AZIMUTH	HD	DESC
90SW* 90NW	5-00-00	50 FT	SET LATH
90SW* 90SE	95-00-00	50 FT	" "
90SW* 90NE	50-00-00	70.71	" "
91SW* 91NW	5-00-00	50 FT	" "
91SW* 91SE	95-00-00	50 FT	" "
91SW* 91NE	50-00-00	70.71	" "
91NE 92SW	61-18-36	21.63	SET HUB
92SW 92NW	5-00-00	50 FT	SET LATH
92SW 92NE	50-00-00	70.71	" "
92SW 92SE	95-00-00	50 FT	" "
92NW 89SE	300-24-28	44.28	" "
89SE 89SW	275-00-00	50 FT	SET HUB
93SW* 93NW	5-00-00	50 FT	" LATH
93SW* 93SE	95-00-00	50 FT	" "
93NW 93NE	95-00-00	50 FT	" "
96SW* 96NW	5-00-00	50 FT	" "
96SW* 96SE	95-00-00	50 FT	" "
96SW* 96NE	50-00-00	70.71	" "
96SW* 95NE	211-33-54	33.51'	" "
96SW* 95NW	250-13-29	71.59'	" "
95NW 95SW	185-00-00	50 FT	" HUB
95NW 95SE	140-00-00	70.71'	" LATH
95NW 94SE	293-53-10	40.16	" "

CHECK DIST 92NW TO 92NE 50.1' TO 92SE 50.0'

CAMP CROFT 7206 STAKE GRIDS

1-7-97

SAME CONDITIONS

1-28

STA	TO STA	M. AZIMUTH	HD	DESC
94SW*	94NW	5-00-00	50 FT	SET LATH
94NW	94NE	95-00-00	50 FT	" "
94NE	94SE	185-00-00	50 FT	" "
157SW*	157NW	5-00-00	50 FT	" "
157SW*	157SE	95-00-00	50 FT	" "
157SW*	157NE	50-00-00	70.71'	" "
160SW*	160NW	5-00-00	50 FT	" "
160SW*	160NE	50-00-00	70.71'	" "
160SW*	160SE	95-00-00	50 FT	" "
160SW*	159NE	208-37-46	34.93'	" "
159NE	159SE	185-00-00	50 FT	" "
159NE	159NW	275-00-00	50 FT	" "
159NE	159SW	230-00-00	70.71	" "
158SW*	158NW	5-00-00	50 FT	" "
158SW*	158SE	95-00-00	50 FT	" "
158SE	158NE	5-00-00	50 FT	" "
152SW*	152NW	5-00-00	50 FT	" "
152SE*	152SW	275-00-00	50 FT	" 4003
152SE*	152NW	230-00-00	70.71'	" LATH
149SW*	149NW	5-00-00	50 FT	" "
149SW*	149NE	50-00-00	70.71	" "
149SW*	150NE	285-26-15	38.64	" "

MOVING SOUTH LINE TO NORTH LINE 152 SW* NOW 152 SE

Camp CPOFT 7206 STAKE GRIDS

1-7-97

SAME CONDITION

STA TO	STA	M. AZIMUTH	HD	DESC
150 NE	150 SE	185-00-00	50 FT	SET LATH
150 NE	150 NW	275-00-00	50 FT	" "
150 NE	150 SW	230-00-00	70-71'	" HUB
150 NW	150 SW	185-00-00	50 FT	" HUB
150 SE	151 NW	143-11-29	43.93'	" LATH
151 NW	151 SW	185-00-00	50 FT	" HUB
151 NW	151 NE	95-00-00	50 FT	" LATH
151 SW	151 SE	95-00-00	50 FT	" "

CAMP CROFT 7206
STAKE GRIDS
7206 GRID 2, CR 5

7206 GRD 2.CRS
 CAMP CROFT 7206 STAKE GRIDS
 T@ Lowry 6 #3306 BS Lowry 5
 N 1111079.9589 N 1111734.5510
 E 1763959.3401 E 1764568.7092
 BS AZ 42-57-03
 BS X 0-00-00 894.33(A)
 — (A)

1-8-97

131
 C. STODDARD
 MARK HOLLEY
 GTS 201 # HH0214
 PRISM POLE
 CLOUDY, CALM, 32°±

GRID	REC	ASBLT
178 SW	178	5001
178 NW	1178	5002
178 NE	2178	5003
178 SE	3178	5004
177 SW	177	5005
177 NW	1177	5006
177 NE	2177	5007
177 SE	3177	5008
180 SW	180	5009
180 NW	1180	5010
180 NE	2180	5011
180 SE	3180	5012
179 SW	179	5013
179 NW	1179	5014
179 NE	2179	5015
179 SE	3179	5016

STA	TO STA	MAG.	AZIMUTH	HD	DESC
139 SW	139 NW	5	00-00	50 FT	Lath Set
139 SW	139 NE	50	00-00	70.71	" "
139 SW	139 SE	95	00-00	50 FT	" "

NOTE: SEE PAGE 34
 FOR LOCATED CORNERS
 INFORMATION ON ALL
 STAKED GRIDS ~~ON THIS~~
~~PAGE AND~~ PAGE 32.

CAMP CROFT 7256 STAKE GRIDS

STA	TO STA	M. AZIMUTH	HD	DESC
125 SW	125 NW	5-00-00	50 FT	SET LATH
125 SW	125 NE	50-00-00	70.71'	" "
125 SW	125 SE	95-00-00	50 FT	" "
126 SW	126 NW	5-00-00	"	" "
126 SW	126 NE	50-00-00	70.71'	" "
126 SW	126 SE	95-00-00	50 FT	" "
138 SW	138 NW	5-00-00	"	" "
138 SW	138 NE	50-00-00	70.71	" "
138 SW	138 SE	95-00-00	50 FT	" "
137 NW	137 NE	95-00-00	"	" "
137 NW	137 SE	140-00-00	70.71'	" "
137 NW	137 SW	185-00-00	50 FT	" "
175 SW	175 NW	5-00-00	"	" "
175 SW	175 NE	50-00-00	70.71'	" "
175 SW	175 SE	95-00-00	50 FT	" "
174 SW	174 NW	5-00-00	"	" "
174 SW	174 NE	50-00-00	70.71	" "
174 SW	174 SE	95-00-00	50 FT	" "
173 SW	173 NW	5-00-00	"	" "
173 SW	173 NE	50-00-00	70.71	" "
173 SW	173 SE	95-00-00	50 FT	" "
176 SW	176 NW	5-00-00	"	" "
176 SW	176 NE	50-00-00	70.71	" "
176 SW	176 SE	95-00-00	50 FT	" "

1-8-97

SAME CONDITIONS

132

STA	TO STA	MAG. AZIMUTH	HD	DESC
123 SW	123 NW	5-00-00	50 FT.	SET LATH
123 SW	123 NE	50-00-00	70.71	" "
123 SW	123 SE	95-00-00	50 FT.	" "
124 SW	124 NW	5-00-00	"	" "
124 SW	124 NE	50-00-00	70.71'	" "
124 SW	124 SE	95-00-00	50 FT	" "
122 SW	122 NW	5-00-00	"	" "
122 SW	122 NE	50-00-00	70.71	" "
122 SW	122 SE	95-00-00	50 FT	" "
121 SW	121 NW	5-00-00	"	" "
121 SW	121 NE	50-00-00	70.71	" "
121 SW	121 SE	95-00-00	50 FT	" "
154 SW	154 NW	5-00-00	"	" "
154 SW	154 NE	50-00-00	70.71	" "
154 SW	154 SE	95-00-00	50 FT	" "
153 SW	153 NW	5-00-00	"	" "
153 SW	153 NE	50-00-00	70.71'	" "
153 SW	153 SE	95-00-00	50 FT	" "
155 SW	155 NW	5-00-00	"	" "
155 SW	155 NE	50-00-00	70.71	" "
155 SW	155 SE	95-00-00	50 FT	" "
140 SE	140 NE	5-00-00	"	" "
140 SE	140 SW	275-00-00	50 FT	" "
140 SE	140 NW	320-00-00	70.71	" "

CAMP CROFT 7206
STAKE & LOCATE GRIDS
7206 GRID 2. CAS

CAMP CROFT 7206 STR & LOCATE GRIDS 1-10-97
 X @ LOWRY 6 # 3306 BS LOWRY 5 # 3305
 N 1111079.9589 N 1111734.5510
 E 1763959.3401 E 1764568.7092
 BS AZ 42-57-03
 BS X 0-00-00 894.33 (R)
 894.31 (M)

SIDE SHOT

GRID	REC	ASBLT
155 SW	155	5017
121 SW	121	5018
122 SW	122	5019
124 SW	124	5020
123 SW	123	5021
173 SW	173	5022
126 SW	126	5023
125 SW	125	5024
v 153 SW	153	5025
v 154 SW	154	5026
v 128 SW	138	5027
v 140 SE	3140	5028

N 1111237.7666
 E 1763257.9158

X @ 173 SW #
 BS LOWRY 6 # 3306
 BS AZ 98-19-25
 BS X 0-00-00

1-34
 C. STODDARD X
 MARK HOLLEY P
 TOPCON GTS 201 HP0216
 PRISM POLE 5 TRI-BRACH
 SUUNTO 613174
 CLEAR BREEZY 32° ±
 SW WINDS 10-20 MPH

NOTE: V STAINS FOR
 SHOT WITH THE 25 FT
 ROD

302.6 (R)
 302.61 (M)

SIDE SHOT

GRID	REC	ASBLT
171 SW	174	5029
175 SW	175	5030
137 NW	1137	5031
176 SW	176	5032
127 NW	1127	5033
128 NW	1128	5034
141 NW	1141	5035
133 NW	1133	5036
129 NW	1129	5037

CAMP	CROFT	7206 STAKE	GRIDS	1-10-97
STA TO STA	M. AZIMUTH	HD	DESC.	
0127NW 127SW	185-00-00	50 FT	SET LATH	
" 127NW 127SE	140-00-00	70.71	" "	
" 127NW 127NE	95-00-00	50 FT	" "	
" 128NW 128SW	185-00-00	"	" "	
" 128NW 128SE	140-00-00	70.71	" "	
" 128NW 128NE	95-00-00	50 FT	" "	
" 141NW 141SW	185-00-00	"	" "	
" 141NW 141SE	140-00-00	70.71	" "	
" 141NW 141NE	95-00-00	50 FT	" "	
" 133NW 133SW	185-00-00	"	" "	
" 133NW 133SE	140-00-00	70.71	" "	
" 133NW 133NE	95-00-00	50 FT	" "	
" 129NW 129SW	185-00-00	"	" "	
" 129NW 129SE	140-00-00	70.71	" "	
" 129NW 129NE	95-00-00	50 FT	" "	
169SW* 169NW	5-00-00	"	" "	
169SW* 169NE	50-00-00	70.71	" "	
169SW* 169SE	95-00-00	50 FT	" "	
168SW* 168NW	5-00-00	"	" "	
168SW* 168NE	50-00-00	70.71	" "	
168SW* 168SE	95-00-00	50 FT	" "	
170SW* 170NW	5-00-00	"	" "	
170SW* 170NE	50-00-00	70.71	" "	
170SW* 170SE	95-00-00	"	" "	

1-35
 SAME CONDITIONS
 NOTE:
 □ = SHOT WITH GTS 201
 * = GPS POINT

STA TO STA	MAG. AZIMUTH	HD	DESC.
147SW* 147NW	5-00-00	50 FT	SET LATH
147SW* 147NE	50-00-00	70.71	" "
147SW* 147SE	95-00-00	50 FT	" "
148SW* 148NW	5-00-00	"	" "
148SW* 148NE	50-00-00	70.71	" "
148SW* 148SE	95-00-00	50 FT	" "
197SW* 197NW	5-00-00	"	" "
197SW* 197NE	50-00-00	70.71	" "
197SW* 197SE	95-00-00	50 FT	" "

CAMP CROFT TRAIL
STAKE GRIDS

CAMP CROFT 7206 STAKE GRIDS

1-13-97

7206 GRID 2. CRS

1-37

C. STODDARD

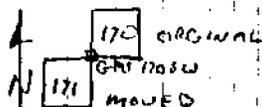
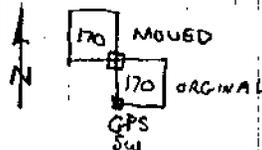
MARK HOLLEY

SUUNTO 613174

BI-POD, 200' TAPE

PRTLY CLDY, CALM 25°

STA TO	STA	M. AZIMUTH	HD	DESC	NOTES
178 SW	178 SW	185-00-00	50 FT	SET LATH	178 SW = 178 NW = 5001 178 SE = 178 NE = 5004 MOVED GRID 50' SOUTH
(5028) 140 SE	139 NE	291-30-00	76.70 ±	LOCATE LATH	139 NE = 5038
170 SE	170 SW	275-00-00	50 FT	SET LATH	170 NW = 170 SE NOW
170 SE	170 NW	320-00-00	70.71	" "	170 SE = 5039
170 SE	170 NE	5-00-00	50 FT	" "	
171 NE	171 SE	185-00-00	50 FT	" "	170 SW = 171 NE NOW
171 NE	171 SW	230-00-00	70.71	" HUB	171 NE = 5040
171 NE	171 NW	275-00-00	50 FT	" LATH	
171 NE	172 SW	99-30-00	61.00	SET HUB	172 SW = 5041
172 SW	172 NW	5-00-00	50 FT	SET LATH	
172 SW	172 NE	50-00-00	70.71	" "	
172 SW	172 SE	95-00-00	50 FT	" "	
168 SW	165 SW	272-30-00	106.60 ±	SET HUB	NEW 165 SW = 5042
165 SW	165 NW	5-00-00	50 FT	SET LATH	
165 SW	165 NE	50-00-00	70.71	" "	
165 SW	165 SE	95-00-00	50 FT	" "	



NOTE: ALL POINTS CALC'D,
MINUS 5° FOR TRUE
AZIMUTH

CAMP CROFT 7206 SET GRIDS

1-13-97

1-38
SAME CONDITIONS

STA TO STA	M. AZIMUTH	HD.	DESC	NOTES
168SW 166SW	82-30-00	103.90	SET HUB	NEW 166SW = 5043
166SW 166NW	5-00-00	50 FT	SET LATH	
166SW 166NE	50-00-00	70.71	" "	
166SW 166SE	95-00-00	50 FT	" "	
166SW 167NE	180-00-00	70.50	SET LATH	NEW 167NE = 5044
167NE 167SE	185-00-00	50 FT	SET LATH	
167NE 167SW	230-00-00	70.71	" HUB	
167NE 167NW	270-00-00	50 FT	" LATH	
200SW 200NW	5-00-00	50 FT	SET LATH	
200SW 200NE	50-00-00	70.71	" "	
200SW 200SE	95-00-00	50 FT	" "	
200SW 199NE	226-42-39	61.62	" "	
199NE 199SE	185-00-00	50 FT	SET LATH	
199NE 199SW	230-00-00	70.71	" HUB	
199NE 199NW	275-00-00	50 FT	" LATH	

CAMP CROFT 7206 STAKE GRIDS

1-13-97

1-39
SAME CONDITIONS

STA TO STA	M. AZIMUTH	HD	DESC	NOTES
197 SW 198 NE	229-05-26	44.55	SET LATH	
198 NE 198 SE	185-00-00	50 FT	SET LATH	
198 NE 198 SW	230-00-00	70.71	" HUB	
198 NE 198 NW	275-00-00	50 FT	" LATH	
196 SW 196 NW	5-00-00	50 FT	SET LATH	
196 SW 196 NE	50-00-00	70.71	" "	
196 SW 196 SE	95-00-00	50 FT	" "	
196 SW 193 SE	342-01-14	56.46	SET LATH	
193 SE 193 SW	275-00-00	50 FT	SET HUB	
193 SE 193 NW	320-00-00	70.71	" LATH	
193 SE 193 NE	5-00-00	50 FT	" "	
195 SW 195 NW	5-00-00	50 FT	SET LATH	
195 SW 195 NE	50-00-00	70.71	" "	
195 SW 195 SE	95-00-00	50 FT	" "	
195 SW 194 SW	332-55-04	79.08	SET HUB	
194 SW 194 NW	5-00-00	50 FT	SET LATH	
194 SW 194 NE	50-00-00	70.71	" "	
194 SW 194 SE	95-00-00	50 FT	" "	

CAMP CROFT 7206
STAKE GRIDS

Camp Croft 7206 STAKE GRIDS

1-14-97

1-41

C. STODDARD
 MARK HOLLEY
 SUUNTO 613174
 BI-POD, 200' TAPE
 CLEAR, CALM 28°-40°±

STA TO	STA	M. AZIMUTH	HD	DESC
52 SW	52 NW	5-00-00	50 FT	SET LATH
52 SW	52 NE	50-00-00	70.71	" "
52 SW	52 SE	95-00-00	50 FT	" "
52 SW	51 NE	268-07-06	58.42	SET LATH
52 SW	49 SE	315-18-51	86.56	" "
52 SW	50 SE	277-57-39	116.16	SET LATH
51 NE	51 SE	185-00-00	50 FT	SET LATH
51 NE	51 SW	230-00-00	70.71	" HUB
51 NE	51 NW	275-00-00	50 FT	" LATH
49 SE	49 SW	275-00-00	50 FT	SET HUB
49 SE	49 NE	320-00-00	70.71	" LATH
49 SE	49 NW	5-00-00	50 FT	" "
50 SE	50 SW	275-00-00	50 FT	SET HUB
50 SE	50 NW	320-00-00	70.71	" LATH
50 SE	50 NE	5-00-00	50 FT	" "

CAMP CROFT 7206 STAKE GRIDS

1-14-97

1-42
SAME CONDITIONS

STA TO STA	M. AZIMUTH	HD	DESC
73SW 73NW	5-00-00	50 FT	SET LATH
73SW 73NE	50-00-00	70.71	" "
73SW 73SE	95-00-00	50 FT	" "
73SW 74NE	241-43-30	38.28	SET LATH
74NE 74SE	185-00-00	50 FT	SET LATH
74NE 74SW	230-00-00	70.71	" HUB
74NE 74NW	275-00-00	50 FT	" LATH
74SE 75NW	146-08-48	46.23	SET LATH
75NW 75NE	95-00-00	50 FT	SET LATH
75NW 75SE	140-00-00	70.71	" "
75NW 75SW	185-00-00	50 FT	" HUB
75SE 76NW	160-41-44	34.02	SET LATH
76NW 76NE	95-00-00	50 FT	SET LATH
76NW 76SE	140-00-00	70.71	" "
76NW 76SW	185-00-00	50 FT	" HUB

CAMP CROFT 7206 STAKE GRIDS

1-14-97

1-43
SAME CONDITIONS

STA TO STA	M. AZimuth	HD	DESC	
53SW 53NW	5-00-00	50 FT	SET LATH	
53SW 53NE	50-00-00	70.71	" "	
53SW 53SE	95-00-00	50 FT	" "	
53SW 54NE	250-28-49	62.65	SET LATH	
53SW 56NW	159-09-20	71.11	" "	
56NW 56NE	95-00-00	50 FT	SET LATH	
56NW 56SE	140-00-00	70.71	" "	
56NW 56SW	185-00-00	50 FT	" HUB	
56SW 55NE	241-58-34	47.71	SET LATH	7206 GRID 2, CRS
56SW 55NE	288-30-00	63.20	SET LATH	NEW 55NE = 5045
55NE 55SE	185-00-00	50 FT	SET LATH	
55NE 55SW	230-00-00	70.71	" HUB	
55NE 55NW	275-00-00	50 FT	" LATH	
54NE 54SE	185-00-00	50 FT	SET LATH	
54NE 54SW	230-00-00	70.71	" HUB	
54NE 54NW	275-00-00	50 FT	" LATH	

144

CAMP CROFT 1926
STAKE GRIDS

CAMP CROFT 7206 STAKE GRIDS

1-15-97

1-45

STA TO	STA	M. AZIMUTH	HD	DESC
202SW	202NW	5-00-00	50 FT	SET LATH
202SW	202NE	50-00-00	70.71	" "
202SW	202SE	95-00-00	50 FT	" "
201SW	201NW	5-00-00	50 FT	SET LATH
201SW	201NE	50-00-00	70.71	" "
201SW	201SE	95-00-00	50 FT	" "
201SE	204NE	102-28-51	99.85	SET LATH
204NE	204SE	185-00-00	50 FT	SET LATH
204NE	204SW	230-00-00	70.71	" HUB
204NE	204NW	275-00-00	50 FT	" LATH
202SE	203NW	140-48-25	50.21	SET LATH
203NW	203NE	95-00-00	50 FT	SET LATH
203NW	203SE	140-00-00	70.71	" "
203NW	203SW	185-00-00	50 FT	" HUB
205SW	205NW	5-00-00	50 FT	SET LATH
205SW	205NE	50-00-00	70.71	" "
205SW	205SE	95-00-00	50 FT	" "

C. STODDARD CAT
 MARK HOLLEY D
 SUNDTO 613174
 B1-POD, 200 TAPE
 PRETTY CLOUDY, CALM 38°-45°

Camp Croft 7206 STAKE GRIDS

1-15-97

1-46
SAME CONDITIONS

STA TO STA	MAG. AZIMUTH	HD	DESC
205NW 183SE	350-25-33	103.33	SET LATH
205SE 208NW ^E	137-21-27	46.01	SET LATH
208NW 208NE	95-00-00	50 FT	SET LATH
208NW 208SE	140-00-00	70.71	" "
208NW 208SW	185-00-00	50 FT	" HUB
208NE 208SE	185-00-00	50 FT	SET LATH
208NE 208SW	230-00-00	70.71	" HUB
208NE 208NW	275-00-00	50 FT	" LATH
206SW 206NW	5-00-00	50 FT	SET LATH
206SW 206NE	50-00-00	70.71	" "
206SW 206SE	95-00-00	50 FT	" "
206SE 207NW	136-03-17	46.11	SET LATH
207NW 207NE	95-00-00	50 FT	SET LATH
207NW 207SE	140-00-00	70.71	" "
207NW 207SW	185-00-00	50 FT	" HUB
183SE 183SW	275-00-00	50 FT	SET HUB
183SE 183NW	320-00-00	70.71	" LATH
183SE 183NE	5-00-00	50 FT	" "

7206GRD2 CRS
CHANGING 208NW TO 208NE CORNER = 5046

1-47

CAMP CROFT 7206
STAKE GRIDS

CAMP CROFT 7206 STAKE GRIDS

1-16-97

1-48

STA TO STA	MAG. AZIMUTH	HD.	DESC
183 NE 184 SW	45-31-05	27.66	SET LATH
184 SW 181 NW	5-00-00	50 FT	SET LATH
184 SW 184 NE	50-00-00	70.71	" "
184 SW 184 SE	95-00-00	50 FT	" "
183 NW 182 SE	323-07-20	38.95	SET LATH
182 SE 182 SW	275-00-00	50 FT	SET HUB
182 SE 182 NW	320-00-00	70.71	" LATH
182 SE 182 NE	5-00-00	50 FT	" "
182 NE 181 SW	72-28-46	88.77	SET HUB
181 SW 181 NW	5-00-00	50 FT	SET HUB
181 SW 181 NE	50-00-00	70.71	" "
181 SW 181 SE	95-00-00	50 FT	" "
229 SW 229 NW	5-00-00	50 FT	SET LATH
229 SW 229 NE	50-00-00	70.71	" "
229 SW 229 SE	95-00-00	50 FT	" "
229 SW 230 NE	210-33-36	25.50	SET LATH

C. STODDARD
 MARK HOLLEY
 SOUNTO GIBBY
 BI-POD, 200' TAPE
 PARTLY CLOUDY, BREEZY,
 SOME FOG, WET 40° ±

CAMP CROFT 7206 STAKE GRIDS

H6-97

1-49
SAME CONDITIONS

STA TO STA	MAG. AZIMUTH	HD	DESC
230NE 230SE	185-00-00	50 FT	SET LATH
230NE 230SW	230-00-00	70.71	" HUB
230NE 230NW	275-00-00	50 FT	" LATH
230SE 231NW	104-51-57	23.35	SET LATH
231NW 231NE	95-00-00	50 FT	SET LATH
231NW 231SE	140-00-00	70.71	" "
231NW 231SW	185-00-00	50 FT	" HUB
231NE 232SW	67-06-10	19.24	SET HUB
232SW 232NW	5-00-00	50 FT	SET LATH
232SW 232NE	50-00-00	70.71	" "
232SW 232SE	95-00-00	50 FT	" "
225SW 225NW	5-00-00	50 FT	SET LATH
225SW 225NE	50-00-00	70.71	" "
225SW 225SE	95-00-00	50 FT	" "
225SW 226NE	234-23-55	36.88	SET LATH
226NE 226SE	185-00-00	50 FT	SET LATH
226NE 226SW	230-00-00	70.71	" HUB
226NE 226NE	275-00-00	50 FT	" LATH

CAMP CROFT 7216 STAKE GRIDS

1-16-97

1-50
SAME CONDITIONS

STA TO	STA	MAG. AZIMUTH	H.D	DESC
227SW	227NW	5-00-00	50 FT	SET LATH
227SW	227NE	50-00-00	70.71	" "
227SW	227SE	95-00-00	50 FT	" "
228SW	228NW	5-00-00	50 FT	SET LATH
228SW	228NE	50-00-00	70.71	" "
228SW	228SE	95-00-00	50 FT	" "

1-51

CAMP CROFT 7206
STAKE GRIDS

CAMP CROFT 7206 STAKE GRIDS

1-17-97

1-52

STA TO	STA	MAG. AZIMUTH	HD	DESC	NOTE: SUBSTRACT 5° FOR TRUE ASIMUTH CALCULATIONS
23SW	22SE	304-10-03	49.24	SET LATH	
22SE	22SW	275-00-00	50 FT	SET HUB	
22SE	22NW	320-00-00	70.71	" LATH	
22SE	22NE	5-00-00	50 FT	" "	
(5033)					7206 GRID 2. CR5:
127NW	142NW	73-40-00	71.35'	SET LATH	142 NW NEW = 5047
142NW	142NE	95-00-00	50 FT	SET LATH	
142NW	142SE	140-00-00	70.71	" "	
142NW	142SW	185-00-00	50 FT	" HUB	
(5036)					7206 GRID 2. CR5
133NW	136NW	46-30-00	121.50'	SET LATH	136 NW NEW = 5048
133NW	135NW	118-00-00	109.60'	SET LATH	135 NW NEW = 5049
133NW	134NE	153-30-00	101.00'	SET LATH	134 NE NEW = 5050
134NE	134E	185-00-00	50 FT	SET LATH	
134NE	134SW	230-00-00	70.71	" HUB	
134NE	134NE	275-00-00	50 FT	" LATH	

C. STODDARD
 MARK HOLLEY
 SUNKO 613174
 BI-POD, 200' TAPE
 CLEAR, BREEZY, 19°-30°

CAMP CROFT 7206 STAKE GRIDS

1-17-97

1-53

SAME CONDITIONS

NOTE: SUBSTRACT 5°
FOR TRUE AZIMUTH
CALCULATIONS.

STA TO	STA	MAG AZIMUTH	HD	DESC
135NW	135NE	95-00-00	50 FT	SET LATH
135NW	135SE	140-00-00	70.71	" "
135NW	135SW	185-00-00	50 FT	" HUB
136NW	136NE	95-00-00	50 FT	SET LATH
136NW	136SE	140-00-00	70.71	" "
136NW	136SW	185-00-00	50 FT	" HUB
(5037)				
129NW	132NW	45-00-00	127.20'	SET LATH
129NW	131NE	197-00-00	81.10'	SET LATH
129NW	130NE	230-00-00	135.00'	SET LATH
132NW	132NE	95-00-00	50 FT	SET LATH
132NW	132SE	140-00-00	70.71	" "
132NW	132SW	185-00-00	50 FT	" HUB
131NE	131SE	185-00-00	50 FT	SET LATH
131NE	131SW	230-00-00	70.71	" HUB
131NE	131NW	275-00-00	50 FT	" LATH
130NE	130SE	185-00-00	50 FT	SET LATH
130NE	130SW	230-00-00	70.71	" HUB
130NE	130NW	275-00-00	50 FT	" LATH

7206 GRIDZ. CR5
132NW NEW = 5051
131NE NEW = 5052
130NE NEW = 5053

APPENDIX C
SITE CHARACTERIZATION DATA

APPENDIX C SITE CHARACTERIZATION DATA

This appendix includes a list of the items excavated from OOU6 at the former CCATF including detailed site characterization data and the EM-61 geophysical investigation data as manually recorded in the field. The list contains the anomaly identification number and description of each recovered item. The first and second digits of the anomaly identification number identify the anomaly as coming from OOU6, CCATF. The third, fourth, and fifth digits of the anomaly identification number identify the polygon (grid) number at the site where the anomaly was located. The final three digits of the anomaly identification number are the unique identifier numbers of the individual anomaly. To allow for identification of objects, an object ID column was incorporated into this database. The object ID is the last two digits added to the anomaly ID. A summary of OE items recovered and other investigation attributes (for example, depth, weight, and the date these items were rendered safe) is provided at the beginning of this appendix.

**CCATF OOU6 OE INVESTIGATION/ENGINEERING DESIGN
LIST OF POTENTIALLY HAZARDOUS OE ITEMS***

SECTOR	ITEM ID	GRID ID	GIS ID	ANOMALY #	DATE OF DEMOLITION	DEPTH FOUND	WEIGHT
2	105BE	48	9904801001	10	2/27/97	6" tail/24" nose	25 lbs.
2	105BE	61	9906100602	6	2/27/97	8", horizontal	25 lbs.
2	105BE	66	9906601001	10	2/27/97	12", horizontal	25 lbs.
2	105BE	81	9908101101	11	2/27/97	6", horizontal	25 lbs.
2	105BE	83	9908300101	1	2/27/97	4", horizontal	25 lbs.
2	105BE	83	9908300502	5	2/27/97	4" tail/nose at surface	25 lbs.
2	105BE	85	9908500302	3	2/27/97	3", horizontal	25 lbs.
2	105BE	110	9911001002	10	2/27/97	6", horizontal	25 lbs.
4	105HE	131	9913100201	2	2/18/97	18" tail/6" nose	25 lbs.
4	105BE	133	9913301101	11	2/27/97	24", horizontal	25 lbs.
4	105BE	137	9913700101	1	2/27/97	24", horizontal	25 lbs.
4	105BE	155	9915500302	3	2/27/97	4", horizontal	25 lbs.
4	105BE	166	9916600401	4	2/27/97	24", horizontal	25 lbs.
4	105BE	174	9917400101	1	2/27/97	24", horizontal	25 lbs.
2	105BE	205	9920500701	7	2/27/97	4", horizontal	25 lbs.

* Sorted by sector, ordnance items, and depth.

105BE = 105mm illumination/smoke round with mechanical timer (inert)

105HE = 105mm High Explosive round with point detonating fuze (live)

SECTORS

SECTOR CODE	SECTOR NAME
1	Roads and Site Operations Building
2	Pine Farm
3	Landfill and Composting Areas
4	Pond
5	Wetlands/Streams
6	Natural Brush/Forest
7	EE/CA Grid 87
8	Uninvestigated Area

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OE ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Pinefarm	62	99062014	9906201401							0.5	lbs		Fragment
Pinefarm	61	99061001	9906100101							0.5	lbs		Fragment
Pinefarm	61	99061003	9906100301							2.5	lbs		Fragment
Pinefarm	61	99061005	9906100501							0.25	lbs		Fragment
Pinefarm	61	99061006	9906100601							0.25	lbs		Fragment
Pinefarm	61	99061006	9906100602	1764696' 3"	1112838' 3"	105 mm BE/Inert			8 in.	25	lbs		Ordnance
Pinefarm	61	99061007	9906100701							0.5	lbs		Fragment
Pinefarm	64	99064003	9906400301							0.5	lbs		Fragment
Pinefarm	64	99064005	9906400501							0.25	lbs		Fragment
Pinefarm	64	99064006	9906400601							0.25	lbs		Fragment
Pinefarm	64	99064009	9906400901							0.25	lbs		Fragment
Pinefarm	64	99064010	9906401001							0.5	lbs		Fragment
Pinefarm	64	99064011	9906401101							0.5	lbs		Fragment
Pinefarm	64	99064012	9906401201							0.25	lbs		Fragment
Pinefarm	31	99031003	9903100301							0.5	lbs		Fragment
Pinefarm	31	99031004	9903100401							0.5	lbs		Fragment
Pinefarm	31	99031006	9903100601							0.5	lbs		Fragment
Pinefarm	31	99031007	9903100701							0.25	lbs		Fragment
Pinefarm	31	99031008	9903100801							0.25	lbs		Fragment
Pinefarm	31	99031011	9903101101							0.25	lbs		Fragment
Pinefarm	31	99031012	9903101201							0.5	lbs		Fragment
Natural Brush/Forest	18	99018001	9901800101							1	lbs		Fragment
Natural Brush/Forest	18	99018002	9901800201							0.5	lbs		Fragment
Natural Brush/Forest	20	99020001	9902000101							0.5	lbs		Fragment
Natural Brush/Forest	20	99020002	9902000201							0.5	lbs		Fragment
Natural Brush/Forest	27	99027001	9902700101							0.3	lbs		Fragment
Natural Brush/Forest	27	99027002	9902700201							0.1	lbs		Fragment
Natural Brush/Forest	26	99026001	9902600101							0.3	lbs		Fragment
Natural Brush/Forest	26	99026002	9902600201							0.4	lbs		Fragment
Natural Brush/Forest	26	99026004	9902600401							0.5	lbs		Fragment
Natural Brush/Forest	26	99026005	9902600501							0.3	lbs		Fragment
Natural Brush/Forest	26	99026006	9902600601							0.15	lbs		Fragment
Natural Brush/Forest	14	99014001	9901400101							0.15	lbs		Fragment
Natural Brush/Forest	14	99014002	9901400102							0.15	lbs		Fragment
Natural Brush/Forest	14	99014002	9901400201							0.15	lbs		Fragment
Natural Brush/Forest	14	99014002	9901400202							0.15	lbs		Fragment
Natural Brush/Forest	14	99014004	9901400401							0.15	lbs		Fragment
Natural Brush/Forest	14	99014005	9901400501							0.15	lbs		Fragment
Natural Brush/Forest	14	99014005	9901400502							0.15	lbs		Fragment
Natural Brush/Forest	14	99014006	9901400601							0.15	lbs		Fragment
Natural Brush/Forest	14	99014006	9901400602							0.15	lbs		Fragment
Natural Brush/Forest	14	99014006	9901400603							0.15	lbs		Fragment
Natural Brush/Forest	14	99014006	9901400604							0.5	lbs		Fragment
Pinefarm	85	99085007	9908500701							0.25	lbs		Fragment
Pinefarm	85	99085008	9908500801										
Pinefarm	85	99085009								0.5	lbs		Fragment
Pinefarm	85	99085011	9908501101							0.25	lbs		Fragment
Pinefarm	85	99085012	9908501201										

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH	DEPTH UNITS	WEIGHT	WEIGHT UNITS	EXPLOSIVE	OBJ NAME
Pinefarm	85	99085013	9908501301										
Pinefarm	85	99085015	9908501501							0.25	lbs		Fragment
Pinefarm	85	99085017	9908501701							0.25	lbs		Fragment
Pinefarm	85	99085019	9908501901							0.25	lbs		Fragment
Pinefarm	88	99088001								0.25	lbs		Fragment
Pinefarm	88	99088002	9908800201										
Pinefarm	88	99088005								0.5	lbs		Fragment
Pinefarm	88	99088006											
Pinefarm	88	99088007											
Pinefarm	88	99088008	9908800901										
Pinefarm	87	99087001	9908700101							0.25	lbs		Fragment
Pinefarm	87	99087002	9908700201							0.5	lbs		Fragment
Pinefarm	87	99087004	9908700401							0.25	lbs		Fragment
Pinefarm	87	99087005	9908700501							0.25	lbs		Fragment
Pinefarm	87	99087006	9908700601							0.25	lbs		Fragment
Pinefarm	86	99086003	9908600301							0.5	lbs		Fragment
Pinefarm	86	99086004	9908600401							0.25	lbs		Fragment
Pinefarm	86	99086006	9908600601							0.25	lbs		Fragment
Pinefarm	86	99086008	9908600801							0.25	lbs		Fragment
Pinefarm	86	99086010	9908601001							2.5	lbs		Fragment
Pinefarm	62	99082001	9908200101							0.25	lbs		Fragment
Pinefarm	62	99082002	9908200201			Small frag around excav.				1	lbs		Fragment
Pinefarm	62	99082004	9908200401			Small frag around excav.				1	lbs		Fragment
Pinefarm	62	99082005	9908200501			Small frag around excav.				0.5	lbs		Fragment
Pinefarm	62	99082006	9908200601			Small frag around excav.				0.25	lbs		Fragment
Pinefarm	62	99082007	9908200701			Small frag around excav.				0.5	lbs		Fragment
Pinefarm	62	99082009	9908200901			Small frag around excav.				0.25	lbs		Fragment
Pinefarm	62	99082010	9908201001			Small frag around excav.				2	lbs		Fragment
Pinefarm	62	99082011	9908201101			Small frag around excav.				1	lbs		Fragment
Pinefarm	62	99082012	9908201201							0.5	lbs		Fragment
Pinefarm	62	99082013								3	lbs		Fragment
Pinefarm	85	99085002	9908500201										
Pinefarm	85	99085003	9908500301							0.25	lbs		Fragment
Pinefarm	85	99085003	9908500302	1764286' 1	1112647' 8"	105 mm BE/Inert				0.25	lbs		Fragment
Pinefarm	85	99085005	9908500501					3 in.		25	lbs		Ordnance
Natural Brush/Forest	94	99094012	9909401201							0.25	lbs		Fragment
Natural Brush/Forest	93	99093001	9909300101							1	lbs		Fragment
Natural Brush/Forest	93	99093002								0.25	lbs		Fragment
Natural Brush/Forest	93	99093004	9909300401										
Natural Brush/Forest	93	99093006	9909300601							0.5	lbs		Fragment
Natural Brush/Forest	93	99093008	9909300801							0.25	lbs		Fragment
Natural Brush/Forest	93	99093009	9909300901			Fuze				1	lbs		Fragment
Natural Brush/Forest	93	99093011	9909301101							2	lbs		Fragment
Uninvestigated Area	96	99096001								0.25	lbs		Fragment
Natural Brush/Forest	238	99238001	9923800101			Barbed wire				1	lbs		Scrap
Natural Brush/Forest	238	99238002	9923800201			Barbed wire				2	lbs		Scrap
Natural Brush/Forest	238	99238003	9923800301							0.5	lbs		Fragment
Natural Brush/Forest	238	99238004	9923800401			Barbed wire				0.25	lbs		Scrap

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								UNITS	UNITS	UNITS		
Natural Brush/Forest	237	99237002	9923700201			Barbed wire				0.25	lbs	Scrap
Natural Brush/Forest	237	99237003	9923700301			Barbed wire				0.25	lbs	Scrap
Natural Brush/Forest	237	99237004	9923700401			Barbed wire				0.25	lbs	Scrap
Natural Brush/Forest	292	99292001	9929200101							1.5	lbs	Scrap
Natural Brush/Forest	292	99292003	9929200301							0.5	lbs	Scrap
Natural Brush/Forest	292	99292004										
Natural Brush/Forest	292	99292005										Magnetic Rock
Natural Brush/Forest	291	99291001	9929100101			Magnetic Rock						Magnetic Rock
Natural Brush/Forest	291	99291002	9929100201			Magnetic Rock						Magnetic Rock
Natural Brush/Forest	291	99291004	9929100401			Magnetic Rock						Magnetic Rock
Natural Brush/Forest	290	99290001	9929000101			Magnetic Rock						Magnetic Rock
Natural Brush/Forest	290	99290002	9929000201			Magnetic Rock						Magnetic Rock
Natural Brush/Forest	290	99290003	9929000301			Magnetic Rock						Magnetic Rock
Natural Brush/Forest	289	99289001	9928900101			Magnetic Rock				5	lbs	Scrap
Natural Brush/Forest	280	99280001	9928000101									Soil Layer
Natural Brush/Forest	280	99280003	9928000301			Soil layer						
Natural Brush/Forest	280	99280004										Soil Layer
Natural Brush/Forest	280	99280005	9928000501			Soil layer						
Natural Brush/Forest	94	99094006	9909400601							2.25	lbs	Fragment
Natural Brush/Forest	94	99094008	9909400801							1	lbs	Fragment
Natural Brush/Forest	94	99094009	9909400901							3	lbs	Fragment
Natural Brush/Forest	11	99011005	9901100501							0.25	lbs	Fragment
Natural Brush/Forest	11	99011008	9901100801							0.5	lbs	Fragment
Natural Brush/Forest	11	99011009	9901100901							0.5	lbs	Fragment
Natural Brush/Forest	11	99011010	9901101001							0.5	lbs	Fragment
Natural Brush/Forest	11	99011012	9901101201							0.75	lbs	Fragment
Natural Brush/Forest	11	99011013	9901101301							0.5	lbs	Fragment
Natural Brush/Forest	11	99011014	9901101401							0.25	lbs	Fragment
Natural Brush/Forest	89	99089001	9908900101							0.5	lbs	Fragment
Natural Brush/Forest	89	99089003	9908900301							0.5	lbs	Fragment
Natural Brush/Forest	89	99089004	9908900401							0.5	lbs	Fragment
Natural Brush/Forest	89	99089005	9908900501							0.25	lbs	Fragment
Natural Brush/Forest	9	99090002	9909000201							0.25	lbs	Fragment
Natural Brush/Forest	9	99090003	9909000301							0.5	lbs	Fragment
Natural Brush/Forest	9	99090004	9909000401							0.5	lbs	Fragment
Natural Brush/Forest	90	99090001	9909000201							0.25	lbs	Fragment
Natural Brush/Forest	90	99090004	9909000501							0.5	lbs	Fragment
Natural Brush/Forest	90	99090005	9909000801							0.25	lbs	Fragment
Natural Brush/Forest	90	99090007	9909000801							0.5	lbs	Fragment
Natural Brush/Forest	90	99090008	9909000801									
Natural Brush/Forest	91	99091002								0.25	lbs	Fragment
Natural Brush/Forest	91	99091003	9909100301									
Natural Brush/Forest	91	99091005										Fragment
Natural Brush/Forest	91	99091008	9909100801							0.5	lbs	Fragment
Natural Brush/Forest	91	99091009	9909100901							0.5	lbs	Fragment
Natural Brush/Forest	91	99091010	9909101001							1.5	lbs	Scrap
Natural Brush/Forest	91	99091012	9909101201									

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Natural Brush/Forest	92	99092002	9909200201										
Natural Brush/Forest	94	99094001	9909400101							0.5	lbs		Fragment
Natural Brush/Forest	94	99094002	9909400201							1	lbs		Fragment
Natural Brush/Forest	94	99094004	9909400401							0.5	lbs		Fragment
Natural Brush/Forest	11	99011003								0.25	lbs		Fragment
Natural Brush/Forest	11	99011004	9901100301										
Pinefarm	48	99048014	9904801401							0.5	lbs		Fragment
Pinefarm	48	99048015	9904801501			Surface Banding Cut Up Everywhere							Scrap
Pinefarm	48	99048016	9904801601							0.5	lbs		Fragment
Pinefarm	48	99048018	9904801801			Surface Banding Cut Up Everywhere							Scrap
Pinefarm	48	99048019	9904801901							0.5	lbs		Fragment
Pinefarm	48	99048020	9904802001							0.25	lbs		Fragment
Pinefarm	48	99048021								0.25	lbs		Fragment
Pinefarm	48	99048023	9904802301										
Pinefarm	48	99048024	9904802401							0.25	lbs		Fragment
Pinefarm	48	99048025	9904802501							0.5	lbs		Fragment
Pinefarm	48	99048026	9904802601							0.5	lbs		Fragment
Pinefarm	48	99048027	9904802701							2	lbs		Fragment
Pinefarm	48	99048029	9904802901							0.25	lbs		Fragment
Pinefarm	48	99048030	9904803001							0.5	lbs		Scrap
Pinefarm	48	99048031	9904803101							1	lbs		Fragment
Pinefarm	48	99048032	9904803201							0.5	lbs		Fragment
Pinefarm	47	99047002	9904700201							0.5	lbs		Fragment
Pinefarm	47	99047003	9904700301							0.25	lbs		Fragment
Pinefarm	47	99047006	9904700601							0.25	lbs		Fragment
Pinefarm	47	99047007	9904700701							0.25	lbs		Fragment
Pinefarm	47	99047009	9904700901							0.5	lbs		Fragment
Pinefarm	47	99047011	9904701101							0.5	lbs		Fragment
Pinefarm	47	99047013	9904701301							0.25	lbs		Fragment
Pinefarm	47	99047014	9904701401							0.25	lbs		Fragment
Pinefarm	47	99047016	9904701601							0.25	lbs		Fragment
Pinefarm	47	99047018								0.25	lbs		Fragment
Pinefarm	47	99047020	9904702001										
Pinefarm	47	99047021	9904702101							0.25	lbs		Fragment
Pinefarm	47	99047024	9904702401							0.25	lbs		Fragment
Pinefarm	47	99047025	9904702501							0.5	lbs		Fragment
Pinefarm	47	99047027	9904702701							0.5	lbs		Fragment
Pinefarm	47	99047027	9904702702							0.5	lbs		Fragment
Pinefarm	47	99047028	9904702801							0.5	lbs		Scrap
Pinefarm	48	99048010	9904801001	1784026' 7	1113144' 3"	105 mm BE/Inert			6 in.	0.5	lbs		Fragment
Pinefarm	48	99048011	9904801101							25	lbs		Ordnance
Pinefarm	48	99048012	9904801201							0.25	lbs		Fragment
Pinefarm	48	99048013	9904801301			Surface Banding Cut Up Everywhere				0.5	lbs		Fragment
Natural Brush/Forest	280	99260010	9926001001										Scrap
Natural Brush/Forest	280	99260012	9926001201							1	lbs		Scrap
Natural Brush/Forest	257	99257001	9925700101							5	lbs		Scrap
Natural Brush/Forest	257	99257002								0.25	lbs		Fragment
Natural Brush/Forest	257	99257003	9925700301										
										0.5	lbs		Fragment

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	257	99257006											
Natural Brush/Forest	257	99257007											
Natural Brush/Forest	257	99257008											
Natural Brush/Forest	257	99257009											
Natural Brush/Forest	258	99258001											Soil Layer
Natural Brush/Forest	258	99258002	9925800201			Soil layer				0.25	lbs		Fragment
Natural Brush/Forest	258	99258005	9925800501							0.25	lbs		Fragment
Natural Brush/Forest	258	99258006	9925800601							0.25	lbs		Fragment
Natural Brush/Forest	258	99258007	9925800701										
Natural Brush/Forest	258	99258010								0.25	lbs		Fragment
Natural Brush/Forest	258	99258012	9925801201										
Natural Brush/Forest	259	99259001											
Natural Brush/Forest	259	99259002											
Natural Brush/Forest	259	99259005											
Natural Brush/Forest	259	99259006											Soil Layer
Natural Brush/Forest	259	99259008	9925900801							0.25	lbs		Fragment
Landfill and Composit	100	99100001	9910000101							1	lbs		Fragment
Landfill and Composit	100	99100002	9910000201			Fuze				1	lbs		Fragment
Pinefarm	48	99048002	9904800201							0.5	lbs		Fragment
Pinefarm	48	99048003	9904800301							0.5	lbs		Fragment
Pinefarm	48	99048004	9904800401							1	lbs		Fragment
Pinefarm	48	99048005	9904800501							0.25	lbs		Fragment
Pinefarm	48	99048007	9904800701										
Pinefarm	48	99048008								0.5	lbs		Fragment
Pinefarm	48	99048009	9904800901										
Natural Brush/Forest	260	99260006											
Natural Brush/Forest	260	99260007											
Natural Brush/Forest	260	99260009								0.25	lbs		Fragment
Natural Brush/Forest	235	99235003	9923500301							0.25	lbs		Fragment
Natural Brush/Forest	235	99235004	9923500401							0.25	lbs		Fragment
Natural Brush/Forest	235	99235006	9923500601							0.5	lbs		Fragment
Natural Brush/Forest	235	99235007	9923500701							1	lbs		Fragment
Natural Brush/Forest	235	99235008	9923500801							0.25	lbs		Fragment
Natural Brush/Forest	234	99234001	9923400101							0.25	lbs		Fragment
Natural Brush/Forest	234	99234003	9923400301							0.25	lbs		Fragment
Natural Brush/Forest	234	99234004	9923400401							0.25	lbs		Fragment
Natural Brush/Forest	234	99234005	9923400501							0.25	lbs		Fragment
Natural Brush/Forest	234	99234006	9923400601							0.25	lbs		Fragment
Natural Brush/Forest	234	99234008	9923400801							0.25	lbs		Fragment
Natural Brush/Forest	234	99234009	9923400901							0.25	lbs		Fragment
Natural Brush/Forest	234	99234010	9923401001							1.5	lbs		Fragment
Natural Brush/Forest	234	99234011	9923401101							0.5	lbs		Fragment
Natural Brush/Forest	234	99234013	9923401301							0.25	lbs		Fragment
Natural Brush/Forest	234	99234014	9923401401							0.25	lbs		Fragment
Natural Brush/Forest	234	99234015	9923401501							0.25	lbs		Fragment
Natural Brush/Forest	233	99233002	9923300201							0.25	lbs		Fragment
Natural Brush/Forest	233	99233003	9923300301							0.25	lbs		Fragment
Natural Brush/Forest	233	99233005	9923300501							0.25	lbs		Fragment

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Natural Brush/Forest	233	99233006	9923300901										
Natural Brush/Forest	233	99233009	9923300901										
Natural Brush/Forest	233	99233010	9923301001							0.25	lbs		Fragment
Natural Brush/Forest	233	99233011	9923301101							0.25	lbs		Fragment
Natural Brush/Forest	233	99233013	9923301301							0.25	lbs		Fragment
Natural Brush/Forest	233	99233015	9923301501							0.5	lbs		Fragment
Natural Brush/Forest	233	99233017	9923301701							0.25	lbs		Fragment
Natural Brush/Forest	233	99233018	9923301801							0.25	lbs		Fragment
Natural Brush/Forest	260	99260001	9926000101							0.25	lbs		Fragment
Natural Brush/Forest	260	99260003	9926000301			Magnetic Rock				0.25	lbs		Fragment
Natural Brush/Forest	260	99260005				Soil layer							Magnetic Rock
Natural Brush/Forest	236	99236018	9923601801										Soil Layer
Natural Brush/Forest	236	99236020	9923602001										
Natural Brush/Forest	235	99235002	9923500201							0.25	lbs		Fragment
Natural Brush/Forest	247	99247006	9924700601							0.25	lbs		Fragment
Natural Brush/Forest	247	99247007								0.25	lbs		Fragment
Natural Brush/Forest	247	99247009								0.5	lbs		Fragment
Natural Brush/Forest	248	99248002	9924800201										
Natural Brush/Forest	248	99248004	9924800401										
Natural Brush/Forest	248	99248005	9924800501							0.25	lbs		Fragment
Natural Brush/Forest	272	99272001								1	lbs		Fragment
Natural Brush/Forest	271	99271001	9927100101							0.5	lbs		Fragment
Natural Brush/Forest	252	99252001				Fuze							
Natural Brush/Forest	252	99252003								1	lbs		Fragment
Natural Brush/Forest	251	99251001											
Natural Brush/Forest	251	99251002											
Natural Brush/Forest	251	99251003	9925100301										
Natural Brush/Forest	251	99251004	9925100401										
Natural Brush/Forest	251	99251006	9925100601							0.5	lbs		Fragment
Natural Brush/Forest	249	99249002	9924900201							1	lbs		Fragment
Natural Brush/Forest	250	99250001	9925000101							1	lbs		Scrap
Natural Brush/Forest	250	99250003	9925000301							0.25	lbs		Fragment
Natural Brush/Forest	250	99250004	9925000401							1	lbs		Fragment
Natural Brush/Forest	250	99250005	9925000501							0.25	lbs		Fragment
Natural Brush/Forest	236	99236003								0.25	lbs		Fragment
Natural Brush/Forest	236	99236004	9923600401							1	lbs		Scrap
Natural Brush/Forest	236	99236005	9923600501										
Natural Brush/Forest	236	99236006								0.25	lbs		Fragment
Natural Brush/Forest	236	99236009	9923600901							0.25	lbs		Fragment
Natural Brush/Forest	236	99236011	9923601101										
Natural Brush/Forest	236	99236012								0.25	lbs		Fragment
Natural Brush/Forest	236	99236015								0.25	lbs		Fragment
Natural Brush/Forest	236	99236016											
Natural Brush/Forest	236	99236018	9923601801										
Natural Brush/Forest	247	99247003											
Natural Brush/Forest	247	99247004	9924700401							0.25	lbs		Fragment
Natural Brush/Forest	247	99247005											
Landfill and Compositi	60	99060006	9906000601							0.5	lbs		Fragment
										0.5	lbs		Fragment

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH	WEIGHT		EXPLOSIVE	OBJ NAME
									UNITS	UNITS		
									0.25	lbs		Fragment
									0.25	lbs		Fragment
Landfill and Compositin	80	99080007	9908000701						0.25	lbs		Fragment
Landfill and Compositin	78	99078001	9907800101						0.25	lbs		Fragment
Landfill and Compositin	78	99078002	9907800201						0.25	lbs		Fragment
Landfill and Compositin	78	99078004	9907800401						0.5	lbs		Fragment
Landfill and Compositin	78	99078005	9907800501						0.25	lbs		Fragment
Landfill and Compositin	78	99078006	9907800601						0.25	lbs		Fragment
Landfill and Compositin	78	99078008	9907800801						0.25	lbs		Fragment
Landfill and Compositin	77	99077001	9907700101						0.25	lbs		Fragment
Landfill and Compositin	77	99077002	9907700201						0.25	lbs		Fragment
Landfill and Compositin	77	99077003	9907700301						0.25	lbs		Fragment
Natural Brush/Forest	212	99212002	9921200201						0.25	lbs		Fragment
Natural Brush/Forest	212	99212003	9921200301						0.25	lbs		Fragment
Natural Brush/Forest	212	99212004	9921200401						0.25	lbs		Fragment
Natural Brush/Forest	212	99212005	9921200501						0.5	lbs		Fragment
Natural Brush/Forest	212	99212008	9921200801						0.25	lbs		Fragment
Natural Brush/Forest	212	99212010	9921201001						0.25	lbs		Fragment
Natural Brush/Forest	212	99212011	9921201101						0.25	lbs		Fragment
Natural Brush/Forest	212	99212012	9921201201						0.25	lbs		Fragment
Natural Brush/Forest	212	99212015	9921201501						0.25	lbs		Fragment
Natural Brush/Forest	212	99212018	9921201801						0.25	lbs		Fragment
Natural Brush/Forest	212	99212018	9921201801						1	lbs		Fragment
Natural Brush/Forest	245	99245002	9924500201									
Natural Brush/Forest	245	99245004							0.25	lbs		Fragment
Natural Brush/Forest	245	99245005	9924500501						0.5	lbs		Fragment
Natural Brush/Forest	245	99245007	9924500701						0.5	lbs		Fragment
Natural Brush/Forest	246	99246001	9924600101						0.5	lbs		Fragment
Natural Brush/Forest	246	99246003	9924600301									
Natural Brush/Forest	246	99246004							0.25	lbs		Fragment
Natural Brush/Forest	246	99246005	9924600501									
Natural Brush/Forest	247	99247001							0.5	lbs		Fragment
Landfill and Compositin	80	99080001	9908000101									
Landfill and Compositin	80	99080002							0.25	lbs		Fragment
Landfill and Compositin	80	99080003	9908000301			Fuze body			0.5	lbs		Fragment
Pond	135	99135012	9913501201						0.5	lbs		Fragment
Pond	135	99135013	9913501301						0.25	lbs		Scrap
Pond	135	99135014	9913501401									
Pond	134	99134001							0.25	lbs		Fragment
Pond	134	99134002	9913400201						0.5	lbs		Fragment
Pond	134	99134003	9913400301						0.25	lbs		Scrap
Pond	134	99134004	9913400401									
Pond	134	99134006							0.5	lbs		Scrap
Pond	134	99134007	9913400701						0.5	lbs		Scrap
Pond	134	99134008	9913400801						0.75	lbs		Fragment
Pond	134	99134009	9913400901						0.5	lbs		Fragment
Pond	133	99133002	9913300201						0.25	lbs		Fragment
Pond	133	99133003	9913300301									
Pond	133	99133004							0.25	lbs		Fragment
Pond	133	99133006	9913300601									

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Pond	133	99133007											
Pond	133	99133009											
Pond	133	99133010											
Pond	132	99132002	9913200201										
Pond	132	99132003	9913200301							0.5	lbs		Scrap
Pond	132	99132004	9913200401							0.5	lbs		Scrap
Pond	132	99132008	9913200701							0.25	lbs		Scrap
Pond	132	99132009								0.25	lbs		Scrap
Pond	132	99132010	9913201001			Magnetic Rocks							
Pond	132	99132011											Magnetic Rock
Landfill and Compositi	79	99079002	9907900201										
Landfill and Compositi	79	99079004	9907900401							0.5	lbs		Fragment
Landfill and Compositi	79	99079008	9907900801							0.75	lbs		Fragment
Landfill and Compositi	79	99079007	9907900701							0.25	lbs		Fragment
Landfill and Compositi	79	99079010	9907901001							0.25	lbs		Fragment
Landfill and Compositi	79	99079011	9907901101							0.25	lbs		Fragment
Pond	135	99135008	9913500801							0.25	lbs		Fragment
Pond	135	99135009	9913500901							0.5	lbs		Fragment
Pond	135	99135011	9913501101							0.5	lbs		Scrap
Pond	150	99150005	9915000501							0.25	lbs		Scrap
Pond	150	99150008	9915000801							0.25	lbs		Fragment
Pond	150	99150009	9915000901							0.25	lbs		Fragment
Pond	150	99150008	9915000801							0.25	lbs		Fragment
Pond	150	99150009	9915000901			Fuze body				0.5	lbs		Fragment
Pond	150	99150010	9915001001							0.5	lbs		Fragment
Pond	150	99150011	9915001101							0.5	lbs		Fragment
Pond	150	99150013	9915001301							0.25	lbs		Fragment
Pond	150	99150014	9915001401							0.25	lbs		Fragment
Pond	150	99150015	9915001501							0.25	lbs		Fragment
Pond	150	99150016	9915001601							0.25	lbs		Fragment
Pond	150	99150018	9915001801							0.25	lbs		Fragment
Pond	150	99150018	9915001901							0.25	lbs		Fragment
Pond	150	99150019	9915001902			Fuze body				0.5	lbs		Fragment
Pond	150	99150020								0.25	lbs		Fragment
Pond	151	99151001	9915100101										
Pond	151	99151003	9915100301							0.5	lbs		Fragment
Pond	151	99151004	9915100401							0.25	lbs		Fragment
Pond	151	99151005	9915100501							0.5	lbs		Fragment
Pond	151	99151008	9915100801							0.25	lbs		Fragment
Pond	151	99151009	9915100901							0.5	lbs		Fragment
Pond	151	99151011	9915101101							0.25	lbs		Fragment
Pond	151	99151012	9915101201							0.25	lbs		Fragment
Pond	151	99151015	9915101501							0.5	lbs		Fragment
Pond	151	99151016	9915101601							0.25	lbs		Fragment
Pond	151	99151017	9915101701							0.5	lbs		Fragment
Pond	151	99151019	9915101901							0.25	lbs		Fragment
Pond	151	99151022	9915102201							0.25	lbs		Fragment
Pond	151	99151023	9915102301							0.25	lbs		Fragment
Pond	135	99135001	9913500101			60mm Fuze body				0.5	lbs		Fragment
										1	lbs		Scrap

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								UNITS	UNITS		
									0.5	lbs	Scrap
									0.5	lbs	Scrap
Pond	135	99135003	9913500301						0.5	lbs	Fragment
Pond	135	99135005	9913500501						0.5	lbs	Fragment
Pond	135	99135007	9913500701						0.5	lbs	Fragment
Pond	150	99150001	9915000101						0.25	lbs	Fragment
Pond	150	99150002	9915000201						0.5	lbs	Fragment
Pond	150	99150004	9915000401								
Natural Brush/Forest	218	99218014									
Natural Brush/Forest	218	99218015									
Natural Brush/Forest	218	99218018							0.25	lbs	Fragment
Natural Brush/Forest	218	99218018	9921801801								
Natural Brush/Forest	218	99218019									
Natural Brush/Forest	218	99218020									Fragment
Natural Brush/Forest	218	99218021							0.25	lbs	Fragment
Natural Brush/Forest	218	99218023	9921802301						0.5	lbs	Fragment
Natural Brush/Forest	218	99218024	9921802401						0.25	lbs	Fragment
Natural Brush/Forest	218	99218025	9921802501						0.25	lbs	Fragment
Natural Brush/Forest	218	99218025	9921802501						0.25	lbs	Fragment
Pond	152	99152002	9915200201								Fragment
Pond	152	99152003							0.5	lbs	Fragment
Pond	152	99152004	9915200401						0.25	lbs	Fragment
Pond	152	99152005	9915200501						0.5	lbs	Fragment
Pond	152	99152007	9915200701						0.25	lbs	Fragment
Pond	152	99152008	9915200801						0.5	lbs	Fragment
Pond	152	99152009	9915200901						0.25	lbs	Fragment
Pond	152	99152010	9915201001						0.25	lbs	Fragment
Pond	152	99152013	9915201301						0.5	lbs	Fragment
Pond	152	99152014	9915201401						0.25	lbs	Fragment
Pond	152	99152018	9915201801						0.5	lbs	Fragment
Pond	152	99152017	9915201701						0.5	lbs	Fragment
Pond	152	99152020	9915202001						0.25	lbs	Fragment
Pond	152	99152021	9915202101						0.5	lbs	Fragment
Pond	149	99149001	9914900101						0.25	lbs	Fragment
Pond	149	99149003	9914900301						0.25	lbs	Fragment
Pond	149	99149005	9914900501						0.25	lbs	Fragment
Pond	149	99149006	9914900601			Fuze body			1	lbs	Fragment
Pond	149	99149007	9914900701						2	lbs	Fragment
Pond	149	99149010	9914901001						0.5	lbs	Fragment
Pond	149	99149012	9914901201						0.25	lbs	Fragment
Pond	149	99149012	9914901201						0.25	lbs	Fragment
Natural Brush/Forest	218	99218010	9921801001								
Natural Brush/Forest	218	99218011	9921801101								
Natural Brush/Forest	218	99218013									Magnetic Rock
Natural Brush/Forest	214	99214007	9921400701			Magnetic Rock			0.25	lbs	Fragment
Natural Brush/Forest	214	99214008	9921400801						0.25	lbs	Fragment
Natural Brush/Forest	214	99214009	9921400901						0.25	lbs	Fragment
Natural Brush/Forest	214	99214011	9921401101						0.25	lbs	Fragment
Natural Brush/Forest	214	99214012	9921401201						0.25	lbs	Fragment
Natural Brush/Forest	214	99214013	9921401301						0.25	lbs	Fragment
Natural Brush/Forest	214	99214015	9921401501						0.25	lbs	Fragment
Natural Brush/Forest	214	99214016	9921401601						0.25	lbs	Fragment

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Natural Brush/Forest	214	99214017	9921401701										
Natural Brush/Forest	214	99214018											
Natural Brush/Forest	214	99214020	9921402001										
Natural Brush/Forest	214	99214021	9921402101								0.5	lbs	Fragment
Natural Brush/Forest	214	99214022											
Natural Brush/Forest	214	99214023	9921402301								0.25	lbs	Fragment
Natural Brush/Forest	214	99214025	9921402501								0.25	lbs	Fragment
Natural Brush/Forest	214	99214026											
Natural Brush/Forest	214	99214027	9921402701								0.25	lbs	Fragment
Natural Brush/Forest	214	99214028	9921402801								0.25	lbs	Fragment
Natural Brush/Forest	215	99215002	9921500201										
Natural Brush/Forest	215	99215004	9921500401								0.25	lbs	Fragment
Natural Brush/Forest	215	99215005	9921500501								0.25	lbs	Fragment
Natural Brush/Forest	215	99215008											
Natural Brush/Forest	215	99215009	9921500901								0.25	lbs	Fragment
Natural Brush/Forest	215	99215010									1.5	lbs	Fragment
Natural Brush/Forest	215	99215012	9921501201										
Natural Brush/Forest	215	99215014									0.25	lbs	Fragment
Natural Brush/Forest	218	99218002											
Natural Brush/Forest	218	99218003	9921800301								0.25	lbs	Fragment
Natural Brush/Forest	218	99218005				Magnetic Rock							
Natural Brush/Forest	218	99218007											
Natural Brush/Forest	218	99218009											Magnetic Rock
Natural Brush/Forest	214	99214003	9921400301										
Natural Brush/Forest	214	99214004											
Natural Brush/Forest	214	99214005	9921400501										
Natural Brush/Forest	209	99209030	9920903001								0.25	lbs	Fragment
Natural Brush/Forest	209	99209031	9920903101										
Natural Brush/Forest	209	99209032	9920903201								0.25	lbs	Fragment
Natural Brush/Forest	209	99209033	9920903301								0.5	lbs	Fragment
Natural Brush/Forest	209	99209035	9920903501								0.5	lbs	Fragment
Natural Brush/Forest	209	99209038	9920903801								0.5	lbs	Fragment
Natural Brush/Forest	209	99209037	9920903701								0.25	lbs	Fragment
Natural Brush/Forest	209	99209039	9920903901								0.5	lbs	Fragment
Natural Brush/Forest	209	99209040	9920904001								0.25	lbs	Fragment
Natural Brush/Forest	209	99209041	9920904101								0.25	lbs	Fragment
Natural Brush/Forest	209	99209042	9920904201								0.25	lbs	Fragment
Natural Brush/Forest	209	99209044	9920904401								0.5	lbs	Fragment
Natural Brush/Forest	209	99209045	9920904501								0.5	lbs	Fragment
Natural Brush/Forest	209	99209046	9920904601								1	lbs	Fragment
Natural Brush/Forest	209	99209047	9920904701								0.25	lbs	Fragment
Natural Brush/Forest	209	99209049									0.5	lbs	Fragment
Natural Brush/Forest	209	99209050	9920905001								0.25	lbs	Fragment
Natural Brush/Forest	213	99213001	9921300101								0.25	lbs	Fragment
Natural Brush/Forest	213	99213002	9921300201										
Natural Brush/Forest	213	99213005	9921300501								0.25	lbs	Fragment
Natural Brush/Forest	213	99213007	9921300701								0.25	lbs	Fragment
Natural Brush/Forest	213	99213008	9921300801								0.5	lbs	Fragment
											0.25	lbs	Fragment
											0.25	lbs	Fragment

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	213	99213011	9921301101							0.5	lbs		Fragment
Natural Brush/Forest	213	99213012											
Natural Brush/Forest	213	99213013											
Natural Brush/Forest	213	99213015											
Natural Brush/Forest	213	99213017											
Natural Brush/Forest	213	99213018								0.25	lbs		Fragment
Natural Brush/Forest	213	99213020	9921302001										
Natural Brush/Forest	213	99213022				Magnetic Rock							Magnetic Rock
Natural Brush/Forest	214	99214001	9921400101							0.25	lbs		Fragment
Natural Brush/Forest	209	99209026	9920902601							0.5	lbs		Fragment
Natural Brush/Forest	209	99209027	9920902701							0.5	lbs		Fragment
Natural Brush/Forest	209	99209029	9920902901							0.5	lbs		Fragment
Natural Brush/Forest	210	99210030	9921003001							2	lbs		Fragment
Natural Brush/Forest	210	99210031	9921003101							0.75	lbs		Fragment
Natural Brush/Forest	210	99210032	9921003201							0.5	lbs		Fragment
Natural Brush/Forest	211	99211002	9921100201							0.25	lbs		Fragment
Natural Brush/Forest	211	99211003	9921100301							0.25	lbs		Fragment
Natural Brush/Forest	211	99211004	9921100401							0.25	lbs		Fragment
Natural Brush/Forest	211	99211006	9921100601							0.25	lbs		Fragment
Natural Brush/Forest	211	99211007	9921100701							0.25	lbs		Fragment
Natural Brush/Forest	211	99211008	9921100801							0.25	lbs		Fragment
Natural Brush/Forest	211	99211009	9921100901							0.25	lbs		Fragment
Natural Brush/Forest	211	99211011	9921101101							0.25	lbs		Fragment
Natural Brush/Forest	211	99211012	9921101201							0.25	lbs		Fragment
Natural Brush/Forest	211	99211013	9921101301							0.25	lbs		Fragment
Natural Brush/Forest	211	99211014	9921101401							0.5	lbs		Fragment
Natural Brush/Forest	211	99211016	9921101601							1.25	lbs		Fragment
Natural Brush/Forest	211	99211017	9921101701							0.25	lbs		Fragment
Natural Brush/Forest	211	99211018	9921101801							0.5	lbs		Fragment
Natural Brush/Forest	209	99209003	9920900301							0.25	lbs		Fragment
Natural Brush/Forest	209	99209004	9920900401							0.25	lbs		Fragment
Natural Brush/Forest	209	99209006	9920900601							0.5	lbs		Fragment
Natural Brush/Forest	209	99209007	9920900701							0.5	lbs		Fragment
Natural Brush/Forest	209	99209010	9920901001							1	lbs		Fragment
Natural Brush/Forest	209	99209011	9920901101							0.5	lbs		Fragment
Natural Brush/Forest	209	99209013	9920901301							0.5	lbs		Fragment
Natural Brush/Forest	209	99209014	9920901401							1	lbs		Fragment
Natural Brush/Forest	209	99209018	9920901801							0.75	lbs		Fragment
Natural Brush/Forest	209	99209018	9920901801										
Natural Brush/Forest	209	99209019								0.75	lbs		Fragment
Natural Brush/Forest	209	99209021	9920902101							0.25	lbs		Fragment
Natural Brush/Forest	209	99209023	9920902301							0.25	lbs		Fragment
Natural Brush/Forest	209	99209025	9920902501							0.25	lbs		Fragment
Natural Brush/Forest	210	99210026	9921002601							1	lbs		Fragment
Natural Brush/Forest	210	99210028	9921002801							0.25	lbs		Fragment
Natural Brush/Forest	210	99210029	9921002901							0.25	lbs		Fragment
Natural Brush/Forest	204	99204006	9920400601							0.25	lbs		Fragment
Natural Brush/Forest	204	99204007	9920400701										

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								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	204	99204009	9920400901										
Natural Brush/Forest	204	99204010								0.25	lbs		Fragment
Natural Brush/Forest	204	99204011											
Natural Brush/Forest	204	99204012	9920401201										
Natural Brush/Forest	204	99204014	9920401401							0.25	lbs		Fragment
Natural Brush/Forest	204	99204015	9920401501							0.25	lbs		Fragment
Natural Brush/Forest	204	99204018								0.75	lbs		Fragment
Natural Brush/Forest	204	99204018	9920401801										
Natural Brush/Forest	204	99204019	9920401901							0.25	lbs		Fragment
Natural Brush/Forest	204	99204020	9920402001							0.25	lbs		Fragment
Natural Brush/Forest	204	99204021	9920402101							0.25	lbs		Fragment
Natural Brush/Forest	204	99204023	9920402301							0.25	lbs		Fragment
Natural Brush/Forest	204	99204024	9920402401							0.25	lbs		Fragment
Natural Brush/Forest	204	99204025	9920402501							0.25	lbs		Fragment
Natural Brush/Forest	210	99210003	9921000301							0.25	lbs		Fragment
Natural Brush/Forest	210	99210004	9921000401							0.15	lbs		Fragment
Natural Brush/Forest	210	99210006	9921000601							0.25	lbs		Fragment
Natural Brush/Forest	210	99210007	9921000701							0.75	lbs		Fragment
Natural Brush/Forest	210	99210010	9921001001							0.25	lbs		Fragment
Natural Brush/Forest	210	99210011								0.75	lbs		Fragment
Natural Brush/Forest	210	99210013	9921001301										
Natural Brush/Forest	210	99210014	9921001401							0.25	lbs		Fragment
Natural Brush/Forest	210	99210017								0.25	lbs		Fragment
Natural Brush/Forest	210	99210018	9921001801										
Natural Brush/Forest	210	99210019	9921001901							0.25	lbs		Fragment
Natural Brush/Forest	210	99210022	9921002201							0.25	lbs		Fragment
Natural Brush/Forest	210	99210022	9921002202							3.25	lbs		Fragment
Natural Brush/Forest	210	99210024	9921002401							1.5	lbs		Scrap
Natural Brush/Forest	210	99210025	9921002501							0.75	lbs		Fragment
Natural Brush/Forest	204	99204003	9920400301							0.5	lbs		Fragment
Natural Brush/Forest	204	99204005								0.25	lbs		Fragment
Landfill and Compositin	178	99178002	9917800201										
Landfill and Compositin	178	99178003	9917800301							0.25	lbs		Fragment
Landfill and Compositin	178	99178004	9917800401							0.25	lbs		Fragment
Landfill and Compositin	178	99178005	9917800501							0.25	lbs		Fragment
Landfill and Compositin	178	99178006	9917800601							0.25	lbs		Fragment
Landfill and Compositin	178	99178007	9917800701							0.25	lbs		Fragment
Landfill and Compositin	178	99178008	9917800801							0.25	lbs		Fragment
Natural Brush/Forest	201	99201001	9920100101							0.25	lbs		Fragment
Natural Brush/Forest	201	99201003	9920100301							0.5	lbs		Fragment
Natural Brush/Forest	201	99201004	9920100401							0.5	lbs		Fragment
Natural Brush/Forest	201	99201005	9920100501							1	lbs		Fragment
Natural Brush/Forest	201	99201006	9920100601							0.25	lbs		Fragment
Natural Brush/Forest	202	99202002	9920200201							1	lbs		Fragment
Natural Brush/Forest	202	99202003	9920200301							1	lbs		Fragment
Natural Brush/Forest	203	99203001								0.25	lbs		Fragment
Natural Brush/Forest	203	99203002											
Natural Brush/Forest	203	99203003	9920300301										
										0.25	lbs		Fragment

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								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	203	99203008	9920300801							0.25	lbs		Fragment
Natural Brush/Forest	203	99203008	9920300801							0.25	lbs		Fragment
Natural Brush/Forest	203	99203008	9920300801							0.25	lbs		Fragment
Natural Brush/Forest	203	99203010								0.25	lbs		Fragment
Natural Brush/Forest	203	99203013	9920301301										
Natural Brush/Forest	203	99203014								0.25	lbs		Fragment
Natural Brush/Forest	203	99203015	9920301501							0.25	lbs		Fragment
Natural Brush/Forest	203	99203017	9920301701							0.25	lbs		Fragment
Natural Brush/Forest	203	99203019	9920301901							0.25	lbs		Fragment
Natural Brush/Forest	203	99203021	9920302101										
Natural Brush/Forest	203	99203022											
Natural Brush/Forest	203	99203024											
Natural Brush/Forest	203	99203026								0.25	lbs		Fragment
Natural Brush/Forest	204	99204001	9920400101							0.25	lbs		Fragment
Natural Brush/Forest	204	99204002	9920400201							2	lbs		Fragment
Landfill and Compositin	180	99180031	9918003101							0.5	lbs		Fragment
Landfill and Compositin	180	99180032	9918003201							0.25	lbs		Fragment
Landfill and Compositin	178	99178001	9917800101							1	lbs		Scrap
Landfill and Compositin	178	99178001	9917800102										
Pond	154	99154008								0.1	lbs		Fragment
Pond	154	99154010	9915401001										
Pond	154	99154011											
Landfill and Compositin	177	99177001	9917700101							0.39	lbs		Fragment
Landfill and Compositin	177	99177002	9917700201							0.39	lbs		Fragment
Landfill and Compositin	177	99177003	9917700301							0.39	lbs		Fragment
Landfill and Compositin	177	99177005	9917700501							0.39	lbs		Fragment
Landfill and Compositin	177	99177006	9917700601							0.39	lbs		Fragment
Landfill and Compositin	177	99177007	9917700701							0.39	lbs		Fragment
Landfill and Compositin	177	99177008	9917700801							0.39	lbs		Fragment
Landfill and Compositin	177	99177010	9917701001							0.39	lbs		Fragment
Landfill and Compositin	177	99177011	9917701101							0.39	lbs		Fragment
Landfill and Compositin	177	99177012	9917701201							0.39	lbs		Fragment
Landfill and Compositin	177	99177013	9917701301							1	lbs		Fragment
Landfill and Compositin	180	99180001	9918000101							1	lbs		Fragment
Landfill and Compositin	180	99180004	9918000401							1	lbs		Fragment
Landfill and Compositin	180	99180005	9918000501							1	lbs		Fragment
Landfill and Compositin	180	99180007	9918000701							1	lbs		Fragment
Landfill and Compositin	180	99180008	9918000801							0.5	lbs		Fragment
Landfill and Compositin	180	99180011	9918001101										
Landfill and Compositin	180	99180012											
Landfill and Compositin	180	99180014								0.5	lbs		Fragment
Landfill and Compositin	180	99180015	9918001501							1	lbs		Fragment
Landfill and Compositin	180	99180017	9918001701							1	lbs		Fragment
Landfill and Compositin	180	99180019	9918001901							1	lbs		Fragment
Landfill and Compositin	180	99180021	9918002101							1	lbs		Fragment
Landfill and Compositin	180	99180022	9918002201							1	lbs		Fragment
Landfill and Compositin	180	99180024	9918002401							1	lbs		Fragment
Landfill and Compositin	180	99180027	9918002701										

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Landfill and Compositi	180	99180028	9918002801							1	lbs		Fragment
Landfill and Compositi	180	99180029	9918002901							1	lbs		Fragment
Pond	154	99154005	9915400501							0.25	lbs		Fragment
Pond	154	99154006	9915400601							0.1	lbs		Fragment
Pond	153	99153001	9915300101							0.1	lbs		Fragment
Pond	153	99153002	9915300201							0.25	lbs		Fragment
Pond	153	99153003								0.25	lbs		Fragment
Pond	153	99153004	9915300401							0.25	lbs		Fragment
Pond	153	99153006	9915300601							0.25	lbs		Fragment
Pond	153	99153007	9915300701							0.25	lbs		Fragment
Pond	153	99153008	9915300801							0.25	lbs		Fragment
Pond	155	99155001	9915500101							0.25	lbs		Fragment
Pond	155	99155002	9915500201							1	lbs		Fragment
Pond	155	99155003	9915500301							0.25	lbs		Fragment
Pond	155	99155003	9915500302	1763964'	11111452'	105 mm BE/Inert				0.25	lbs		Fragment
Pond	155	99155004						4 in.		25	lbs		Ordnance
Pond	155	99155006											
Pond	155	99155007	9915500701										
Pond	155	99155008	9915500801							0.1	lbs		Fragment
Pond	155	99155010								0.5	lbs		Fragment
Pond	155	99155012	9915501201										
Pond	155	99155014	9915501401										Magnetic Rock
Pond	155	99155015	9915501501							0.25	lbs		Fragment
Pond	155	99155016	9915501601			Magnetic Rock				0.25	lbs		Fragment
Pond	155	99155019	9915501901										Magnetic Rock
Pond	155	99155020	9915502001							0.25	lbs		Fragment
Pond	121	99121002	9912100201							0.25	lbs		Fragment
Pond	121	99121004	9912100401							0.1	lbs		Fragment
Pond	121	99121006	9912100601										Soil Layer
Pond	124	99124001	9912400101							0.5	lbs		Fragment
Pond	124	99124002	9912400201							0.1	lbs		Fragment
Pond	124	99124005	9912400501							0.1	lbs		Fragment
Pond	124	99124008	9912400801							0.25	lbs		Fragment
Pond	154	99154001	9915400101				Contact > 4'						Magnetic Rock
Pond	154	99154002	9915400201							0.5	lbs		Fragment
Pond	154	99154003	9915400301							0.25	lbs		Fragment
Pinefarm	109	99109036	9910903601							0.25	lbs		Fragment
Pinefarm	109	99109037	9910903701							1	lbs		Fragment
Pinefarm	109	99109038	9910903801							0.5	lbs		Fragment
Natural Brush/Forest	45	99045013	9904501301							0.25	lbs		Fragment
Natural Brush/Forest	45	99045014	9904501401							0.1	lbs		Fragment
Natural Brush/Forest	45	99045015	9904501501							0.1	lbs		Fragment
Natural Brush/Forest	45	99045016	9904501601							0.1	lbs		Fragment
Natural Brush/Forest	45	99045017	9904501701							0.1	lbs		Fragment
Natural Brush/Forest	45	99045018	9904501801							0.1	lbs		Fragment
Natural Brush/Forest	45	99045019	9904501901							0.3	lbs		Fragment
Natural Brush/Forest	45	99045020	9904502001							0.1	lbs		Fragment
										0.1	lbs		Fragment

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
										0.1	lbs		Fragment
										0.1	lbs		Fragment
Natural Brush/Forest	45	99045021	9904502101							0.1	lbs		Fragment
Natural Brush/Forest	45	99045022	9904502201							0.1	lbs		Fragment
Natural Brush/Forest	45	99045023	9904502301							0.5	lbs		Fragment
Natural Brush/Forest	45	99045023	9904502301							0.5	lbs		Fragment
Pinefarm	109	99109002	9910900201							0.25	lbs		Fragment
Pinefarm	109	99109003	9910900301							0.25	lbs		Fragment
Pinefarm	109	99109004	9910900401							0.25	lbs		Fragment
Pinefarm	109	99109006	9910900601							0.25	lbs		Fragment
Pinefarm	109	99109008	9910900801							0.15	lbs		Fragment
Pinefarm	109	99109010	9910901001							0.25	lbs		Fragment
Pinefarm	109	99109011	9910901101							0.15	lbs		Fragment
Pinefarm	109	99109012	9910901201										
Pinefarm	109	99109015								0.25	lbs		Fragment
Pinefarm	109	99109016	9910901601							0.5	lbs		Fragment
Pinefarm	109	99109018	9910901801							4	lbs		Fragment
Pinefarm	109	99109021	9910902101							0.5	lbs		Fragment
Pinefarm	109	99109022	9910902201							0.25	lbs		Fragment
Pinefarm	109	99109023	9910902301										
Pinefarm	109	99109025								0.25	lbs		Fragment
Pinefarm	109	99109027	9910902701							0.25	lbs		Fragment
Pinefarm	109	99109029	9910902901							0.25	lbs		Fragment
Pinefarm	109	99109030	9910903001							0.5	lbs		Fragment
Pinefarm	109	99109031	9910903101							0.25	lbs		Fragment
Pinefarm	109	99109034	9910903401							0.1	lbs		Fragment
Natural Brush/Forest	45	99045010	9904501001							0.1	lbs		Fragment
Natural Brush/Forest	45	99045011	9904501101							0.2	lbs		Fragment
Natural Brush/Forest	45	99045012	9904501201							0.25	lbs		Fragment
Natural Brush/Forest	12	99012009	9901200901							0.25	lbs		Fragment
Natural Brush/Forest	12	99012010	9901201001							0.25	lbs		Fragment
Natural Brush/Forest	12	99012011	9901201101							0.25	lbs		Fragment
Natural Brush/Forest	12	99012012	9901201201										
Natural Brush/Forest	12	99012014								0.5	lbs		Fragment
Natural Brush/Forest	12	99012015	9901201501							0.25	lbs		Fragment
Natural Brush/Forest	12	99012016	9901201601							0.25	lbs		Fragment
Natural Brush/Forest	12	99012018	9901201801							1.25	lbs		Fragment
Natural Brush/Forest	12	99012019	9901201901							0.5	lbs		Fragment
Natural Brush/Forest	12	99012020	9901202001							0.5	lbs		Fragment
Natural Brush/Forest	12	99012021	9901202101							0.25	lbs		Fragment
Natural Brush/Forest	12	99012024	9901202401										
Natural Brush/Forest	10	99010001											
Natural Brush/Forest	10	99010002								0.25	lbs		Fragment
Natural Brush/Forest	10	99010003	9901000301										
Natural Brush/Forest	10	99010006								0.25	lbs		Fragment
Natural Brush/Forest	10	99010008	9901000801										
Natural Brush/Forest	10	99010009								0.5	lbs		Fragment
Natural Brush/Forest	10	99010012	9901001201										
Natural Brush/Forest	10	99010013								0.25	lbs		Fragment
Natural Brush/Forest	10	99010014	9901001401										
Natural Brush/Forest	10	99010016											

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								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	10	99010019	9901001901										
Natural Brush/Forest	10	99010020	9901002001								0.25	lbs	Fragment
Natural Brush/Forest	10	99010021	9901002101								0.25	lbs	Fragment
Natural Brush/Forest	45	99045001	9904500101								0.25	lbs	Fragment
Natural Brush/Forest	45	99045003	9904500301								0.1	lbs	Fragment
Natural Brush/Forest	45	99045005	9904500501								0.1	lbs	Fragment
Natural Brush/Forest	45	99045008	9904500801								0.1	lbs	Fragment
Natural Brush/Forest	45	99045007	9904500701								0.1	lbs	Fragment
Natural Brush/Forest	45	99045008	9904500801								0.1	lbs	Fragment
Natural Brush/Forest	12	99012006	9901200601								0.1	lbs	Fragment
Natural Brush/Forest	12	99012006	9901200601								0.25	lbs	Fragment
Natural Brush/Forest	37	99037004	9903700401								0.25	lbs	Fragment
Natural Brush/Forest	37	99037005	9903700501								0.25	lbs	Fragment
Natural Brush/Forest	37	99037008									0.25	lbs	Fragment
Natural Brush/Forest	37	99037008	9903700801										
Natural Brush/Forest	37	99037009	9903700901								0.25	lbs	Fragment
Natural Brush/Forest	37	99037010	9903701001								0.25	lbs	Fragment
Natural Brush/Forest	37	99037011	9903701101								0.25	lbs	Fragment
Natural Brush/Forest	37	99037013	9903701301								0.25	lbs	Fragment
Natural Brush/Forest	37	99037014	9903701401								0.25	lbs	Fragment
Natural Brush/Forest	37	99037015	9903701501								0.25	lbs	Fragment
Natural Brush/Forest	37	99037017	9903701701								0.25	lbs	Fragment
Natural Brush/Forest	37	99037018	9903701801								0.25	lbs	Fragment
Natural Brush/Forest	69	99069001	9906900101								0.25	lbs	Fragment
Natural Brush/Forest	69	99069002	9906900201								0.25	lbs	Fragment
Natural Brush/Forest	69	99069004	9906900401								0.25	lbs	Fragment
Natural Brush/Forest	69	99069004	9906900402								1.5	lbs	Fragment
Natural Brush/Forest	69	99069005	9906900501								0.5	lbs	Scrap
Natural Brush/Forest	69	99069006	9906900601								0.25	lbs	Fragment
Natural Brush/Forest	69	99069007	9906900701								0.5	lbs	Fragment
Natural Brush/Forest	70	99070002	9907000201								0.25	lbs	Fragment
Natural Brush/Forest	70	99070004	9907000401								0.5	lbs	Fragment
Natural Brush/Forest	70	99070005	9907000501								0.5	lbs	Fragment
Natural Brush/Forest	70	99070008	9907000801								0.5	lbs	Fragment
Natural Brush/Forest	70	99070008	9907000801								1	lbs	Scrap
Natural Brush/Forest	72	99072002	9907200201								0.5	lbs	Fragment
Natural Brush/Forest	72	99072003	9907200301								0.25	lbs	Fragment
Natural Brush/Forest	72	99072006	9907200601								0.5	lbs	Fragment
Natural Brush/Forest	72	99072007	9907200701								0.25	lbs	Fragment
Natural Brush/Forest	72	99072009	9907200901								0.25	lbs	Fragment
Natural Brush/Forest	72	99072011	9907201101								0.5	lbs	Fragment
Natural Brush/Forest	12	99012001	9901200101								0.5	lbs	Fragment
Natural Brush/Forest	12	99012002	9901200201								0.5	lbs	Fragment
Natural Brush/Forest	12	99012003	9901200301								0.5	lbs	Fragment
Natural Brush/Forest	37	99037001	9903700101								0.75	lbs	Fragment
Natural Brush/Forest	37	99037002	9903700201								0.5	lbs	Fragment
Natural Brush/Forest	37	99037003									0.25	lbs	Fragment
Natural Brush/Forest	41	99041001	9904100101								0.5	lbs	Fragment
Natural Brush/Forest											0.5	lbs	Fragment

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								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	41	99041002	9904100201							0.5	lbs		Fragment
Natural Brush/Forest	44	99044001								0.25	lbs		Scrap
Natural Brush/Forest	44	99044002	9904400201			Barbed wire				0.5	lbs		Fragment
Natural Brush/Forest	44	99044003	9904400301							0.25	lbs		Fragment
Natural Brush/Forest	43	99043001	9904300101							0.25	lbs		Fragment
Natural Brush/Forest	43	99043002	9904300201										
Natural Brush/Forest	43	99043003								0.1	lbs		Fragment
Natural Brush/Forest	42	99042002	9904200201							0.15	lbs		Fragment
Natural Brush/Forest	42	99042003	9904200301							0.25	lbs		Fragment
Natural Brush/Forest	42	99042004	9904200401							0.5	lbs		Fragment
Natural Brush/Forest	42	99042006	9904200601										
Natural Brush/Forest	42	99042008								0.25	lbs		Fragment
Natural Brush/Forest	38	99038001	9903800101							0.25	lbs		Fragment
Natural Brush/Forest	38	99038002	9903800201							0.25	lbs		Fragment
Natural Brush/Forest	39	99039001	9903900101							0.25	lbs		Fragment
Natural Brush/Forest	39	99039003	9903900301							0.25	lbs		Fragment
Natural Brush/Forest	39	99039004	9903900401							0.25	lbs		Fragment
Natural Brush/Forest	39	99039005	9903900501							0.25	lbs		Fragment
Natural Brush/Forest	39	99039008	9903900801							0.25	lbs		Fragment
Natural Brush/Forest	39	99039009	9903900901							0.25	lbs		Fragment
Natural Brush/Forest	39	99039011	9903901101							0.25	lbs		Fragment
Natural Brush/Forest	39	99039014	9903901401							0.5	lbs		Fragment
Natural Brush/Forest	39	99039015	9903901501							0.25	lbs		Fragment
Natural Brush/Forest	39	99039016	9903901601										
Natural Brush/Forest	39	99039018								0.5	lbs		Fragment
Natural Brush/Forest	39	99039020	9903902001										
Natural Brush/Forest	39	99039022								0.25	lbs		Scrap
Natural Brush/Forest	40	99040001	9904000101							0.25	lbs		Fragment
Natural Brush/Forest	40	99040004	9904000401							0.25	lbs		Fragment
Natural Brush/Forest	40	99040005	9904000501							1	lbs		Fragment
Natural Brush/Forest	34	99034018	9903401801							1	lbs		Fragment
Natural Brush/Forest	34	99034019	9903401901							2	lbs		Fragment
Natural Brush/Forest	34	99034021	9903402101							0.25	lbs		Fragment
Natural Brush/Forest	32	99032008	9903200801										
Natural Brush/Forest	32	99032010											
Natural Brush/Forest	32	99032012								0.25	lbs		Fragment
Natural Brush/Forest	32	99032013	9903201301							0.25	lbs		Fragment
Natural Brush/Forest	32	99032016	9903201601							1	lbs		Fragment
Natural Brush/Forest	32	99032017	9903201701							0.25	lbs		Fragment
Natural Brush/Forest	32	99032019	9903201901										
Natural Brush/Forest	32	99032020											
Natural Brush/Forest	32	99032023								0.5	lbs		Fragment
Natural Brush/Forest	33	99033001	9903300101							2.25	lbs		Fragment
Natural Brush/Forest	33	99033003	9903300301							1.5	lbs		Fragment
Natural Brush/Forest	33	99033004	9903300401							1.5	lbs		Fragment
Natural Brush/Forest	33	99033005	9903300501							1.5	lbs		Fragment
Natural Brush/Forest	33	99033006	9903300601							2	lbs		Fragment
Natural Brush/Forest	36	99036001	9903600101										

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								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	36	99036003	9903600301										
Natural Brush/Forest	36	99036004	9903600401							0.5	lbs		Fragment
Natural Brush/Forest	36	99036005	9903600501							0.25	lbs		Fragment
Natural Brush/Forest	36	99036006	9903600601			Barbed wire				1	lbs		Fragment
Natural Brush/Forest	36	99036008	9903600801							1	lbs		Scrap
Natural Brush/Forest	36	99036008	9903600802							0.25	lbs		Fragment
Natural Brush/Forest	36	99036008	9903600801							1	lbs		Scrap
Natural Brush/Forest	34	99034001	9903400101							3	lbs		Scrap
Natural Brush/Forest	34	99034002	9903400201							1.5	lbs		Fragment
Natural Brush/Forest	34	99034003	9903400301							1	lbs		Fragment
Natural Brush/Forest	34	99034005	9903400501							2	lbs		Fragment
Natural Brush/Forest	34	99034007	9903400701							1	lbs		Fragment
Natural Brush/Forest	34	99034008	9903400801							1	lbs		Fragment
Natural Brush/Forest	34	99034010	9903401001							2	lbs		Fragment
Natural Brush/Forest	34	99034012	9903401201							1.5	lbs		Fragment
Natural Brush/Forest	34	99034014	9903401401							2	lbs		Fragment
Natural Brush/Forest	34	99034015	9903401501							2	lbs		Fragment
Natural Brush/Forest	34	99034017	9903401701							2	lbs		Fragment
Natural Brush/Forest	8	99008001	9900800101							2	lbs		Fragment
Natural Brush/Forest	8	99008003	9900800301							0.5	lbs		Fragment
Pinefarm	46	99046001								1	lbs		Fragment
Pinefarm	46	99046002											
Pinefarm	46	99046003	9904600301										
Pinefarm	46	99046006	9904600601							0.2	lbs		Fragment
Pinefarm	46	99046008	9904600801							0.4	lbs		Fragment
Pinefarm	46	99046007	9904600701							0.1	lbs		Fragment
Pinefarm	46	99046009	9904600901							0.2	lbs		Fragment
Pinefarm	46	99046010	9904601001							0.1	lbs		Fragment
Natural Brush/Forest	45	99045002	9904500201							0.1	lbs		Fragment
Pond	122	99122001	9912200101							0.1	lbs		Fragment
Pond	122	99122003	9912200301							0.26	lbs		Fragment
Pond	122	99122005					Burster Tube			1	lbs		Fragment
Pond	122	99122007	9912200701										
Pond	122	99122008	9912200801				Barbed Wire			0.25	lbs		Scrap
Pond	122	99122009	9912200901							0.25	lbs		Fragment
Landfill and Compositn	179	99179001	9917900101							0.25	lbs		Fragment
Landfill and Compositn	179	99179002	9917900201							0.33	lbs		Fragment
Landfill and Compositn	179	99179003	9917900301							0.33	lbs		Fragment
Natural Brush/Forest	29	99029001	9902900101							0.33	lbs		Fragment
Natural Brush/Forest	29	99029002	9902900201							11	lbs		Fragment
Natural Brush/Forest	29	99029003	9902900301							1	lbs		Fragment
Natural Brush/Forest	29	99029004	9902900401							1	lbs		Fragment
Landfill and Compositn	179	99179007	9917900701							1	lbs		Fragment
Landfill and Compositn	179	99179009	9917900901							0.33	lbs		Fragment
Landfill and Compositn	179	99179010	9917901001							0.33	lbs		Fragment
Landfill and Compositn	179	99179011	9917901101							0.33	lbs		Fragment
Landfill and Compositn	179	99179013	9917901301							0.33	lbs		Fragment
Natural Brush/Forest	3	99003001	9900300101							0.33	lbs		Fragment
										0.5	lbs		Fragment

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OE ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH	WEIGHT	WEIGHT	EXPLOSIVE	OBJ NAME
								UNITS	UNITS	UNITS		
Natural Brush/Forest	3	99003002	9900300201							1 lbs		Fragment
Natural Brush/Forest	3	99003003	9900300301							0.5 lbs		Fragment
Natural Brush/Forest	3	99003005	9900300501							1 lbs		Fragment
Natural Brush/Forest	3	99003008	9900300801							1 lbs		Fragment
Natural Brush/Forest	3	99003006	9900300601							0.5 lbs		Fragment
Natural Brush/Forest	3	99006004	9900600401							1 lbs		Fragment
Natural Brush/Forest	6	99006004	9900600401							0.5 lbs		Fragment
Natural Brush/Forest	6	99006005	9900600501							0.5 lbs		Fragment
Natural Brush/Forest	6	99006006	9900600601							0.5 lbs		Fragment
Natural Brush/Forest	25	99025001										
Natural Brush/Forest	25	99025003										
Natural Brush/Forest	25	99025004	9902500401							0.25 lbs		Fragment
Natural Brush/Forest	25	99025005	9902500501							0.25 lbs		Fragment
Natural Brush/Forest	25	99025006	9902500601							0.25 lbs		Fragment
Natural Brush/Forest	25	99025008	9902500801							0.5 lbs		Fragment
Natural Brush/Forest	25	99025008	9902500801							0.5 lbs		Fragment
Natural Brush/Forest	25	99025008	9902500801							0.25 lbs		Fragment
Natural Brush/Forest	25	99025010	9902501001							0.25 lbs		Fragment
Natural Brush/Forest	25	99025011	9902501101							0.25 lbs		Fragment
Natural Brush/Forest	25	99025013	9902501301							0.25 lbs		Fragment
Natural Brush/Forest	25	99025014	9902501401							0.25 lbs		Fragment
Natural Brush/Forest	25	99025015	9902501501							0.25 lbs		Fragment
Natural Brush/Forest	25	99025016	9902501601							0.5 lbs		Fragment
Natural Brush/Forest	25	99025018	9902501801							0.25 lbs		Fragment
Natural Brush/Forest	25	99025018	9902501801							1 lbs		Fragment
Natural Brush/Forest	25	99025019	9902501901									
Natural Brush/Forest	25	99025021								0.5 lbs		Fragment
Natural Brush/Forest	25	99025023	9902502301									
Natural Brush/Forest	25	99025025								0.5 lbs		Fragment
Natural Brush/Forest	25	99025026	9902502601									
Natural Brush/Forest	25	99025028								0.5 lbs		Fragment
Natural Brush/Forest	25	99025030	9902503001							0.5 lbs		Fragment
Natural Brush/Forest	25	99025030	9902503001							0.5 lbs		Fragment
Pinefarm	63	99063001	9906300101							0.5 lbs		Fragment
Pinefarm	63	99063002	9906300201							1 lbs		Fragment
Pinefarm	63	99063003	9906300301							1 lbs		Fragment
Pinefarm	63	99063006	9906300601							0.5 lbs		Fragment
Pinefarm	63	99063007	9906300701							0.5 lbs		Fragment
Pinefarm	63	99063008	9906300801							0.25 lbs		Fragment
Pinefarm	63	99063010	9906301001							0.25 lbs		Fragment
Pinefarm	63	99063013	9906301301							0.25 lbs		Fragment
Pinefarm	63	99063014	9906301401							0.5 lbs		Fragment
Pinefarm	63	99063015	9906301501							0.25 lbs		Scrap
Pinefarm	63	99063015	9906301502							0.5 lbs		Fragment
Pinefarm	63	99063018	9906301801							0.25 lbs		Fragment
Pinefarm	63	99063019	9906301901							1 lbs		Fragment
Pinefarm	63	99063021	9906302101							0.5 lbs		Fragment
Pinefarm	63	99063023	9906302301							0.25 lbs		Fragment
Pinefarm	63	99063024	9906302401							0.25 lbs		Fragment
Pinefarm	63	99063025	9906302501							0.25 lbs		Fragment
Pinefarm	60	99060001	9906000101							0.25 lbs		Fragment
Pinefarm	60	99060002	9906000201							0.25 lbs		Fragment

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OE ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Pinefarm	60	99060004	9906000401										
Pinefarm	60	99060005	9906000501							0.25	lbs		Fragment
Pinefarm	60	99060006	9906000601							0.25	lbs		Fragment
Pinefarm	60	99060007	9906000701							0.25	lbs		Fragment
Pinefarm	60	99060008	9906000801							0.25	lbs		Fragment
Pinefarm	60	99060010	9906001001							0.25	lbs		Fragment
Pinefarm	60	99060011	9906001101							0.25	lbs		Fragment
Pinefarm	60	99060012	9906001201							0.25	lbs		Fragment
Pinefarm	60	99060013	9906001301							0.25	lbs		Fragment
Pinefarm	60	99060015	9906001501							0.25	lbs		Fragment
Pinefarm	60	99060016	9906001601							1	lbs		Fragment
Pinefarm	60	99060017	9906001701							1	lbs		Fragment
Pinefarm	60	99060018	9906001801							0.5	lbs		Fragment
Pinefarm	57	99057002	9905700201							0.5	lbs		Fragment
Pinefarm	57	99057003	9905700301							0.25	lbs		Fragment
Pinefarm	57	99057004	9905700401							0.1	lbs		Fragment
Pinefarm	57	99057005	9905700501							0.1	lbs		Fragment
Pinefarm	57	99057008	9905700801							0.2	lbs		Fragment
Pinefarm	57	99057009	9905700901							0.15	lbs		Fragment
Pinefarm	58	99058001	9905800101							0.1	lbs		Fragment
Pinefarm	58	99058002	9905800201							0.5	lbs		Fragment
Pinefarm	58	99058003	9905800301							0.3	lbs		Fragment
Pinefarm	58	99058006	9905800601							0.5	lbs		Fragment
Natural Brush/Forest	249	99249001	9924900101							0.5	lbs		Fragment
Natural Brush/Forest	249	99249003	9924900301							1	lbs		Scrap
Pinefarm	59	99059002	9905900201							1	lbs		Scrap
Pinefarm	59	99059004	9905900401							0.3	lbs		Fragment
Pinefarm	59	99059006	9905900601							0.2	lbs		Fragment
Pinefarm	59	99059007	9905900701							0.3	lbs		Fragment
Pinefarm	59	99059009	9905900901							0.3	lbs		Fragment
Pinefarm	59	99059010	9905901001							0.3	lbs		Fragment
Pinefarm	59	99059012	9905901201							0.3	lbs		Fragment
Pinefarm	59	99059013	9905901301							0.2	lbs		Fragment
Pinefarm	59	99059014	9905901401							0.3	lbs		Fragment
Pinefarm	59	99059015	9905901501							0.1	lbs		Fragment
Pinefarm	59	99059016	9905901601							0.1	lbs		Fragment
Pinefarm	59	99059018	9905901801							0.5	lbs		Scrap
Pinefarm	59	99059019	9905901901							0.5	lbs		Fragment
Pinefarm	59	99059020	9905902001							0.3	lbs		Fragment
Pinefarm	59	99059021	9905902101							0.2	lbs		Fragment
Pinefarm	66	99066001	9906600101							0.3	lbs		Fragment
Pinefarm	66	99066002	9906600201							1	lbs		Scrap
Pinefarm	66	99066004	9906600401							1	lbs		Fragment
Pinefarm	66	99066005	9906600501							1	lbs		Fragment
Natural Brush/Forest	249	99249004	9924900401							1	lbs		Fragment
Pinefarm	66	99066006	9906600601							1	lbs		Scrap
Pinefarm	66	99066008	9906600801							1	lbs		Fragment
Pinefarm	66	99066009	9906600901							1	lbs		Fragment
										0.33	lbs		Fragment

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OF ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH UNITS	UNITS	WEIGHT UNITS	UNITS		
Pinefarm	68	99066010	9906601001	1785070'	1112622'	105 mm BE/Inert		12	in.	25	lbs		Ordnance
Pinefarm	68	99066012	9906601201							0.33	lbs		Fragment
Natural Brush/Forest	65	99065001	9906500101							0.8	lbs		Fragment
Natural Brush/Forest	65	99065001	9906500102							0.15	lbs		Fragment
Natural Brush/Forest	65	99065004	9906500401							0.15	lbs		Fragment
Natural Brush/Forest	65	99065004	9906500402							0.15	lbs		Fragment
Natural Brush/Forest	65	99065005	9906500501			com wire				0.5	lbs		Scrap
Natural Brush/Forest	65	99065006	9906500601							0.15	lbs		Fragment
Natural Brush/Forest	65	99065006	9906500602							0.15	lbs		Fragment
Natural Brush/Forest	65	99065006	9906500603							0.15	lbs		Fragment
Natural Brush/Forest	65	99065006	9906500604							0.25	lbs		Scrap
Natural Brush/Forest	65	99065006	9906500605			30 cal clips				0.15	lbs		Fragment
Natural Brush/Forest	65	99065008	9906500801							0.15	lbs		Fragment
Natural Brush/Forest	65	99065008	9906500802							0.15	lbs		Fragment
Natural Brush/Forest	65	99065008	9906500803							0.15	lbs		Fragment
Natural Brush/Forest	65	99065009	9906500901							0.15	lbs		Fragment
Natural Brush/Forest	65	99065009	9906500902							0.15	lbs		Fragment
Natural Brush/Forest	65	99065009	9906500903							0.25	lbs		Fragment
Natural Brush/Forest	68	99068002	9906800201							0.25	lbs		Fragment
Natural Brush/Forest	68	99068002	9906800202							0.25	lbs		Scrap
Natural Brush/Forest	68	99068002	9906800203			Tin can				0.25	lbs		Fragment
Natural Brush/Forest	68	99068005	9906800501							0.25	lbs		Fragment
Natural Brush/Forest	68	99068005	9906800502							0.25	lbs		Fragment
Natural Brush/Forest	68	99068005	9906800503							0.25	lbs		Fragment
Natural Brush/Forest	68	99068005	9906800504							0.25	lbs		Fragment
Natural Brush/Forest	68	99068005	9906800505							0.25	lbs		Fragment
Natural Brush/Forest	68	99068005	9906800506							0.15	lbs		Fragment
Natural Brush/Forest	67	99067001	9906700101							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700201							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700202							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700203							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700204							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700205							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700206							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700207							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700208							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700209							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700210							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700211							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700212							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700213							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700214							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700215							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700216							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700217							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700218							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700219							0.15	lbs		Fragment
Natural Brush/Forest	67	99067002	9906700220							0.15	lbs		Fragment

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OF ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH	DEPTH UNITS	WEIGHT	WEIGHT UNITS	EXPLOSIVE	OBJ NAME
Natural Brush/Forest	67	99067002	9906700221										
Natural Brush/Forest	67	99067002	9906700222										
Natural Brush/Forest	67	99067002	9906700223								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700224								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700225								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700226								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700227								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700228								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700229								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700230								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700231								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700232								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700233								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700234								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700235								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700236								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700237								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700238								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700239								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700240								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700241								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700242								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700243								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700244								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700245								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700246								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700247								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700248								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700249								0.15 lbs		Fragment
Natural Brush/Forest	67	99067002	9906700250								0.15 lbs		Fragment
Natural Brush/Forest	67	99067004	9906700401								0.15 lbs		Fragment
Natural Brush/Forest	67	99067005	9906700501								0.15 lbs		Fragment
Natural Brush/Forest	67	99067005	9906700502								0.15 lbs		Fragment
Natural Brush/Forest	67	99067005	9906700503								0.15 lbs		Fragment
Natural Brush/Forest	67	99067005	9906700504								0.15 lbs		Fragment
Natural Brush/Forest	67	99067005	9906700505								0.15 lbs		Fragment
Natural Brush/Forest	67	99067005	9906700506								0.15 lbs		Fragment
Natural Brush/Forest	67	99067008	9906700801								0.15 lbs		Fragment
Natural Brush/Forest	67	99067008	9906700802								0.15 lbs		Fragment
Natural Brush/Forest	67	99067008	9906700803								0.15 lbs		Fragment
Natural Brush/Forest	67	99067008	9906700804								0.15 lbs		Fragment
Natural Brush/Forest	67	99067008	9906700805								0.15 lbs		Fragment
Natural Brush/Forest	67	99067009	9906700901								0.15 lbs		Fragment
Natural Brush/Forest	67	99067009	9906700902								0.15 lbs		Fragment
Natural Brush/Forest	67	99067009	9906700903								0.15 lbs		Fragment
Natural Brush/Forest	67	99067009	9906700904								0.15 lbs		Fragment
Natural Brush/Forest	67	99067009	9906700905								0.15 lbs		Fragment
Natural Brush/Forest	67	99067009	9906700906								0.15 lbs		Fragment

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OF ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								UNITS	WEIGHT	UNITS	WEIGHT		
Natural Brush/Forest	67	99067011	9906701101							0.15	lbs		Fragment
Natural Brush/Forest	30	99030001	9903000101			Barbed wire				0.5	lbs		Scrap
Natural Brush/Forest	30	99030002	9903000201			Barbed wire				0.5	lbs		Scrap
Natural Brush/Forest	30	99030003	9903000301			Barbed wire				0.25	lbs		Scrap
Natural Brush/Forest	30	99030006	9903000601							0.25	lbs		Fragment
Natural Brush/Forest	30	99030007											
Natural Brush/Forest	30	99030009								0.25	lbs		Fragment
Natural Brush/Forest	30	99030010	9903001001							0.25	lbs		Fragment
Natural Brush/Forest	30	99030013	9903001301							0.25	lbs		Fragment
Natural Brush/Forest	30	99030014	9903001401							0.5	lbs		Fragment
Natural Brush/Forest	30	99030016	9903001601										
Natural Brush/Forest	30	99030018								0.25	lbs		Fragment
Natural Brush/Forest	30	99030020	9903002001							0.25	lbs		Fragment
Natural Brush/Forest	30	99030021	9903002101							0.25	lbs		Fragment
Natural Brush/Forest	30	99030023	9903002301							0.5	lbs		Fragment
Natural Brush/Forest	30	99030025	9903002501							1	lbs		Fragment
Natural Brush/Forest	29	99029005	9902900501							1	lbs		Fragment
Natural Brush/Forest	29	99029006	9902900601							1	lbs		Fragment
Natural Brush/Forest	29	99029007	9902900701							1	lbs		Fragment
Natural Brush/Forest	29	99029009	9902900901							1	lbs		Fragment
Natural Brush/Forest	29	99029010	9902901001							1	lbs		Fragment
Natural Brush/Forest	29	99029011	9902901101							1	lbs		Fragment
Natural Brush/Forest	29	99029012	9902901201							1	lbs		Fragment
Natural Brush/Forest	29	99029014	9902901401							1	lbs		Fragment
Natural Brush/Forest	29	99029015	9902901501							1	lbs		Fragment
Natural Brush/Forest	29	99029016	9902901601							1	lbs		Fragment
Natural Brush/Forest	29	99029017	9902901701							1	lbs		Fragment
Natural Brush/Forest	29	99029018	9902901801							1	lbs		Fragment
Natural Brush/Forest	29	99029020	9902902001							1	lbs		Fragment
Natural Brush/Forest	29	99029021	9902902101							1	lbs		Fragment
Natural Brush/Forest	29	99029022	9902902201							1	lbs		Fragment
Natural Brush/Forest	29	99029023	9902902301							1	lbs		Fragment
Natural Brush/Forest	29	99029025	9902902501							0.25	lbs		Fragment
Natural Brush/Forest	32	99032001	9903200101			Barbed wire				0.25	lbs		Scrap
Natural Brush/Forest	32	99032001	9903200102							0.25	lbs		Fragment
Natural Brush/Forest	32	99032002	9903200201							0.25	lbs		Scrap
Natural Brush/Forest	32	99032003	9903200301			Barbed wire				0.25	lbs		Fragment
Natural Brush/Forest	32	99032006	9903200601							0.15	lbs		Fragment
Natural Brush/Forest	14	99014007	9901400701							0.15	lbs		Fragment
Natural Brush/Forest	14	99014007	9901400702							0.15	lbs		Fragment
Natural Brush/Forest	14	99014007	9901400703							0.15	lbs		Fragment
Natural Brush/Forest	14	99014007	9901400704							0.15	lbs		Fragment
Natural Brush/Forest	14	99014007	9901400705							0.15	lbs		Fragment
Natural Brush/Forest	14	99014007	9901400706							0.15	lbs		Fragment
Natural Brush/Forest	14	99014007	9901400707							0.15	lbs		Fragment
Natural Brush/Forest	14	99014007	9901400708							0.15	lbs		Fragment
Natural Brush/Forest	14	99014009	9901400901							0.15	lbs		Fragment
Natural Brush/Forest	14	99014006	9901400602										

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OE ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	14	99014009	9901400903							0.15	lbs		Fragment
Natural Brush/Forest	14	99014009	9901400904							0.15	lbs		Fragment
Natural Brush/Forest	14	99014009	9901400905							0.15	lbs		Fragment
Natural Brush/Forest	14	99014009	9901400906							0.15	lbs		Fragment
Natural Brush/Forest	14	99014010	9901401001							0.15	lbs		Fragment
Natural Brush/Forest	14	99014010	9901401002							0.15	lbs		Fragment
Natural Brush/Forest	14	99014010	9901401003							0.15	lbs		Fragment
Natural Brush/Forest	14	99014011	9901401101							0.15	lbs		Fragment
Natural Brush/Forest	14	99014011	9901401102							0.15	lbs		Fragment
Natural Brush/Forest	14	99014011	9901401103							0.15	lbs		Fragment
Natural Brush/Forest	14	99014011	9901401104							0.15	lbs		Fragment
Natural Brush/Forest	14	99014011	9901401105							0.15	lbs		Fragment
Natural Brush/Forest	14	99014011	9901401106							0.15	lbs		Fragment
Natural Brush/Forest	14	99014012	9901401201							0.15	lbs		Fragment
Natural Brush/Forest	14	99014012	9901401202							0.15	lbs		Fragment
Natural Brush/Forest	14	99014012	9901401203							0.15	lbs		Fragment
Natural Brush/Forest	14	99014012	9901401204							0.15	lbs		Fragment
Natural Brush/Forest	14	99014014	9901401401							10	lbs		Scrap
Natural Brush/Forest	14	99014014	9901401402							0.15	lbs		Fragment
Natural Brush/Forest	14	99014014	9901401403							0.15	lbs		Fragment
Natural Brush/Forest	14	99014014	9901401404							0.15	lbs		Fragment
Natural Brush/Forest	14	99014015	9901401501							0.15	lbs		Fragment
Natural Brush/Forest	14	99014015	9901401502							0.15	lbs		Fragment
Natural Brush/Forest	14	99014015	9901401503							0.15	lbs		Fragment
Natural Brush/Forest	14	99014015	9901401504							0.15	lbs		Fragment
Natural Brush/Forest	14	99014016	9901401601							0.15	lbs		Fragment
Natural Brush/Forest	14	99014016	9901401602							0.15	lbs		Fragment
Natural Brush/Forest	14	99014017	9901401701							0.15	lbs		Fragment
Natural Brush/Forest	14	99014017	9901401702							0.15	lbs		Fragment
Natural Brush/Forest	14	99014017	9901401703							0.15	lbs		Fragment
Natural Brush/Forest	14	99014017	9901401704							0.15	lbs		Fragment
Natural Brush/Forest	14	99014017	9901401705							0.15	lbs		Fragment
Natural Brush/Forest	14	99014017	9901401706							0.15	lbs		Fragment
Natural Brush/Forest	28	99028001	9902800101							0.15	lbs		Fragment
Natural Brush/Forest	28	99028003	9902800301							0.3	lbs		Fragment
Natural Brush/Forest	28	99028004	9902800401							0.3	lbs		Fragment
Natural Brush/Forest	28	99028005	9902800501							0.7	lbs		Fragment
Natural Brush/Forest	28	99028006	9902800601							1	lbs		Fragment
Natural Brush/Forest	13	99013002	9901300201							1	lbs		Fragment
Natural Brush/Forest	13	99013002	9901300202							0.15	lbs		Fragment
Natural Brush/Forest	13	99013002	9901300203							0.15	lbs		Fragment
Natural Brush/Forest	13	99013002	9901300204							0.15	lbs		Fragment
Natural Brush/Forest	13	99013002	9901300205							0.15	lbs		Fragment
Natural Brush/Forest	13	99013002	9901300206							0.15	lbs		Fragment
Natural Brush/Forest	13	99013002	9901300207							0.15	lbs		Fragment
Natural Brush/Forest	13	99013002	9901300208							0.15	lbs		Fragment
Natural Brush/Forest	13	99013002	9901300209							0.15	lbs		Fragment
Natural Brush/Forest	13	99013002	9901300210							0.15	lbs		Fragment

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OE ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	13	99013002	9901300211							0.15	lbs		Fragment
Natural Brush/Forest	13	99013003	9901300301							0.15	lbs		Fragment
Natural Brush/Forest	13	99013003	9901300302							0.15	lbs		Fragment
Natural Brush/Forest	13	99013003	9901300303							0.15	lbs		Fragment
Natural Brush/Forest	13	99013003	9901300304							0.15	lbs		Fragment
Natural Brush/Forest	13	99013003	9901300305							0.15	lbs		Fragment
Natural Brush/Forest	13	99013004	9901300401							0.15	lbs		Fragment
Natural Brush/Forest	13	99013004	9901300402							0.15	lbs		Scrap
Natural Brush/Forest	13	99013004	9901300403			10- Barbed wire				0.15	lbs		Fragment
Natural Brush/Forest	13	99013005	9901300501							0.15	lbs		Fragment
Natural Brush/Forest	13	99013005	9901300502							0.15	lbs		Fragment
Natural Brush/Forest	13	99013005	9901300503							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300801							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300802							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300803							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300804							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300805							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300806							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300807							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300808							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300809							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300810							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300811							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300812							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300813							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300814							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300815							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300816							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300817							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300818							0.15	lbs		Fragment
Natural Brush/Forest	13	99013009	9901300901							0.15	lbs		Fragment
Natural Brush/Forest	13	99013009	9901300902							0.15	lbs		Fragment
Natural Brush/Forest	13	99013009	9901300903							0.15	lbs		Fragment
Natural Brush/Forest	13	99013009	9901300904							0.15	lbs		Fragment
Natural Brush/Forest	13	99013009	9901300905							0.15	lbs		Fragment
Natural Brush/Forest	13	99013011	9901301101							0.15	lbs		Fragment
Natural Brush/Forest	13	99013011	9901301102							0.15	lbs		Fragment
Natural Brush/Forest	13	99013011	9901301103							0.15	lbs		Fragment
Natural Brush/Forest	13	99013011	9901301104							0.15	lbs		Scrap
Natural Brush/Forest	13	99013011	9901301105			Nail/barbed wire				0.15	lbs		Fragment
Natural Brush/Forest	13	99013012	9901301201							0.15	lbs		Fragment
Natural Brush/Forest	13	99013012	9901301202							0.15	lbs		Fragment
Natural Brush/Forest	13	99013012	9901301203							0.15	lbs		Scrap
Natural Brush/Forest	13	99013012	9901301204			Barbed wire				0.15	lbs		Fragment
Natural Brush/Forest	13	99013015	9901301501							0.15	lbs		Fragment
Natural Brush/Forest	13	99013015	9901301502							0.15	lbs		Fragment
Natural Brush/Forest	13	99013015	9901301503							0.15	lbs		Fragment
Natural Brush/Forest	13	99013015	9901301504							0.15	lbs		Fragment

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OE ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH	DEPTH UNITS	WEIGHT	WEIGHT UNITS	EXPLOSIVE	OBJ NAME
Natural Brush/Forest	13	99013015	9901301505										
Natural Brush/Forest	13	99013015	9901301506							0.15	lbs		Fragment
Natural Brush/Forest	13	99013015	9901301507							0.15	lbs		Fragment
Natural Brush/Forest	13	99013015	9901301508							0.15	lbs		Fragment
Natural Brush/Forest	13	99013015	9901301509							0.15	lbs		Fragment
Natural Brush/Forest	13	99013016	9901301601							0.15	lbs		Fragment
Natural Brush/Forest	13	99013016	9901301602							0.15	lbs		Fragment
Natural Brush/Forest	13	99013016	9901301603							0.15	lbs		Fragment
Natural Brush/Forest	13	99013016	9901301604							0.15	lbs		Fragment
Natural Brush/Forest	13	99013018	9901301801							0.15	lbs		Fragment
Natural Brush/Forest	13	99013018	9901301802							0.15	lbs		Scrap
Natural Brush/Forest	13	99013018	9901301803							0.15	lbs		Fragment
Natural Brush/Forest	16	99016001	9901600101				Barbed wire			0.15	lbs		Fragment
Natural Brush/Forest	16	99016002	9901600201										Scrap
Natural Brush/Forest	16	99016005	9901600501							1	lbs		Fragment
Natural Brush/Forest	16	99016006	9901600601							1	lbs		Fragment
Natural Brush/Forest	16	99016008	9901600801							3	lbs		Fragment
Natural Brush/Forest	16	99016009	9901600901							3	lbs		Fragment
Natural Brush/Forest	15	99015001	9901500101							2	lbs		Fragment
Natural Brush/Forest	15	99015002	9901500201							4	lbs		Fragment
Natural Brush/Forest	15	99015004	9901500401							5	lbs		Fragment
Natural Brush/Forest	15	99015005	9901500501							5	lbs		Fragment
Natural Brush/Forest	15	99015008	9901500801							4	lbs		Fragment
Natural Brush/Forest	15	99015009	9901500901							4	lbs		Fragment
Natural Brush/Forest	15	99015010	9901501001							1	lbs		Fragment
Natural Brush/Forest	15	99015011	9901501101							3	lbs		Fragment
Natural Brush/Forest	71	99071002	9907100201							2	lbs		Fragment
Natural Brush/Forest	71	99071003	9907100301				Magnetic Rock			1	lbs		Fragment
Natural Brush/Forest	71	99071004	9907100401										Magnetic Rock
Natural Brush/Forest	8	9908001	990800101							0.25	lbs		Fragment
Natural Brush/Forest	8	9908003	990800301							2	lbs		Fragment
Natural Brush/Forest	8	9908004	990800401							2	lbs		Fragment
Natural Brush/Forest	8	9908005	990800501							2	lbs		Fragment
Natural Brush/Forest	8	9908006	990800601							3	lbs		Fragment
Natural Brush/Forest	8	9908008	990800801							2	lbs		Fragment
Natural Brush/Forest	8	9908009	990800901							2	lbs		Fragment
Natural Brush/Forest	8	9908010	990801001							2	lbs		Fragment
Natural Brush/Forest	8	9908011	990801101							1	lbs		Fragment
Natural Brush/Forest	7	9907001	990700101							3	lbs		Fragment
Natural Brush/Forest	7	9907003	990700301							1	lbs		Fragment
Natural Brush/Forest	7	9907004	990700401							0.5	lbs		Fragment
Natural Brush/Forest	7	9907005	990700501							1	lbs		Fragment
Natural Brush/Forest	7	9907005	990700502							4	lbs		Fragment
Natural Brush/Forest	5	9905001	990500101							3	lbs		Fragment
Natural Brush/Forest	5	9905004	990500401							2	lbs		Scrap
Natural Brush/Forest	5	9905005	990500501							3	lbs		Fragment
Natural Brush/Forest	4	9904001	990400101							0.5	lbs		Fragment
Natural Brush/Forest	4	9904002	990400201							1	lbs		Fragment
Natural Brush/Forest										2	lbs		Fragment
Natural Brush/Forest										1	lbs		Fragment

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OE ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH	WEIGHT	EXPLOSIVE	OBJ NAME
								DEPTH UNITS	WEIGHT UNITS		
									0.5 lbs		Scrap
Pinefarm	81	99081002	9908100201								
Pinefarm	81	99081003									
Pinefarm	81	99081004									
Pinefarm	81	99081005	9908100501			Sheet metal/barbed wire			4 lbs		Scrap
Pinefarm	81	99081006	9908100601			Junk			1 lbs		Scrap
Pinefarm	81	99081009	9908100901				Sheet Metal				Scrap
Pinefarm	81	99081010	9908101001			Wrought iron fence piece			11 lbs		Scrap
Pinefarm	81	99081011	9908101101	1784043' 4	1112493' 8"	105 mm BE/Inert		6 in.	25 lbs		Ordnance
Pinefarm	81	99081012	9908101201			Horseshoes			1.5 lbs		Scrap
Pinefarm	81	99081013	9908101301						0.25 lbs		Scrap
Pinefarm	81	99081014	9908101401				Sheet Metal				Scrap
Pinefarm	81	99081016	9908101601				Plow Parts				Scrap
Pinefarm	81	99081017	9908101701						0.5 lbs		Scrap
Pinefarm	81	99081018	9908101801			Conduit			2 lbs		Scrap
Pinefarm	81	99081019	9908101901			Wire/metal strap			0.5 lbs		Scrap
Pinefarm	81	99081020	9908102001			Concrete & rebarb			lbs		Scrap
Pinefarm	81	99081021	9908102101			Concrete & rebarb			lbs		Scrap
Pinefarm	81	99081022	9908102201			Concrete & rebarb			lbs		Scrap
Pinefarm	81	99081024	9908102401				Metal Rod				Scrap
Pinefarm	112	99112001	9911200101			Inert fuze			4.5 lbs		Fragment
Pinefarm	112	99112001	9911200102			Inert fuze			0.4 lbs		Scrap
Pinefarm	112	99112002	9911200201						0.5 lbs		Fragment
Pinefarm	112	99112002	9911200202						0.6 lbs		Scrap
Pinefarm	112	99112002	9911200202						0.1 lbs		Fragment
Pinefarm	112	99112003	9911200301						0.1 lbs		Scrap
Pinefarm	112	99112003	9911200302						0.1 lbs		Fragment
Pinefarm	112	99112004	9911200401						0.1 lbs		Scrap
Pinefarm	112	99112004	9911200402						0.6 lbs		Fragment
Pinefarm	112	99112005	9911200501						0.6 lbs		Scrap
Pinefarm	112	99112005	9911200502						0.3 lbs		Fragment
Pinefarm	112	99112006	9911200601						1.5 lbs		Scrap
Pinefarm	112	99112006	9911200602						0.75 lbs		Fragment
Pinefarm	112	99112008	9911200801						0.5 lbs		Scrap
Pinefarm	112	99112008	9911200802						0.25 lbs		Fragment
Pinefarm	112	99112009	9911200901			Inert fuze			0.6 lbs		Scrap
Pinefarm	112	99112009	9911200902						0.5 lbs		Fragment
Pinefarm	112	99112010	9911201001						0.7 lbs		Scrap
Pinefarm	112	99112010	9911201002						0.25 lbs		Fragment
Pinefarm	112	99112011	9911201101						0.8 lbs		Scrap
Pinefarm	112	99112011	9911201102						1.5 lbs		Fragment
Pinefarm	112	99112013	9911201301						0.8 lbs		Scrap
Pinefarm	112	99112013	9911201302						2.5 lbs		Fragment
Pinefarm	112	99112014	9911201401						0.1 lbs		Scrap
Pinefarm	112	99112014	9911201402						0.5 lbs		Fragment
Pinefarm	112	99112015	9911201501						0.3 lbs		Scrap
Pinefarm	112	99112015	9911201502						0.25 lbs		Fragment
Pinefarm	112	99112016	9911201601						3 lbs		Scrap
Pinefarm	112	99112016	9911201602						3 lbs		Fragment
Pinefarm	111	99111001	9911100101								

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OF ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								UNITS	UNITS	UNITS	UNITS		
Pinefarm	111	99111002	9911100201										
Pinefarm	111	99111003	9911100301								3 lbs		Fragment
Pinefarm	111	99111005	9911100501								2 lbs		Fragment
Pinefarm	111	99111007	9911100701								3 lbs		Fragment
Pinefarm	111	99111008	9911100801								2 lbs		Fragment
Pinefarm	111	99111010	9911101001								2 lbs		Fragment
Pinefarm	111	99111011	9911101101								3 lbs		Fragment
Pinefarm	111	99111012	9911101201								2 lbs		Fragment
Pinefarm	110	99110001				Fuze (Inert/frag)					4 lbs		Fragment
Pinefarm	110	99110002	9911000201										
Pinefarm	110	99110004	9911000401								5 lbs		Fragment
Pinefarm	110	99110006	9911000601								0.25 lbs		Fragment
Pinefarm	110	99110007	9911000701								0.5 lbs		Fragment
Pinefarm	110	99110008									1 lbs		Fragment
Pinefarm	110	99110010	9911001001										
Pinefarm	110	99110010	9911001002	1784098' 3	1112172' 6"	105 mm BE/Inert					0.25 lbs		Fragment
Pinefarm	110	99110012	9911001201					6 in.			25 lbs		Ordnance
Pond	173	99173001	9917300101								0.25 lbs		Fragment
Pond	175	99175001	9917500101								0.5 lbs		Fragment
Pond	176	99176001	9917600101								0.25 lbs		Fragment
Pond	176	99176002	9917600201								0.33 lbs		Fragment
Pond	176	99176003	9917600301								0.33 lbs		Fragment
Pond	138	99138001	9913800101								0.33 lbs		Fragment
Pond	138	99138001	9913800102								0.15 lbs		Fragment
Pond	138	99138002	9913800201								1 lbs		Scrap
Pond	138	99138003	9913800301								0.15 lbs		Fragment
Pond	138	99138004	9913800401								0.15 lbs		Fragment
Pond	139	99139001									0.15 lbs		Fragment
Pond	193	99193002	9919300201										
Pond	193	99193003	9919300301								0.5 lbs		Fragment
Pond	195	99195001	9919500101								2.5 lbs		Scrap
Pond	194	99194001	9919400101			Magnetic Rock							
Pond	194	99194002	9919400201								0.25 lbs		Magnetic Rock
Pond	194	99194004	9919400401								0.25 lbs		Fragment
Natural Brush/Forest	197	99197001	9919700101								0.25 lbs		Fragment
Natural Brush/Forest	198	99198001	9919800101								1 lbs		Fragment
Natural Brush/Forest	198	99198003	9919800301								0.33 lbs		Fragment
Natural Brush/Forest	199	99199001	9919900101								0.33 lbs		Fragment
Natural Brush/Forest	199	99199004	9919900401								1.4 lbs		Scrap
Natural Brush/Forest	199	99199005	9919900501								1.4 lbs		Scrap
Natural Brush/Forest	199	99199007	9919900701								1.4 lbs		Scrap
Natural Brush/Forest	200	99200001	9920000101								1.4 lbs		Scrap
Natural Brush/Forest	200	99200002	9920000201								0.33 lbs		Fragment
Pinefarm	205	99205002	9920500201								0.33 lbs		Fragment
Pinefarm	205	99205003	9920500301								0.25 lbs		Fragment
Pinefarm	205	99205005	9920500501								0.25 lbs		Fragment
Pinefarm	205	99205006	9920500601								0.25 lbs		Fragment
Pinefarm	205	99205007	9920500701	1784519' 2	1110846' 10"	105 mm BE/Inert			4 in.		25 lbs		Ordnance

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OE ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Pinefarm	205	99205007	9920500702							0.25	lbs		Fragment
Pinefarm	205	99205008	9920500801							0.25	lbs		Fragment
Pinefarm	205	99205009	9920500901							0.25	lbs		Fragment
Pinefarm	205	99205010	9920501001							0.25	lbs		Fragment
Pinefarm	205	99205012	9920501201							0.25	lbs		Fragment
Pinefarm	205	99205013	9920501301							0.25	lbs		Fragment
Pinefarm	205	99205014	9920501401							0.25	lbs		Fragment
Pinefarm	205	99205015	9920501501							0.25	lbs		Fragment
Pinefarm	205	99205016	9920501601							1.25	lbs		Fragment
Pinefarm	208	99206001	9920600101							1.25	lbs		Fragment
Pinefarm	208	99206002	9920600201							1.25	lbs		Fragment
Pinefarm	208	99206003	9920600301							1.25	lbs		Fragment
Pinefarm	208	99206004	9920600401							1.25	lbs		Fragment
Pinefarm	208	99206006	9920600601							1.25	lbs		Fragment
Pinefarm	208	99206007	9920600701							1.25	lbs		Fragment
Pinefarm	208	99206008	9920600801							1.25	lbs		Fragment
Pinefarm	208	99206009	9920600901							1.25	lbs		Fragment
Pinefarm	208	99206011	9920601101										
Pinefarm	207	99207001								0.25	lbs		Fragment
Pinefarm	207	99207002	9920700201							0.25	lbs		Fragment
Pinefarm	207	99207004	9920700401							0.25	lbs		Fragment
Pinefarm	207	99207006	9920700601										
Pinefarm	207	99207007								0.25	lbs		Fragment
Pinefarm	207	99207009	9920700901							0.25	lbs		Fragment
Pinefarm	207	99207011	9920701101							0.5	lbs		Fragment
Pinefarm	207	99207013	9920701301							0.25	lbs		Fragment
Pinefarm	208	99208001	9920800101							0.25	lbs		Fragment
Pinefarm	208	99208002	9920800201							1	lbs		Fragment
Pinefarm	208	99208005	9920800501							1	lbs		Fragment
Pinefarm	208	99208006	9920800601							0.5	lbs		Fragment
Pinefarm	208	99208008	9920800801							2	lbs		Fragment
Pinefarm	208	99208011	9920801101							0.5	lbs		Fragment
Pinefarm	208	99208012	9920801201							0.5	lbs		Fragment
Pinefarm	208	99208014	9920801401							0.5	lbs		Fragment
Pinefarm	208	99208015	9920801501							1	lbs		Fragment
Pinefarm	208	99208016	9920801601							2	lbs		Fragment
Pinefarm	208	99208017	9920801701							0.25	lbs		Fragment
Pinefarm	208	99208019	9920801901							0.5	lbs		Fragment
Pinefarm	208	99208020	9920802001							0.5	lbs		Fragment
Pinefarm	208	99208021	9920802101							0.25	lbs		Fragment
Pinefarm	182	99182001	9918200101										
Pinefarm	182	99182003								0.25	lbs		Fragment
Pinefarm	182	99182004	9918200401							0.75	lbs		Fragment
Pinefarm	182	99182005	9918200501							0.5	lbs		Fragment
Pinefarm	182	99182006	9918200601							0.25	lbs		Fragment
Pinefarm	182	99182007	9918200701							0.25	lbs		Fragment
Pinefarm	182	99182009	9918200901							0.5	lbs		Fragment
Pinefarm	182	99182010	9918201001										

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Pinefarm	182	99182011	9918201101										
Pinefarm	182	99182012	9918201201								1	lbs	Fragment
Pinefarm	182	99182014	9918201401								0.5	lbs	Fragment
Pinefarm	182	99182015	9918201501								0.25	lbs	Fragment
Pinefarm	182	99182018	9918201801								0.25	lbs	Fragment
Pinefarm	182	99182017	9918201701								0.25	lbs	Fragment
Pinefarm	183	99183003	9918300301								0.5	lbs	Fragment
Pinefarm	183	99183004	9918300401								0.5	lbs	Fragment
Pinefarm	183	99183005	9918300501								0.5	lbs	Fragment
Pinefarm	183	99183006	9918300601								0.5	lbs	Fragment
Pinefarm	183	99183009	9918300901								0.25	lbs	Fragment
Pinefarm	183	99183011	9918301101								0.5	lbs	Fragment
Pinefarm	183	99183012	9918301201								0.25	lbs	Fragment
Pinefarm	183	99183013	9918301301								1	lbs	Scrap
Pinefarm	183	99183018	9918301801								0.25	lbs	Fragment
Pinefarm	183	99183017	9918301701								0.25	lbs	Fragment
Pinefarm	183	99183019	9918301901								1	lbs	Fragment
Pinefarm	183	99183021	9918302101			Magnetic Rock					0.25	lbs	Fragment
Pinefarm	184	99184002	9918400201										Magnetic Rock
Pinefarm	184	99184002	9918400202								0.5	lbs	Fragment
Pinefarm	184	99184003	9918400301								0.25	lbs	Scrap
Pinefarm	184	99184004	9918400401								1	lbs	Fragment
Pinefarm	184	99184005	9918400501								1	lbs	Fragment
Pinefarm	184	99184005	9918400502								1	lbs	Fragment
Pinefarm	184	99184006	9918400601								2	lbs	Scrap
Pinefarm	184	99184006	9918400602								1	lbs	Fragment
Pinefarm	184	99184006	9918400601								0.25	lbs	Scrap
Pinefarm	184	99184009	9918400901								2	lbs	Fragment
Pinefarm	184	99184010	9918401001								1	lbs	Fragment
Pinefarm	184	99184011	9918401101								0.5	lbs	Fragment
Pinefarm	184	99184013	9918401301								0.5	lbs	Fragment
Pinefarm	184	99184014	9918401401								0.25	lbs	Fragment
Pinefarm	184	99184015	9918401501								0.25	lbs	Fragment
Pinefarm	184	99184017	9918401701								0.25	lbs	Fragment
Pinefarm	184	99184018	9918401801								0.25	lbs	Fragment
Pinefarm	184	99184019	9918401901								0.25	lbs	Fragment
Pinefarm	184	99184020	9918402001								0.25	lbs	Fragment
Pinefarm	181	99181001	9918100101								0.5	lbs	Fragment
Pinefarm	181	99181001	9918100102								0.5	lbs	Fragment
Pinefarm	181	99181002	9918100201								0.5	lbs	Scrap
Pinefarm	181	99181002	9918100202								0.25	lbs	Fragment
Pinefarm	181	99181003	9918100301								0.5	lbs	Scrap
Pinefarm	181	99181004	9918100401								1	lbs	Scrap
Pinefarm	181	99181006	9918100601								0.25	lbs	Fragment
Pinefarm	181	99181007	9918100701								0.25	lbs	Fragment
Pinefarm	181	99181006	9918100601								0.25	lbs	Fragment
Pinefarm	181	99181010	9918101001								1	lbs	Scrap
Pinefarm	181	99181012	9918101201								0.5	lbs	Fragment
											5	lbs	Scrap

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Pinefarm	181	99181013	9918101301							5 lbs			Scrap
Pinefarm	181	99181014	9918101401			Tin							Scrap
Pinefarm	181	99181018	9918101801			Tin							Scrap
Pinefarm	181	99181018	9918101801							0.5 lbs			Fragment
Pinefarm	181	99181018	9918101802							3 lbs			Scrap
Pinefarm	181	99181019	9918101901							1.5 lbs			Scrap
Pinefarm	181	99181021	9918102101							0.25 lbs			Fragment
Pinefarm	181	99181021	9918102102							2 lbs			Scrap
Pinefarm	181	99181022											
Pinefarm	181	99181025	9918102501			Tin				5 lbs			Scrap
Pond	142	99142001	9914200101							0.25 lbs			Scrap
Pond	142	99142003	9914200301							0.5 lbs			Fragment
Pond	142	99142004	9914200401							0.5 lbs			Fragment
Pond	142	99142007	9914200701							0.5 lbs			Fragment
Pond	142	99142009	9914200901							0.25 lbs			Fragment
Pond	142	99142010	9914201001							0.5 lbs			Fragment
Pond	127	99127001	9912700101							1 lbs			Scrap
Pond	127	99127002	9912700201							0.5 lbs			Fragment
Pond	127	99127004	9912700401							0.5 lbs			Scrap
Pond	127	99127004	9912700402							0.5 lbs			Scrap
Pond	127	99127005	9912700501			Barbed wire				0.5 lbs			Fragment
Pond	127	99127006											
Pond	127	99127007	9912700701							1 lbs			Scrap
Pond	127	99127009	9912700901							1.5 lbs			Scrap
Pond	127	99127010	9912701001							0.5 lbs			Scrap
Pond	127	99127011	9912701101							0.5 lbs			Scrap
Pond	127	99127012	9912701201							0.25 lbs			Scrap
Pond	127	99127014	9912701401							1 lbs			Scrap
Pond	127	99127015	9912701501							0.5 lbs			Scrap
Pond	127	99127016	9912701601							1 lbs			Scrap
Pond	127	99127017	9912701701							0.25 lbs			Scrap
Pond	127	99127019	9912701901							2 lbs			Scrap
Pond	127	99127020	9912702001							2 lbs			Fragment
Pond	128	99128001	9912800101							2 lbs			Scrap
Pond	128	99128004	9912800401							3 lbs			Scrap
Pond	128	99128005	9912800501							2 lbs			Scrap
Pond	128	99128006	9912800601							0.5 lbs			Scrap
Pond	128	99128008	9912800801							5 lbs			Scrap
Pond	128	99128010	9912801001							0.5 lbs			Fragment
Pond	128	99128012	9912801201							0.5 lbs			Scrap
Pond	141	99141001	9914100101							0.5 lbs			Fragment
Pond	141	99141002	9914100201							0.5 lbs			Fragment
Pond	141	99141005	9914100501										
Pond	141	99141006								0.5 lbs			Fragment
Pond	141	99141008	9914100801							0.25 lbs			Fragment
Pond	141	99141009	9914100901							0.25 lbs			Fragment
Pond	136	99136001	9913600101							0.25 lbs			Fragment
Pond	136	99136002	9913600201										

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								DEPTH	UNITS	WEIGHT	UNITS		
Pond	136	99136003	9913600301							0.5	lbs		Fragment
Pond	136	99136005	9913600501							0.25	lbs		Fragment
Pond	136	99136007	9913600701							0.5	lbs		Fragment
Natural Brush/Forest	147	99147001											Fragment
Uninvestigated Area	148	99148001											
Uninvestigated Area	148	99148002											
Uninvestigated Area	148	99148003											
Pond	129	99129001	9912900101										
Pond	129	99129002								0.25	lbs		Scrap
Pond	189	99189001											
EE/CA Grid 87	108	99108002	9910800201										
EE/CA Grid 87	108	99108003	9910800301							1	lbs		Fragment
EE/CA Grid 87	108	99108004	9910800401							0.25	lbs		Fragment
EE/CA Grid 87	108	99108005	9910800501							0.5	lbs		Fragment
EE/CA Grid 87	108	99108007	9910800701							0.25	lbs		Fragment
EE/CA Grid 87	108	99108008	9910800801							0.5	lbs		Fragment
EE/CA Grid 87	108	99108009	9910800901							1	lbs		Fragment
EE/CA Grid 87	108	99108011	9910801101							0.5	lbs		Fragment
EE/CA Grid 87	108	99108012	9910801201							0.1	lbs		Fragment
EE/CA Grid 87	108	99108013	9910801301							0.1	lbs		Fragment
EE/CA Grid 87	108	99108014	9910801401							0.25	lbs		Fragment
EE/CA Grid 87	108	99108016	9910801601							0.25	lbs		Fragment
EE/CA Grid 87	105	99105001	9910500101							1	lbs		Fragment
EE/CA Grid 87	105	99105002	9910500201							0.25	lbs		Fragment
EE/CA Grid 87	105	99105004	9910500401							0.25	lbs		Fragment
EE/CA Grid 87	105	99105007	9910500701							0.5	lbs		Fragment
EE/CA Grid 87	105	99105008	9910500801							0.25	lbs		Fragment
EE/CA Grid 87	105	99105009	9910500901							0.5	lbs		Fragment
EE/CA Grid 87	105	99105011	9910501101							0.25	lbs		Fragment
EE/CA Grid 87	105	99105013	9910501301							0.5	lbs		Fragment
EE/CA Grid 87	105	99105015	9910501501							0.5	lbs		Fragment
EE/CA Grid 87	105	99105016	9910501601							0.5	lbs		Fragment
EE/CA Grid 87	105	99105019	9910501901							0.25	lbs		Fragment
EE/CA Grid 87	108	99108001	9910800101							0.25	lbs		Fragment
EE/CA Grid 87	108	99108003	9910800301							0.25	lbs		Fragment
EE/CA Grid 87	108	99108004	9910800401							0.5	lbs		Fragment
EE/CA Grid 87	108	99108007	9910800701							0.5	lbs		Fragment
EE/CA Grid 87	108	99108008	9910800801							0.25	lbs		Fragment
EE/CA Grid 87	108	99108010	9910801001							0.5	lbs		Fragment
EE/CA Grid 87	108	99108011	9910801101							3	lbs		Fragment
EE/CA Grid 87	108	99108012	9910801201							0.25	lbs		Fragment
EE/CA Grid 87	108	99108013	9910801301							0.25	lbs		Fragment
EE/CA Grid 87	108	99108015	9910801501							0.25	lbs		Fragment
EE/CA Grid 87	108	99108016	9910801601							0.25	lbs		Fragment
EE/CA Grid 87	108	99108017	9910801701							0.25	lbs		Fragment
EE/CA Grid 87	108	99108018	9910801801							0.25	lbs		Fragment
EE/CA Grid 87	107	99107001	9910700101							0.25	lbs		Fragment
EE/CA Grid 87	107	99107002								0.1	lbs		Fragment

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								UNITS		UNITS			
EE/CA Grid 87	107	99107003	9910700301							0.1	lbs		Fragment
EE/CA Grid 87	107	99107006	9910700601							0.1	lbs		Fragment
EE/CA Grid 87	107	99107007	9910700701							0.1	lbs		Fragment
EE/CA Grid 87	107	99107009	9910700901							0.25	lbs		Fragment
EE/CA Grid 87	107	99107010	9910701001							0.1	lbs		Fragment
EE/CA Grid 87	107	99107012	9910701201							0.25	lbs		Fragment
EE/CA Grid 87	107	99107014	9910701401							0.1	lbs		Fragment
EE/CA Grid 87	107	99107015	9910701501							0.1	lbs		Fragment
EE/CA Grid 87	107	99107015	9910701501							5	lbs		Scrap
Natural Brush/Forest	255	99255001	9925500101							2	lbs		Scrap
Natural Brush/Forest	269	99269001	9926900101							1	lbs		Fragment
Pinefarm	54	99054001	9905400101							1	lbs		Fragment
Pinefarm	54	99054002	9905400201							0.25	lbs		Fragment
Pinefarm	54	99054003	9905400301										
Pinefarm	54	99054005								0.5	lbs		Fragment
Pinefarm	54	99054006	9905400601							0.25	lbs		Fragment
Pinefarm	54	99054007	9905400701										
Pinefarm	54	99054008											
Pinefarm	55	99055002	9905500201							0.25	lbs		Fragment
Pinefarm	55	99055002	9905500201							0.5	lbs		Fragment
Pinefarm	55	99055004	9905500401							0.25	lbs		Fragment
Pinefarm	55	99055006	9905500601							0.25	lbs		Fragment
Pinefarm	55	99055007	9905500701							0.25	lbs		Fragment
Pinefarm	55	99055008	9905500801							0.25	lbs		Fragment
Pinefarm	55	99055011	9905501101							0.25	lbs		Fragment
Pinefarm	55	99055011	9905501101							0.5	lbs		Fragment
Pinefarm	55	99055013	9905501301							0.25	lbs		Fragment
Pinefarm	55	99055014	9905501401										
Pinefarm	55	99055015								0.25	lbs		Fragment
Pinefarm	58	99056002	9905600201										
Pinefarm	56	99056003											
Pinefarm	56	99056004	9905600401							0.25	lbs		Fragment
Pinefarm	56	99056005	9905600501							0.5	lbs		Fragment
Pinefarm	56	99056007	9905600701							0.5	lbs		Fragment
Pinefarm	56	99056008	9905600801							0.75	lbs		Fragment
Pinefarm	56	99056008	9905600801							0.25	lbs		Fragment
Pinefarm	56	99056009	9905600901							0.25	lbs		Fragment
Pinefarm	56	99056012	9905601201										
Pinefarm	56	99056013											
Pinefarm	56	99056014											
Pinefarm	56	99056018	9905601801							0.25	lbs		Fragment
Pinefarm	56	99056017	9905601701							0.25	lbs		Fragment
Pinefarm	56	99056020											
Pinefarm	56	99056021	9905602101							0.25	lbs		Fragment
Pinefarm	56	99056023	9905602301							0.25	lbs		Fragment
Pinefarm	49	99049001	9904900101							0.25	lbs		Fragment
Pinefarm	49	99049002	9904900201							0.25	lbs		Fragment
Pinefarm	49	99049004	9904900401							1	lbs		Fragment
Pinefarm	49	99049005	9904900501							0.25	lbs		Fragment
Pinefarm	49	99049006											
Pinefarm	49	99049007	9904900701							0.25	lbs		Fragment
Pinefarm	49	99049007	9904900701							0.5	lbs		Fragment
Pinefarm	50	99050001	9905000101										

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH UNITS	WEIGHT UNITS	WEIGHT UNITS	WEIGHT UNITS		
Pinefarm	50	99050002	9905000201										
Pinefarm	50	99050003	9905000301							0.5	lbs		Fragment
Pinefarm	50	99050004	9905000401							0.25	lbs		Fragment
Pinefarm	53	99053002	9905300201							0.25	lbs		Fragment
Pinefarm	53	99053004	9905300401							0.5	lbs		Fragment
Pinefarm	53	99053008	9905300801							1	lbs		Fragment
Pinefarm	53	99053007	9905300701							0.5	lbs		Fragment
Pinefarm	53	99053010	9905301001							1	lbs		Fragment
Pinefarm	53	99053011	9905301101							0.5	lbs		Fragment
Pinefarm	53	99053013	9905301301							0.5	lbs		Fragment
Pinefarm	53	99053014								0.25	lbs		Fragment
Pinefarm	51	99051001	9905100101										
Pinefarm	51	99051002	9905100201							0.5	lbs		Fragment
Pinefarm	51	99051003								0.25	lbs		Fragment
Pinefarm	51	99051005	9905100501										
Pinefarm	51	99051006								0.25	lbs		Fragment
Pinefarm	51	99051007	9905100701										
Pinefarm	52	99052001	9905200101							0.25	lbs		Fragment
Pinefarm	52	99052003	9905200301							0.5	lbs		Fragment
Pinefarm	52	99052004	9905200401							0.25	lbs		Fragment
Pinefarm	52	99052005	9905200501							0.25	lbs		Fragment
Natural Brush/Forest	22	99022001	9902200101							0.5	lbs		Fragment
Natural Brush/Forest	22	99022003	9902200301							0.5	lbs		Fragment
Natural Brush/Forest	22	99022004	9902200401							0.25	lbs		Fragment
Natural Brush/Forest	22	99022005	9902200501							0.5	lbs		Fragment
Natural Brush/Forest	22	99022006	9902200601							1	lbs		Fragment
Natural Brush/Forest	22	99022007	9902200701							0.25	lbs		Scrap
Natural Brush/Forest	22	99022008	9902200801							0.25	lbs		Scrap
Natural Brush/Forest	22	99022010	9902201001							0.25	lbs		Scrap
Natural Brush/Forest	22	99022011	9902201101							0.25	lbs		Fragment
Pond	123	99123001	9912300101							0.25	lbs		Fragment
Pond	123	99123003	9912300301							0.25	lbs		Fragment
Pond	123	99123004	9912300401							0.25	lbs		Fragment
Pond	123	99123005	9912300501										Magnetic Rock
Pond	123	99123007	9912300701										Soil Layer
Pond	123	99123008	9912300801										Soil Layer
Pond	123	99123010	9912301001										Fragment
Pinefarm	82	99082001								0.25	lbs		Fragment
Pinefarm	82	99082002											
Pinefarm	82	99082005	9908200501										
Pinefarm	82	99082008	9908200801							0.25	lbs		Fragment
Pinefarm	82	99082007								0.25	lbs		Fragment
Pinefarm	82	99082009											
Pinefarm	82	99082012	9908201201										
Pinefarm	82	99082013								0.5	lbs		Fragment
Pinefarm	82	99082014											
Pinefarm	82	99082017	9908201701										Frag and Metal Trash
Pinefarm	82	99082018	9908201801										Drum Lid
													Scrap
													Scrap

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									UNITS	WEIGHT		
Pinefarm	82	99082020	9908202001			Metal strap				2.5 lbs		Fragment
Pinefarm	82	99082021	9908202101							0.5 lbs		Fragment
Pinefarm	83	99083002	9908300201							0.25 lbs		Fragment
Pinefarm	83	99083003	9908300301							0.5 lbs		Fragment
Pinefarm	83	99083005	9908300501							0.25 lbs		Fragment
Pinefarm	83	99083005	9908300502	1764056'	1112338'	105 mm BE/Inert		0 in.		25 lbs		Ordnance
Pinefarm	83	99083006										
Pinefarm	83	99083007	9908300701							0.25 lbs		Fragment
Pinefarm	83	99083008	9908300801							0.25 lbs		Fragment
Pinefarm	83	99083010	9908301001							0.25 lbs		Fragment
Pinefarm	83	99083011	9908301101							0.25 lbs		Fragment
Pinefarm	83	99083012	9908301201							0.25 lbs		Fragment
Pinefarm	83	99083014	9908301401							0.25 lbs		Fragment
Pinefarm	83	99083015										
Pinefarm	83	99083016										
Pinefarm	84	99084001	9908400101							0.25 lbs		Fragment
Pinefarm	84	99084003	9908400301							0.25 lbs		Fragment
Pinefarm	84	99084004	9908400401							0.5 lbs		Fragment
Pinefarm	84	99084005	9908400501									
Pinefarm	84	99084007										
Pinefarm	84	99084008	9908400801							0.75 lbs		Fragment
Pinefarm	84	99084009										
Pinefarm	84	99084010	9908401001							3 lbs		Scrap
Pinefarm	84	99084013	9908401301							0.5 lbs		Fragment
Pinefarm	84	99084015	9908401501							0.25 lbs		Fragment
Pinefarm	84	99084018	9908401801							0.25 lbs		Fragment
Pinefarm	84	99084017	9908401701							0.25 lbs		Fragment
Pinefarm	84	99084020	9908402001							0.25 lbs		Fragment
Pinefarm	84	99084021	9908402101							10 lbs		Scrap
Pond	168	99168001	9916800101			55-gallon drum				20 lbs		Scrap
Pond	168	99168002	9916800201			55-gallon drum				0.25 lbs		Scrap
Pond	168	99168005	9916800501			Barbed wire				0.25 lbs		Scrap
Pond	168	99168006	9916800601			Barbed wire				0.25 lbs		Scrap
Pond	168	99168001	9916800101							0.25 lbs		Scrap
Pond	168	99168002	9916800201			Barbed wire				0.25 lbs		Scrap
Pond	168	99168005	9916800501							0.25 lbs		Scrap
Pond	170	99170001										
Pond	170	99170002	9917000201			Barbed wire				0.25 lbs		Scrap
Pond	170	99170006	9917000601									
Pond	170	99170007										
Pond	171	99171001	9917100101							0.3 lbs		Scrap
Pond	171	99171002	9917100201							0.3 lbs		Scrap
Pond	171	99171004	9917100401							0.3 lbs		Scrap
Pond	171	99171005	9917100501									Soil Layer
Pond	171	99171006	9917100601							0.3 lbs		Scrap
Pond	171	99171007	9917100701							0.3 lbs		Scrap
Pond	171	99171009	9917100901							0.3 lbs		Scrap
Pond	171	99171010	9917101001							0.3 lbs		Scrap

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OE ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Pond	130	99130002											
Pond	131	99131004	9913100401										
Natural Brush/Forest	298	99298001	9929800101							0.25	lbs		Scrap
Natural Brush/Forest	298	99298003	9929800301							3	lbs		Scrap
Natural Brush/Forest	300	99300001	9930000101										Soil Layer
Natural Brush/Forest	300	99300002								3	lbs		Scrap
Natural Brush/Forest	262	99262001	9926200101										
Natural Brush/Forest	262	99262002	9926200201							5	lbs		Scrap
Natural Brush/Forest	263	99263002	9926300201							0.5	lbs		Scrap
Natural Brush/Forest	263	99263003	9926300301							1	lbs		Scrap
Natural Brush/Forest	261	99261001	9926100101							0.5	lbs		Scrap
Natural Brush/Forest	260	99260002	9926000201			Soil layer				1	lbs		Scrap
Landfill and Compositn	180	99180002	9918000201										Soil Layer
Landfill and Compositn	180	99180006	9918000601							1	lbs		Fragment
Landfill and Compositn	180	99180009	9918000901							1	lbs		Fragment
Landfill and Compositn	180	99180013	9918001301							1	lbs		Fragment
Landfill and Compositn	180	99180018	9918001801							0.5	lbs		Fragment
Landfill and Compositn	180	99180020	9918002001							0.5	lbs		Fragment
Landfill and Compositn	180	99180026	9918002601							1	lbs		Fragment
Natural Brush/Forest	34	99034006	9903400601							2	lbs		Fragment
Natural Brush/Forest	34	99034009	9903400901							1	lbs		Fragment
Natural Brush/Forest	34	99034013	9903401301							1	lbs		Fragment
Natural Brush/Forest	34	99034018	9903401801							1	lbs		Fragment
Landfill and Compositn	179	99179005	9917900501							1	lbs		Fragment
Landfill and Compositn	179	99179006	9917900601							0.33	lbs		Fragment
Landfill and Compositn	179	99179012	9917901201							0.33	lbs		Fragment
Landfill and Compositn	179	99179015	9917901501							0.33	lbs		Fragment
Natural Brush/Forest	3	99003004	9900300401							0.33	lbs		Fragment
Natural Brush/Forest	3	99003007	9900300701							0.75	lbs		Fragment
Pinefarm	57	99057007	9905700701							0.5	lbs		Fragment
Pinefarm	57	99057007	9905700702							0.15	lbs		Fragment
Pinefarm	57	99057010	9905701001							2	lbs		Scrap
Pinefarm	58	99058004	9905800401							0.1	lbs		Fragment
Pinefarm	58	99058007	9905800701							0.5	lbs		Fragment
Pinefarm	59	99059001	9905900101							0.5	lbs		Fragment
Pinefarm	59	99059005	9905900501							0.5	lbs		Fragment
Pinefarm	59	99059008	9905900801							0.6	lbs		Fragment
Pinefarm	68	99068011	9906801101							0.5	lbs		Fragment
Natural Brush/Forest	65	99065003	9906500301							0.33	lbs		Fragment
Natural Brush/Forest	65	99065003	9906500302							0.15	lbs		Fragment
Natural Brush/Forest	65	99065003	9906500303							0.15	lbs		Fragment
Natural Brush/Forest	65	99065007	9906500701							0.15	lbs		Fragment
Natural Brush/Forest	65	99065007	9906500702							0.15	lbs		Fragment
Natural Brush/Forest	65	99065007	9906500703							0.15	lbs		Fragment
Natural Brush/Forest	65	99065007	9906500704							0.15	lbs		Fragment
Natural Brush/Forest	68	99068001	9906800101							0.15	lbs		Fragment
Natural Brush/Forest	68	99068001	9906800102							0.25	lbs		Fragment
Natural Brush/Forest	68	99068001	9906800103							0.25	lbs		Fragment

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OE ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	88	99068001	9906800104							0.25	lbs		Fragment
Natural Brush/Forest	88	99068001	9906800105			30 cal clips				0.5	lbs		Scrap
Natural Brush/Forest	88	99068004	9906800401							0.25	lbs		Fragment
Natural Brush/Forest	88	99068004	9906800402							0.25	lbs		Fragment
Natural Brush/Forest	88	99068004	9906800403							0.25	lbs		Fragment
Natural Brush/Forest	88	99068004	9906800404							0.25	lbs		Fragment
Natural Brush/Forest	88	99068004	9906800405			Magnetic Rock							Magnetic Rock
Natural Brush/Forest	67	99067003	9906700301							0.15	lbs		Scrap
Natural Brush/Forest	67	99067008	9906700801							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700802							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700803							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700804							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700805							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700806							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700807							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700808							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700809							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700810							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700811							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700812							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700813							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700814							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700815							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700816							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700817							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700818							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700819							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700820							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700821							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700822							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700823							0.15	lbs		Fragment
Natural Brush/Forest	67	99067008	9906700824							0.15	lbs		Fragment
Natural Brush/Forest	67	99067010	9906701001							0.15	lbs		Fragment
Natural Brush/Forest	67	99067010	9906701002							0.15	lbs		Fragment
Natural Brush/Forest	67	99067010	9906701003							0.15	lbs		Fragment
Natural Brush/Forest	67	99067010	9906701004							0.15	lbs		Fragment
Natural Brush/Forest	67	99067010	9906701005							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300801							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300802							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300803							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300804							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300805							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300806							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300807							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300808							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300809							0.15	lbs		Fragment
Natural Brush/Forest	13	99013008	9901300810							0.15	lbs		Fragment
Natural Brush/Forest	13	99013010	9901301001							0.15	lbs		Fragment

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ORDNANCE OPERABLE UNIT 6
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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	13	99013010	9901301002							0.15	lbs		Fragment
Natural Brush/Forest	13	99013010	9901301003							0.15	lbs		Fragment
Natural Brush/Forest	13	99013013	9901301301							0.15	lbs		Fragment
Natural Brush/Forest	13	99013013	9901301302							0.15	lbs		Fragment
Natural Brush/Forest	13	99013013	9901301303							0.15	lbs		Fragment
Natural Brush/Forest	13	99013013	9901301304			Barbed wire				0.15	lbs		Fragment
Natural Brush/Forest	13	99013017	9901301701							0.15	lbs		Scrap
Natural Brush/Forest	13	99013017	9901301702							0.15	lbs		Fragment
Natural Brush/Forest	13	99013017	9901301703							0.15	lbs		Fragment
Natural Brush/Forest	13	99013017	9901301704							0.15	lbs		Fragment
Natural Brush/Forest	13	99013017	9901301705							0.15	lbs		Fragment
Natural Brush/Forest	13	99013017	9901301706							0.15	lbs		Fragment
Natural Brush/Forest	13	99013017	9901301707							0.15	lbs		Fragment
Natural Brush/Forest	13	99013017	9901301708							0.15	lbs		Fragment
Natural Brush/Forest	18	99018003	9901800301							0.15	lbs		Fragment
Natural Brush/Forest	18	99018007	9901800701							3	lbs		Fragment
Natural Brush/Forest	18	99018010	9901801001							3	lbs		Fragment
Natural Brush/Forest	15	99015003	9901500301							4	lbs		Fragment
Natural Brush/Forest	5	99005002	9900500201							3	lbs		Fragment
Natural Brush/Forest	198	99198002	9919800201							0.5	lbs		Fragment
Natural Brush/Forest	199	99199003	9919900301							0.33	lbs		Fragment
Natural Brush/Forest	199	99199008	9919900801							1.4	lbs		Scrap
Natural Brush/Forest	200	99200003	9920000301							1.4	lbs		Scrap
Pinefarm	206	99206010	9920601001							0.33	lbs		Fragment
Pinefarm	61	99061004	9906100401							1.25	lbs		Fragment
Pinefarm	64	99064004	9906400401							1	lbs		Fragment
Pinefarm	64	99064008	9906400801							0.25	lbs		Fragment
Pinefarm	31	99031001	9903100101							0.25	lbs		Fragment
Pinefarm	31	99031005	9903100501							0.25	lbs		Fragment
Pinefarm	31	99031009	9903100901							0.5	lbs		Fragment
Natural Brush/Forest	19	99019001	9901900101							0.25	lbs		Fragment
Natural Brush/Forest	35	99035001	9903500101							0.5	lbs		Fragment
Natural Brush/Forest	35	99035001	9903500102							0.25	lbs		Fragment
Natural Brush/Forest	26	99026003	9902600301			Metal stake				2	lbs		Scrap
Natural Brush/Forest	14	99014003	9901400301							0.1	lbs		Fragment
Natural Brush/Forest	14	99014003	9901400302							0.15	lbs		Fragment
Pinefarm	85	99085014								0.15	lbs		Fragment
Pinefarm	85	99085018	9908501801										
Pinefarm	88	99088004								0.5	lbs		Fragment
Pinefarm	88	99088008	9908800801										
Pinefarm	87	99087003	9908700301							0.25	lbs		Fragment
Pinefarm	86	99086002	9908600201							1	lbs		Fragment
Pinefarm	86	99086005	9908600501							0.5	lbs		Fragment
Pinefarm	86	99086009	9908600901							0.25	lbs		Fragment
Pinefarm	62	99062003	9906200301			Small frag around excav.				0.5	lbs		Fragment
Pinefarm	62	99062008	9906200801							0.25	lbs		Fragment
Pinefarm	85	99085004	9908500401							0.25	lbs		Fragment
Natural Brush/Forest	84	99094011	9909401101							0.5	lbs		Fragment
										0.25	lbs		Fragment

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OE ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	93	99093003	9909300301							0.5	lbs		Fragment
Natural Brush/Forest	93	99093007	9909300701							0.5	lbs		Fragment
Natural Brush/Forest	93	99093010	9909301001							0.25	lbs		Fragment
Natural Brush/Forest	296	99296001	9929600101							1	lbs		Scrap
Natural Brush/Forest	237	99237001	9923700101			Barbed wire				0.25	lbs		Scrap
Natural Brush/Forest	292	99292002	9929200201							0.1	lbs		Scrap
Natural Brush/Forest	291	99291003	9929100301			Magnetic Rock							Magnetic Rock
Natural Brush/Forest	290	99290004	9929000401			Magnetic Rock							Magnetic Rock
Natural Brush/Forest	90	99090002	9909000301							0.5	lbs		Fragment
Natural Brush/Forest	90	99090006	9909000701							0.5	lbs		Fragment
Natural Brush/Forest	90	99090009											
Natural Brush/Forest	91	99091004											
Natural Brush/Forest	91	99091007											
Natural Brush/Forest	91	99091011	9909101101							0.25	lbs		Fragment
Natural Brush/Forest	92	99092003	9909200301							0.25	lbs		Fragment
Natural Brush/Forest	94	99094003	9909400301							0.25	lbs		Fragment
Natural Brush/Forest	48	99048017	9904801701							0.5	lbs		Fragment
Pinefarm	48	99048022	9904802201							0.5	lbs		Fragment
Pinefarm	48	99048028											
Pinefarm	47	99047001	9904700101							0.25	lbs		Fragment
Pinefarm	47	99047005	9904700501							0.25	lbs		Fragment
Pinefarm	47	99047008	9904700801							0.25	lbs		Fragment
Pinefarm	47	99047012	9904701201							0.25	lbs		Fragment
Pinefarm	47	99047015	9904701501							0.5	lbs		Fragment
Pinefarm	47	99047019	9904701901										
Pinefarm	47	99047023								0.25	lbs		Fragment
Pinefarm	47	99047026	9904702601							0.25	lbs		Scrap
Pinefarm	47	99047028	9904702802										
Natural Brush/Forest	257	99257005											
Natural Brush/Forest	257	99257010											
Natural Brush/Forest	258	99258004	9925800401							1	lbs		Fragment
Natural Brush/Forest	258	99258008	9925800801							0.25	lbs		Fragment
Natural Brush/Forest	258	99258011											
Natural Brush/Forest	259	99259003											
Natural Brush/Forest	259	99259007											
Pinefarm	48	99048001	9904800101							0.5	lbs		Fragment
Pinefarm	48	99048006	9904800601							1	lbs		Fragment
Pinefarm	48	99048008	9904800801							0.25	lbs		Fragment
Natural Brush/Forest	233	99233001	9923300101							0.25	lbs		Fragment
Natural Brush/Forest	233	99233004	9923300401							0.25	lbs		Fragment
Natural Brush/Forest	233	99233008	9923300801										
Natural Brush/Forest	233	99233012											
Natural Brush/Forest	233	99233016											
Natural Brush/Forest	233	99233019	9923301901							0.25	lbs		Fragment
Natural Brush/Forest	260	99260004								0.5	lbs		Fragment
Natural Brush/Forest	247	99247008	9924700801							1	lbs		Fragment
Natural Brush/Forest	248	99248003	9924800301										
Natural Brush/Forest	248	99248003	9924800301							2	lbs		Scrap
Natural Brush/Forest	252	99252002	9925200201							1	lbs		Fragment
Natural Brush/Forest	251	99251005	9925100501										

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 8
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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	250	99250002	9925000201										
Natural Brush/Forest	238	99238002	9923800201							0.5	lbs		Fragment
Natural Brush/Forest	238	99238006								0.25	lbs		Fragment
Natural Brush/Forest	238	99238010											
Natural Brush/Forest	238	99238014											
Natural Brush/Forest	238	99238017											
Natural Brush/Forest	212	99212006	9921200601										
Natural Brush/Forest	212	99212009	9921200901							0.25	lbs		Fragment
Natural Brush/Forest	212	99212013	9921201301							0.25	lbs		Fragment
Natural Brush/Forest	212	99212017	9921201701							0.5	lbs		Fragment
Natural Brush/Forest	245	99245003	9924500301							0.5	lbs		Fragment
Natural Brush/Forest	245	99245008	9924500801							0.5	lbs		Fragment
Natural Brush/Forest	248	99248002	9924800201							1	lbs		Fragment
Natural Brush/Forest	247	99247002								1	lbs		Fragment
Pond	133	99133008											
Pond	132	99132001	9913200101										
Pond	132	99132005	9913200501							0.25	lbs		Scrap
Pond	132	99132008								0.25	lbs		Scrap
Landfill and Compositn	79	99079001	9907900101										
Landfill and Compositn	79	99079005	9907900501							0.25	lbs		Fragment
Landfill and Compositn	79	99079008	9907900801							0.25	lbs		Fragment
Landfill and Compositn	79	99079012	9907901201							0.25	lbs		Fragment
Pond	151	99151006	9915100601							0.25	lbs		Fragment
Pond	151	99151010	9915101001							0.25	lbs		Fragment
Pond	151	99151014	9915101401							0.5	lbs		Fragment
Pond	151	99151018	9915101801							0.5	lbs		Fragment
Pond	151	99151021	9915102101							0.25	lbs		Fragment
Pond	135	99135002	9913500201							0.25	lbs		Fragment
Pond	135	99135006	9913500601							0.5	lbs		Scrap
Pond	152	99152011	9915201101				Fuze body (expended)			1	lbs		Scrap
Pond	152	99152018	9915201801							0.5	lbs		Fragment
Pond	152	99152022	9915202201							0.25	lbs		Fragment
Pond	149	99149004	9914900401							0.5	lbs		Fragment
Pond	149	99149008	9914900801							0.5	lbs		Fragment
Pond	149	99149011	9914901101				Fuze body			0.25	lbs		Fragment
Natural Brush/Forest	214	99214029	9921402901							0.5	lbs		Fragment
Natural Brush/Forest	215	99215007								0.25	lbs		Fragment
Natural Brush/Forest	215	99215011	9921501101										
Natural Brush/Forest	218	99218001	9921800101							0.25	lbs		Fragment
Natural Brush/Forest	218	99218004								0.25	lbs		Fragment
Natural Brush/Forest	218	99218008											
Natural Brush/Forest	213	99213003	9921300301										
Natural Brush/Forest	213	99213006	9921300601							0.25	lbs		Fragment
Natural Brush/Forest	213	99213010								0.25	lbs		Fragment
Natural Brush/Forest	213	99213014	9921301401										
Natural Brush/Forest	213	99213018	9921301801							0.25	lbs		Fragment
Natural Brush/Forest	213	99213021	9921302101							0.25	lbs		Fragment
Natural Brush/Forest	214	99214002	9921400201							0.25	lbs		Fragment
										0.5	lbs		Fragment

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	209	99209001	9920900101								1 lbs		Fragment
Natural Brush/Forest	209	99209005	9920900501								0.25 lbs		Fragment
Natural Brush/Forest	209	99209008	9920900801								0.75 lbs		Fragment
Natural Brush/Forest	209	99209012	9920901201								0.5 lbs		Fragment
Natural Brush/Forest	209	99209017	9920901701								0.25 lbs		Fragment
Natural Brush/Forest	209	99209020	9920902001								0.75 lbs		Fragment
Natural Brush/Forest	209	99209024	9920902401								0.25 lbs		Fragment
Natural Brush/Forest	210	99210001	9921000101								0.25 lbs		Fragment
Natural Brush/Forest	210	99210005	9921000501								0.25 lbs		Fragment
Natural Brush/Forest	210	99210008	9921000801								0.75 lbs		Fragment
Natural Brush/Forest	210	99210012	9921001201								0.25 lbs		Fragment
Natural Brush/Forest	210	99210018	9921001801								0.25 lbs		Fragment
Natural Brush/Forest	210	99210020	9921002001								1.5 lbs		Fragment
Natural Brush/Forest	210	99210023	9921002301								0.5 lbs		Scrap
Natural Brush/Forest	201	99201002	9920100201								0.5 lbs		Fragment
Natural Brush/Forest	202	99202001	9920200101			Soil layer					0.25 lbs		Soil Layer
Natural Brush/Forest	203	99203004	9920300401								0.25 lbs		Fragment
Natural Brush/Forest	203	99203007	9920300701								0.25 lbs		Fragment
Natural Brush/Forest	203	99203011	9920301101										
Natural Brush/Forest	203	99203020									0.25 lbs		Fragment
Natural Brush/Forest	203	99203023	9920302301								0.25 lbs		Fragment
Natural Brush/Forest	203	99203027	9920302701								1 lbs		Fragment
Landfill and Compositin	180	99180030	9918003001								0.25 lbs		Fragment
Pond	154	99154009	9915400901								0.39 lbs		Fragment
Landfill and Compositin	177	99177004	9917700401								0.39 lbs		Fragment
Landfill and Compositin	177	99177009	9917700901								1 lbs		Fragment
Landfill and Compositin	180	99180003	9918000301								0.5 lbs		Fragment
Landfill and Compositin	180	99180010	9918001001								1 lbs		Fragment
Landfill and Compositin	180	99180018	9918001801								1 lbs		Fragment
Landfill and Compositin	180	99180025	9918002501								0.25 lbs		Fragment
Pond	155	99155009	9915500901										
Pond	155	99155013									0.25 lbs		Fragment
Pond	155	99155018	9915501801								0.5 lbs		Scrap
Pond	121	99121001	9912100101										
Pond	121	99121005											
Pond	124	99124003											
Pond	124	99124007	9912400701				Soil and Magnetic Rock						Magnetic Rock
Pond	154	99154004	9915400401								0.25 lbs		Fragment
Pond	154	99154004	9915400401								0.1 lbs		Fragment
Natural Brush/Forest	45	99045024	9904502401								0.25 lbs		Fragment
Pinefarm	109	99109005	9910900501								0.5 lbs		Fragment
Pinefarm	109	99109009	9910900901								15 lbs		Scrap
Pinefarm	109	99109009	9910900902								3 lbs		Fragment
Pinefarm	109	99109013	9910901301										
Pinefarm	109	99109017									0.25 lbs		Fragment
Pinefarm	109	99109020	9910902001								0.25 lbs		Fragment
Pinefarm	109	99109024	9910902401								0.5 lbs		Fragment
Pinefarm	109	99109028	9910902801								0.5 lbs		Fragment
Pinefarm	109	99109032	9910903201										

SITE CHARACTERIZATION DATA
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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Pinefarm	109	99109035											
Natural Brush/Forest	12	99012022	9901202201										
Natural Brush/Forest	12	99012025	9901202501							0.25	lbs		Fragment
Natural Brush/Forest	10	99010004	9901000401							0.25	lbs		Fragment
Natural Brush/Forest	10	99010007	9901000701							0.25	lbs		Fragment
Natural Brush/Forest	10	99010011	9901001101							0.25	lbs		Fragment
Natural Brush/Forest	10	99010015	9901001501							0.25	lbs		Fragment
Natural Brush/Forest	10	99010018	9901001801							0.25	lbs		Fragment
Natural Brush/Forest	10	99010022								0.25	lbs		Fragment
Natural Brush/Forest	45	99045004	9904500401										
Natural Brush/Forest	45	99045009	9904500901							0.1	lbs		Fragment
Natural Brush/Forest	70	99070003	9907000301							0.1	lbs		Fragment
Natural Brush/Forest	72	99072001	9907200101							1	lbs		Fragment
Natural Brush/Forest	72	99072005	9907200501							0.5	lbs		Fragment
Natural Brush/Forest	72	99072006	9907200601							0.5	lbs		Fragment
Natural Brush/Forest	72	99072012	9907201201							0.25	lbs		Fragment
Natural Brush/Forest	12	99012004	9901200401							0.5	lbs		Fragment
Natural Brush/Forest	42	99042007	9904200701							0.25	lbs		Fragment
Natural Brush/Forest	38	99038003								0.5	lbs		Fragment
Natural Brush/Forest	39	99039002	9903900201										
Natural Brush/Forest	39	99039006	9903900601							0.25	lbs		Fragment
Natural Brush/Forest	39	99039010	9903901001							0.25	lbs		Fragment
Natural Brush/Forest	39	99039013								0.25	lbs		Fragment
Natural Brush/Forest	39	99039017	9903901701										
Natural Brush/Forest	39	99039021	9903902101							0.25	lbs		Fragment
Natural Brush/Forest	40	99040002	9904000201							0.25	lbs		Fragment
Natural Brush/Forest	40	99040006	9904000601							0.25	lbs		Scrap
Natural Brush/Forest	34	99034020	9903402001							0.25	lbs		Fragment
Natural Brush/Forest	32	99032011	9903201101							2	lbs		Fragment
Natural Brush/Forest	32	99032014	9903201401							0.25	lbs		Fragment
Natural Brush/Forest	32	99032018	9903201801							0.5	lbs		Fragment
Natural Brush/Forest	32	99032021	9903202101							1	lbs		Fragment
Natural Brush/Forest	33	99033002	9903300201							0.5	lbs		Fragment
Natural Brush/Forest	36	99036002	9903600201							0.25	lbs		Fragment
Natural Brush/Forest	36	99036007	9903600701							0.25	lbs		Fragment
Natural Brush/Forest	34	99034004	9903400401							0.5	lbs		Scrap
Natural Brush/Forest	34	99034011	9903401101							2	lbs		Fragment
Natural Brush/Forest	8	99008002	9900800201							1	lbs		Fragment
Pinefarm	48	99048008	9904800801							1	lbs		Fragment
Pinefarm	48	99048009	9904800902							0.2	lbs		Fragment
Pond	122	99122002								3	lbs		Scrap
Pond	122	99122006											
Pond	122	99122010	9912201001										
Landfill and Compositn	179	99179004	9917900401							0.25	lbs		Fragment
Landfill and Compositn	179	99179006	9917900601							0.33	lbs		Fragment
Landfill and Compositn	179	99179014	9917901401							0.33	lbs		Fragment
Natural Brush/Forest	3	99003006	9900300601							0.33	lbs		Fragment
Natural Brush/Forest	25	99025020	9902502001							3	lbs		Fragment
										0.25	lbs		Fragment

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH UNITS	WEIGHT UNITS	WEIGHT UNITS	WEIGHT UNITS		
Natural Brush/Forest	25	99025024								0.25	lbs		Fragment
Natural Brush/Forest	25	99025027	9902502701							0.1	lbs		Fragment
Natural Brush/Forest	24	99024001	9902400101				Frag. 5 ft. away			0.5	lbs		Fragment
Pinefarm	63	99063005	9906300501							0.25	lbs		Fragment
Pinefarm	63	99063009	9906300901							0.25	lbs		Fragment
Pinefarm	63	99063012	9906301201							0.25	lbs		Fragment
Pinefarm	63	99063016	9906301601							0.25	lbs		Scrap
Pinefarm	63	99063018	9906301602							0.25	lbs		Fragment
Pinefarm	63	99063022	9906302201							0.25	lbs		Fragment
Pinefarm	63	99063026	9906302601							0.5	lbs		Fragment
Pinefarm	60	99060003	9906000301							0.25	lbs		Fragment
Pinefarm	60	99060006	9906000601							0.25	lbs		Fragment
Pinefarm	60	99060014	9906001401							0.1	lbs		Fragment
Pinefarm	57	99057001	9905700101							0.2	lbs		Fragment
Pinefarm	57	99057006	9905700601							0.2	lbs		Fragment
Pinefarm	58	99058005	9905800501							0.2	lbs		Fragment
Pinefarm	59	99059003	9905900301										
Pinefarm	59	99059011								0.3	lbs		Fragment
Pinefarm	59	99059017	9905901701							1	lbs		Fragment
Pinefarm	66	99066003	9906600301							1	lbs		Fragment
Pinefarm	66	99066007	9906600701							0.15	lbs		Fragment
Natural Brush/Forest	65	99065002	9906500201							0.15	lbs		Fragment
Natural Brush/Forest	65	99065002	9906500202							0.15	lbs		Fragment
Natural Brush/Forest	65	99065002	9906500203							0.25	lbs		Fragment
Natural Brush/Forest	68	99068003	9906800301							0.25	lbs		Fragment
Natural Brush/Forest	68	99068003	9906800302							0.15	lbs		Fragment
Natural Brush/Forest	67	99067007	9906700701							0.15	lbs		Fragment
Natural Brush/Forest	67	99067007	9906700702							0.15	lbs		Fragment
Natural Brush/Forest	67	99067007	9906700703							0.25	lbs		Fragment
Natural Brush/Forest	30	99030004	9903000401							0.25	lbs		Fragment
Natural Brush/Forest	30	99030008	9903000801										
Natural Brush/Forest	30	99030011								0.25	lbs		Fragment
Natural Brush/Forest	30	99030015	9903001501										
Natural Brush/Forest	30	99030019								0.25	lbs		Fragment
Natural Brush/Forest	30	99030022	9903002201							0.25	lbs		Fragment
Natural Brush/Forest	30	99030026	9903002601							1	lbs		Fragment
Natural Brush/Forest	29	99029008	9902900801							1	lbs		Fragment
Natural Brush/Forest	29	99029013	9902901301							1	lbs		Fragment
Natural Brush/Forest	29	99029018	9902901801							1	lbs		Fragment
Natural Brush/Forest	29	99029024	9902902401							0.5	lbs		Fragment
Natural Brush/Forest	32	99032004	9903200401							0.25	lbs		Fragment
Natural Brush/Forest	32	99032007	9903200701							0.15	lbs		Fragment
Natural Brush/Forest	14	99014008	9901400801							0.15	lbs		Fragment
Natural Brush/Forest	14	99014008	9901400802							0.15	lbs		Fragment
Natural Brush/Forest	14	99014013	9901401301							0.3	lbs		Fragment
Natural Brush/Forest	28	99028002	9902800201							4.25	lbs		Fragment
Natural Brush/Forest	13	99013001	9901300101							0.15	lbs		Fragment
Natural Brush/Forest	13	99013007	9901300701										

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	13	99013007	9901300702							0.15	lbs		Fragment
Natural Brush/Forest	13	99013007	9901300703							0.15	lbs		Fragment
Natural Brush/Forest	13	99013007	9901300704							0.15	lbs		Fragment
Natural Brush/Forest	13	99013007	9901300705							0.15	lbs		Fragment
Natural Brush/Forest	13	99013007	9901300706							0.15	lbs		Fragment
Natural Brush/Forest	13	99013007	9901300707							0.15	lbs		Fragment
Natural Brush/Forest	13	99013007	9901300708							0.15	lbs		Fragment
Natural Brush/Forest	13	99013014	9913001401							0.15	lbs		Fragment
Natural Brush/Forest	13	99013014	9901301402			Barbed wire				0.15	lbs		Fragment
Natural Brush/Forest	16	99016004	9901600401							0.15	lbs		Scrap
Natural Brush/Forest	16	99016011	9901601101							2	lbs		Fragment
Natural Brush/Forest	16	99015006	9901500601							2	lbs		Fragment
Natural Brush/Forest	15	99016007	9901500701							4	lbs		Fragment
Natural Brush/Forest	71	99071001	9907100101							4	lbs		Fragment
Natural Brush/Forest	8	99008002	9900800201							0.5	lbs		Fragment
Natural Brush/Forest	8	99008007	9900800701							2	lbs		Fragment
Natural Brush/Forest	7	99007002	9900700201							2	lbs		Fragment
Natural Brush/Forest	6	99005003	9900500301							1	lbs		Fragment
Pinefarm	81	99081001	9908100101			Wire/in can				2	lbs		Fragment
Pinefarm	81	99081008	9908100801			Plow blade				0.25	lbs		Scrap
Pinefarm	112	99112018	9911201801							2.5	lbs		Scrap
Pinefarm	111	99111004	9911100401							0.5	lbs		Fragment
Pinefarm	111	99111009	9911100901							2	lbs		Fragment
Pinefarm	111	99111013	9911101301							2	lbs		Fragment
Pinefarm	110	99110005								5	lbs		Fragment
Pinefarm	110	99110009	9911000901										
Pond	174	99174001	9917400101	1763634' 6"	1111260'	105 mm BE/Inert				0.75	lbs		Fragment
Pond	137	99137001	9913700101	1763468' 8"	1111079' 6"	105 mm BE/Inert		24 in.		25	lbs		Ordnance
Pond	196	99196001	9919600101					24 in.		25	lbs		Ordnance
Pond	194	99194003	9919400301							0.5	lbs		Fragment
Natural Brush/Forest	199	99199002	9919900201							0.25	lbs		Fragment
Pinefarm	205	99205001	9920500101							1.4	lbs		Scrap
Pinefarm	205	99205004	9920500401							16.25	lbs		Fragment
Pinefarm	205	99205011	9920501101								lbs		Fragment
Pinefarm	205	99205017	9920501701							0.25	lbs		Fragment
Pinefarm	206	99206005	9920600501							0.25	lbs		Fragment
Pinefarm	206	99206012	9920601201							1.25	lbs		Fragment
Pinefarm	207	99207005	9920700501							1.25	lbs		Fragment
Pinefarm	207	99207008	9920700801							0.25	lbs		Fragment
Pinefarm	207	99207012	9920701201							0.25	lbs		Fragment
Pinefarm	208	99208003	9920800301							0.25	lbs		Fragment
Pinefarm	208	99208007	9920800701							0.25	lbs		Fragment
Pinefarm	208	99208010	9920801001							0.75	lbs		Fragment
Pinefarm	183	99183002	9918300201							1	lbs		Fragment
Pinefarm	183	99183007	9918300701							0.75	lbs		Fragment
Pinefarm	183	99183007	9918300702							0.25	lbs		Fragment
Pinefarm	183	99183010	9918301001							0.5	lbs		Scrap
Pinefarm	183	99183014	9918301401							0.25	lbs		Fragment
										0.25	lbs		Fragment

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH	WEIGHT		EXPLOSIVE	OBJ NAME
									UNITS	UNITS		
									0.75	lbs		Fragment
Pinefarm	183	99183018	9918301801						1.5	lbs		Fragment
Pinefarm	184	99184001	9918400101						4	lbs		Scrap
Pinefarm	181	99181009	9918100901			Tin						Scrap
Pinefarm	181	99181015	9918101501			Tin/Bed Springs/Nails						Scrap
Pinefarm	181	99181020	9918102001						0.25	lbs		Fragment
Pinefarm	181	99181020	9918102002						2	lbs		Scrap
Pinefarm	181	99181024	9918102401						0.25	lbs		Fragment
Pinefarm	181	99181024	9918102402						2	lbs		Scrap
Pinefarm	181	99181024	9918102402						0.5	lbs		Fragment
Pond	142	99142002	9914200201						1	lbs		Fragment
Pond	142	99142008	9914200801						0.5	lbs		Fragment
Pond	128	99128003	9912800301						5	lbs		Scrap
Pond	128	99128007	9912800701						0.5	lbs		Scrap
Pond	128	99128011	9912801101									Magnetic Rock
Pond	141	99141003	9914100301			Magnetic Rock			0.5	lbs		Fragment
Pond	141	99141007	9914100701						0.5	lbs		Fragment
Pond	141	99141011	9914101101						0.5	lbs		Fragment
Pond	136	99136004	9913600401						0.25	lbs		Fragment
EE/CA Grid 87	105	99105003	9910500301						0.25	lbs		Fragment
EE/CA Grid 87	105	99105008	9910500801						0.25	lbs		Fragment
EE/CA Grid 87	105	99105010	9910501001						0.25	lbs		Fragment
EE/CA Grid 87	105	99105014	9910501401						0.75	lbs		Fragment
EE/CA Grid 87	108	99108002	9910800201						0.25	lbs		Fragment
EE/CA Grid 87	108	99108008	9910800801									
EE/CA Grid 87	107	99107004							0.25	lbs		Fragment
EE/CA Grid 87	107	99107008	9910700801						0.1	lbs		Fragment
EE/CA Grid 87	107	99107013	9910701301									
Natural Brush/Forest	258	99258001										
Pinefarm	54	99054004							0.25	lbs		Fragment
Pinefarm	55	99055001	9905500101						0.25	lbs		Fragment
Pinefarm	55	99055005	9905500501									
Pinefarm	55	99055009							0.25	lbs		Fragment
Pinefarm	55	99055012	9905501201						0.75	lbs		Fragment
Pinefarm	56	99056011	9905601101									
Pinefarm	56	99056015							0.75	lbs		Fragment
Pinefarm	56	99056018	9905601801						0.25	lbs		Fragment
Pinefarm	56	99056022	9905602201						0.25	lbs		Fragment
Pinefarm	49	99049003	9904900301									
Pinefarm	49	99049008							1.5	lbs		Fragment
Pinefarm	53	99053001	9905300101						0.5	lbs		Fragment
Pinefarm	53	99053005	9905300501						1	lbs		Fragment
Pinefarm	53	99053009	9905300901						0.25	lbs		Fragment
Pinefarm	53	99053012	9905301201						0.25	lbs		Scrap
Pinefarm	53	99053018	9905301801						0.5	lbs		Fragment
Pinefarm	51	99051004	9905100401						0.25	lbs		Fragment
Pinefarm	52	99052002	9905200201						0.25	lbs		Fragment
Natural Brush/Forest	22	99022002	9902200201						0.5	lbs		Fragment
Natural Brush/Forest	22	99022008	9902200801									
Pond	123	99123002										

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Pond	123	99123006	9912300601							0.25	lbs		Fragment
Pinefarm	82	99082004	9908200401							0.25	lbs		Fragment
Pinefarm	82	99082011	9908201101							0.25	lbs		Fragment
Pinefarm	82	99082015	9908201501										
Pinefarm	82	99082019	9908201901			Banding Material							Scrap
Pinefarm	84	99084011	9908401101							0.5	lbs		Fragment
Pinefarm	84	99084014	9908401401							0.25	lbs		Fragment
Pinefarm	84	99084018	9908401801										
Pinefarm	84	99084022	9908402201										
Pond	168	99168004	9916800401			Barbed wire				0.25	lbs		Scrap
Pond	168	99168007	9916800701							0.25	lbs		Scrap
Pond	168	99168004	9916800401	1762895' 3	1111076'	105 mm BE/Inert		24	in.	25	lbs		Ordnance
Pond	170	99170003	9917000301										
Pond	130	99130001	9913000101							2	lbs		Scrap
Pond	131	99131002	9913100201	1763196' 5	1111156' 5"	105 mm HE/Live		8	in.	25	lbs	1	Ordnance
Natural Brush/Forest	298	99298002	9929800201							1.5	lbs		Scrap
Natural Brush/Forest	283	99283001	9928300101							0.5	lbs		Scrap
Natural Brush/Forest	280	99280008	9928000801			Magnetic Rock							Scrap
Landfill and Compositin	180	99180023	9918002301										Magnetic Rock
Natural Brush/Forest	5	99005006	9900500601							1	lbs		Fragment
Pinefarm	61	99061002	9906100201							1.5	lbs		Fragment
Pinefarm	64	99064002	9906400201							0.5	lbs		Fragment
Pinefarm	64	99064007	9906400701							0.25	lbs		Fragment
Pinefarm	31	99031002	9903100201							0.5	lbs		Fragment
Pinefarm	31	99031010	9903101001							0.6	lbs		Fragment
Pinefarm	85	99085006	9908500601							0.5	lbs		Fragment
Pinefarm	85	99085010	9908501001							0.25	lbs		Fragment
Pinefarm	85	99085018	9908501801							0.25	lbs		Fragment
Pinefarm	88	99088003	9908800301							0.25	lbs		Fragment
Pinefarm	88	99088001	9908800101							0.25	lbs		Fragment
Pinefarm	86	99086007	9908600701							0.25	lbs		Fragment
Pinefarm	85	99085001	9908500101							0.25	lbs		Fragment
Natural Brush/Forest	94	99094010	9909401001							0.25	lbs		Fragment
Natural Brush/Forest	93	99093005	9909300501							0.25	lbs		Fragment
Natural Brush/Forest	95	99095001	9909500101							0.25	lbs		Fragment
Natural Brush/Forest	94	99094007	9909400701										
Natural Brush/Forest	11	99011007	9901100701							0.5	lbs		Scrap
Natural Brush/Forest	11	99011011	9901101101										
Natural Brush/Forest	89	99089002	9908900201										
Natural Brush/Forest	9	99009001	9900900101							0.5	lbs		Fragment
Natural Brush/Forest	90	99090003	9909000301							0.5	lbs		Fragment
Natural Brush/Forest	91	99091001	9909100101							0.5	lbs		Fragment
Natural Brush/Forest	91	99091006	9909100601			Fuze				0.5	lbs		Fragment
Natural Brush/Forest	92	99092001	9909200101							0.5	lbs		Fragment
Natural Brush/Forest	94	99094005	9909400501										
Natural Brush/Forest	11	99011002	9901100201							0.25	lbs		Fragment
										0.25	lbs		Fragment

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH	WEIGHT		EXPLOSIVE	OBJ NAME
									UNITS	WEIGHT		
Pinefarm	47	99047004	9904700401						0.25	lbs		Fragment
Pinefarm	47	99047010	9904701001						0.25	lbs		Fragment
Pinefarm	47	99047017	9904701801						0.25	lbs		Fragment
Pinefarm	47	99047022	9904702301						0.75	lbs		Fragment
Natural Brush/Forest	11	99011001	9901100101						0.5	lbs		Fragment
Natural Brush/Forest	260	99260011										
Natural Brush/Forest	257	99257004										
Natural Brush/Forest	258	99258003										
Natural Brush/Forest	258	99258009	9925800901						0.25	lbs		Fragment
Natural Brush/Forest	259	99259004										
Natural Brush/Forest	260	99260008										
Natural Brush/Forest	235	99235005	9923500501						0.25	lbs		Fragment
Natural Brush/Forest	234	99234002	9923400201						0.5	lbs		Fragment
Natural Brush/Forest	234	99234007	9923400701						0.25	lbs		Fragment
Natural Brush/Forest	234	99234012										
Natural Brush/Forest	234	99234016	9923401601						0.25	lbs		Fragment
Natural Brush/Forest	233	99233007	9923300701									
Natural Brush/Forest	233	99233014										
Natural Brush/Forest	260	99260002										
Natural Brush/Forest	235	99235001	9923500101						0.25	lbs		Fragment
Natural Brush/Forest	248	99248001										
Natural Brush/Forest	236	99236001										
Natural Brush/Forest	236	99236007	9923600701						0.25	lbs		Fragment
Natural Brush/Forest	236	99236013	9923601301						0.25	lbs		Fragment
Landfill and Compositin	80	99080005	9908000501						0.25	lbs		Fragment
Landfill and Compositin	78	99078003	9907800301						0.25	lbs		Fragment
Landfill and Compositin	78	99078007	9907800701						0.25	lbs		Fragment
Natural Brush/Forest	212	99212001	9921200101						0.25	lbs		Fragment
Natural Brush/Forest	212	99212007	9921200701						0.25	lbs		Fragment
Natural Brush/Forest	212	99212014	9921201401						0.5	lbs		Fragment
Natural Brush/Forest	245	99245001	9924500101						0.5	lbs		Fragment
Natural Brush/Forest	245	99245008	9924500801						0.5	lbs		Fragment
Landfill and Compositin	80	99080004	9908000401						0.25	lbs		Scrap
Pond	135	99135015	9913501501						0.25	lbs		Scrap
Pond	134	99134005	9913400501						0.5	lbs		Fragment
Pond	133	99133001	9913300101									
Pond	133	99133005										
Pond	133	99133011	9913301101	1783484'	1111428' Z'	105 mm BE/Inert		24 in.		25	lbs	Ordnance
Pond	132	99132007										
Landfill and Compositin	79	99079003	9907900301						0.25	lbs		Fragment
Landfill and Compositin	79	99079008	9907900801						0.5	lbs		Fragment
Pond	135	99135010										
Pond	150	99150007	9915000701						0.25	lbs		Fragment
Pond	150	99150012	9915001201			Fuze body			0.5	lbs		Fragment
Pond	150	99150017	9915001701						0.25	lbs		Fragment
Pond	151	99151002	9915100201						0.5	lbs		Fragment
Pond	151	99151007	9915100701						0.5	lbs		Fragment
Pond	151	99151013	9915101301						0.5	lbs		Fragment

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SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Pond	151	99151020	9915102001							0.5	lbs		Fragment
Pond	135	99135004	9913500401							0.5	lbs		Fragment
Pond	150	99150003	9915000301			Fuze body				0.5	lbs		Fragment
Natural Brush/Forest	216	99216017	9921601701							0.25	lbs		Fragment
Natural Brush/Forest	216	99216022	9921602201							0.25	lbs		Fragment
Pond	152	99152001	9915200101							0.25	lbs		Fragment
Pond	152	99152006	9915200601							0.25	lbs		Fragment
Pond	152	99152012	9915201201							0.25	lbs		Fragment
Pond	152	99152018	9915201801							0.25	lbs		Fragment
Pond	149	99149002	9914900201							0.5	lbs		Fragment
Pond	149	99149008	9914900801							0.25	lbs		Fragment
Natural Brush/Forest	216	99216012	9921601201							0.25	lbs		Fragment
Natural Brush/Forest	214	99214010	9921401001							0.25	lbs		Fragment
Natural Brush/Forest	214	99214014								0.25	lbs		Fragment
Natural Brush/Forest	214	99214018											
Natural Brush/Forest	214	99214024	9921402401							0.25	lbs		Fragment
Natural Brush/Forest	215	99215001	9921500101							0.25	lbs		Fragment
Natural Brush/Forest	215	99215006	9921500601							0.25	lbs		Fragment
Natural Brush/Forest	215	99215013	9921501301							0.25	lbs		Fragment
Natural Brush/Forest	216	99216006								0.25	lbs		Fragment
Natural Brush/Forest	214	99214006	9921400601							0.25	lbs		Fragment
Natural Brush/Forest	209	99209034	9920903401							0.5	lbs		Fragment
Natural Brush/Forest	209	99209038	9920903801							0.5	lbs		Fragment
Natural Brush/Forest	209	99209043	9920904301							0.25	lbs		Fragment
Natural Brush/Forest	209	99209046	9920904601							0.25	lbs		Fragment
Natural Brush/Forest	213	99213004	9921300401							0.25	lbs		Fragment
Natural Brush/Forest	213	99213006											
Natural Brush/Forest	213	99213016	9921301601							0.25	lbs		Fragment
Natural Brush/Forest	213	99213023	9921302301							0.25	lbs		Fragment
Natural Brush/Forest	209	99209028	9920902801							0.25	lbs		Fragment
Natural Brush/Forest	211	99211001	9921100101							0.5	lbs		Fragment
Natural Brush/Forest	211	99211005	9921100501							0.25	lbs		Fragment
Natural Brush/Forest	211	99211010	9921101001							0.25	lbs		Fragment
Natural Brush/Forest	211	99211015	9921101501							0.5	lbs		Fragment
Natural Brush/Forest	209	99209002	9920900201							0.5	lbs		Fragment
Natural Brush/Forest	209	99209009	9920900901							0.5	lbs		Fragment
Natural Brush/Forest	209	99209015	9920901501							0.5	lbs		Fragment
Natural Brush/Forest	209	99209022	9920902201							0.25	lbs		Fragment
Natural Brush/Forest	210	99210027	9921002701							0.5	lbs		Fragment
Natural Brush/Forest	204	99204008	9920400801							0.25	lbs		Fragment
Natural Brush/Forest	204	99204013	9920401301							0.25	lbs		Fragment
Natural Brush/Forest	204	99204019	9920401901							0.5	lbs		Scrap
Natural Brush/Forest	204	99204017	9920401701							0.25	lbs		Fragment
Natural Brush/Forest	204	99204022	9920402201							0.25	lbs		Fragment
Natural Brush/Forest	210	99210002	9921000201							0.25	lbs		Fragment
Natural Brush/Forest	210	99210009	9921000901							0.25	lbs		Fragment
Natural Brush/Forest	210	99210015	9921001501							0.25	lbs		Fragment
Natural Brush/Forest	210	99210021	9921002101							1.5	lbs		Fragment

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								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	204	99204004											Fragment
Natural Brush/Forest	203	99203005	9920300501							0.25	lbs		Fragment
Natural Brush/Forest	203	99203012	9920301201							0.25	lbs		Fragment
Natural Brush/Forest	209	99203018											
Natural Brush/Forest	203	99203025											
Pond	153	99153005	9915300501							0.5	lbs		Fragment
Pond	153	99153009	9915300901							0.5	lbs		Fragment
Pond	155	99155005	9915500501							0.25	lbs		Fragment
Pond	155	99155011	9915501101							0.25	lbs		Fragment
Pond	155	99155017	9915501701			Magnetic Rock							Magnetic Rock
Pond	121	99121003	9912100301							7	lbs		Scrap
Pond	124	99124004											
Pinefarm	109	99109001	9910900101			Fuze				2	lbs		Fragment
Pinefarm	109	99109007	9910900701							0.5	lbs		Fragment
Pinefarm	109	99109014	9910901401							3	lbs		Fragment
Pinefarm	109	99109019	9910901901							0.25	lbs		Fragment
Pinefarm	109	99109026	9910902601							1	lbs		Fragment
Pinefarm	109	99109033	9910903301							0.25	lbs		Fragment
Pinefarm	109	99109033	9910903301							0.5	lbs		Fragment
Natural Brush/Forest	12	99012013	9901201301							0.25	lbs		Fragment
Natural Brush/Forest	12	99012017	9901201701							0.25	lbs		Fragment
Natural Brush/Forest	12	99012023	9901202301							0.25	lbs		Fragment
Natural Brush/Forest	10	99010005											
Natural Brush/Forest	10	99010010	9901001001							0.5	lbs		Fragment
Natural Brush/Forest	10	99010017	9901001701							0.25	lbs		Fragment
Natural Brush/Forest	10	99010023	9901002301							0.25	lbs		Fragment
Natural Brush/Forest	12	99012007	9901200701							0.25	lbs		Fragment
Natural Brush/Forest	37	99037007	9903700701							0.25	lbs		Fragment
Natural Brush/Forest	37	99037012	9903701201							0.25	lbs		Fragment
Natural Brush/Forest	37	99037018	9903701801							0.5	lbs		Fragment
Natural Brush/Forest	69	99069003	9906900301							0.5	lbs		Fragment
Natural Brush/Forest	70	99070001	9907000101							0.5	lbs		Fragment
Natural Brush/Forest	70	99070008	9907000801							0.5	lbs		Fragment
Natural Brush/Forest	72	99072004	9907200401							0.25	lbs		Fragment
Natural Brush/Forest	72	99072010	9907201001							0.25	lbs		Fragment
Natural Brush/Forest	12	99012005	9901200501							0.5	lbs		Fragment
Natural Brush/Forest	42	99042001	9904200101							0.1	lbs		Fragment
Natural Brush/Forest	42	99042005	9904200501							0.25	lbs		Fragment
Natural Brush/Forest	39	99039004	9903900401							0.25	lbs		Fragment
Natural Brush/Forest	39	99039007	9903900701							0.25	lbs		Fragment
Natural Brush/Forest	39	99039012	9903901201							0.5	lbs		Fragment
Natural Brush/Forest	39	99039019											
Natural Brush/Forest	40	99040003											
Natural Brush/Forest	32	99032009											
Natural Brush/Forest	32	99032015	9903201501							0.25	lbs		Fragment
Natural Brush/Forest	32	99032022	9903202201							0.5	lbs		Fragment
Natural Brush/Forest	32	99032022	9903202201							1	lbs		Fragment
Pond	122	99122004	9912200401										
Natural Brush/Forest	25	99025002	9902500201							0.5	lbs		Fragment
Natural Brush/Forest	25	99025007	9902500701							0.5	lbs		Fragment

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								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	25	99025012	9902501201							0.25	lbs		Fragment
Natural Brush/Forest	25	99025017	9902501701							0.25	lbs		Fragment
Natural Brush/Forest	25	99025022	9902502201							0.25	lbs		Fragment
Natural Brush/Forest	25	99025029	9902502901							0.25	lbs		Fragment
Pinefarm	63	99063004	9906300401							1	lbs		Fragment
Pinefarm	63	99063011	9906301101							0.5	lbs		Fragment
Pinefarm	63	99063017	9906301701							0.25	lbs		Fragment
Pinefarm	63	99063020	9906302001							0.25	lbs		Fragment
Pinefarm	63	99063027	9906302701							1.5	lbs		Fragment
Natural Brush/Forest	30	99030005	9903000501			Barbed wire				0.5	lbs		Scrap
Natural Brush/Forest	30	99030012	9903001201							0.5	lbs		Fragment
Natural Brush/Forest	30	99030017	9903001701							0.5	lbs		Fragment
Natural Brush/Forest	30	99030024	9903002401							0.5	lbs		Fragment
Natural Brush/Forest	32	99032005								0.5	lbs		Fragment
Natural Brush/Forest	71	99071005	9907100501							0.25	lbs		Fragment
Pinefarm	81	99081007	9908100701							5	lbs		Scrap
Pinefarm	81	99081015	9908101501				Buggy Springs						Scrap
Pinefarm	81	99081023											Scrap
Pinefarm	112	99112007	9911200701										
Pinefarm	112	99112007	9911200702							2.3	lbs		Fragment
Pinefarm	112	99112012	9911201201							2.1	lbs		Scrap
Pinefarm	112	99112012	9911201202							2	lbs		Fragment
Pinefarm	112	99112017	9911201701							1.1	lbs		Scrap
Pinefarm	111	99111008	9911100801							0.5	lbs		Fragment
Pinefarm	110	99110003	9911000301							2	lbs		Fragment
Pinefarm	110	99110011	9911001101							6	lbs		Fragment
Pinefarm	207	99207003	9920700301							0.5	lbs		Fragment
Pinefarm	207	99207010	9920701001							0.25	lbs		Fragment
Pinefarm	208	99208004	9920800401							0.25	lbs		Fragment
Pinefarm	208	99208009	9920800901							0.5	lbs		Fragment
Pinefarm	208	99208013	9920801301							0.5	lbs		Fragment
Pinefarm	208	99208018	9920801801							1	lbs		Fragment
Pinefarm	182	99182002	9918200201							0.5	lbs		Fragment
Pinefarm	182	99182006	9918200601							0.5	lbs		Fragment
Pinefarm	182	99182013	9918201301							0.75	lbs		Fragment
Pinefarm	183	99183001	9918300101							0.75	lbs		Fragment
Pinefarm	183	99183001	9918300102							0.25	lbs		Fragment
Pinefarm	183	99183006	9918300601							2	lbs		Scrap
Pinefarm	183	99183015	9918301501							1.5	lbs		Fragment
Pinefarm	183	99183020	9918302001							0.25	lbs		Fragment
Pinefarm	184	99184007	9918400701							0.25	lbs		Fragment
Pinefarm	184	99184012	9918401201							1	lbs		Fragment
Pinefarm	184	99184018	9918401801							0.25	lbs		Fragment
Pinefarm	184	99184021	9918402101							0.25	lbs		Fragment
Pinefarm	181	99181005	9918100501							0.25	lbs		Fragment
Pinefarm	181	99181011								1.5	lbs		Fragment
Pinefarm	181	99181017	9918101701										
Pinefarm	181	99181023	9918102301							2	lbs		Scrap
										0.5	lbs		Scrap

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								DEPTH	UNITS	WEIGHT	UNITS		
Pond	142	99142005	9914200501			Fuze body				0.5	lbs		Fragment
Pond	142	99142006	9914200801							0.5	lbs		Fragment
Pond	127	99127003	9912700301							0.5	lbs		Fragment
Pond	127	99127008	9912700801							1	lbs		Scrap
Pond	127	99127013	9912701301							1	lbs		Scrap
Pond	127	99127018	9912701801							0.5	lbs		Scrap
Pond	128	99128002	9912800201							3	lbs		Scrap
Pond	128	99128009	9912800901										Magnetic Rock
Pond	141	99141004	9914100401							0.25	lbs		Fragment
Pond	141	99141010	9914101001							1	lbs		Fragment
Pond	136	99136006	9913600601							0.75	lbs		Fragment
Natural Brush/Forest	147	99147002	9914700201							0.5	lbs		Scrap
EE/CA Grid 87	108	99108001	9910800101							0.25	lbs		Fragment
EE/CA Grid 87	106	99106008	9910600801							0.75	lbs		Fragment
EE/CA Grid 87	106	99106010	9910601001							0.5	lbs		Fragment
EE/CA Grid 87	106	99106015	9910601501							0.25	lbs		Fragment
EE/CA Grid 87	105	99105005	9910500501							0.25	lbs		Fragment
EE/CA Grid 87	105	99105012											
EE/CA Grid 87	105	99105017	9910501701							0.25	lbs		Fragment
EE/CA Grid 87	108	99108005	9910800501							0.5	lbs		Fragment
EE/CA Grid 87	108	99108009	9910800901							0.5	lbs		Fragment
EE/CA Grid 87	108	99108014	9910801401							0.25	lbs		Fragment
EE/CA Grid 87	108	99108019	9910801901							0.25	lbs		Fragment
EE/CA Grid 87	107	99107005	9910700501							0.1	lbs		Fragment
EE/CA Grid 87	107	99107011	9910701101							0.1	lbs		Fragment
Pinefarm	55	99055003	9905500301							0.25	lbs		Fragment
Pinefarm	55	99055010	9905501001							0.25	lbs		Fragment
Pinefarm	56	99056001	9905600101							0.25	lbs		Fragment
Pinefarm	56	99056006	9905600601							0.25	lbs		Fragment
Pinefarm	56	99056010	9905601001							0.75	lbs		Fragment
Pinefarm	56	99056019	9905601901							0.5	lbs		Fragment
Pinefarm	53	99053003	9905300301							1	lbs		Fragment
Pinefarm	53	99053008	9905300801							1	lbs		Fragment
Pinefarm	53	99053015	9905301501							1	lbs		Fragment
Pinefarm	82	99082003	9908200301							0.25	lbs		Fragment
Pinefarm	82	99082010	9908201001							0.5	lbs		Fragment
Pinefarm	82	99082016	9908201601							0.25	lbs		Fragment
Pinefarm	83	99083001	9908300101	1784038'	1112319'	105 mm BE/Inert		4 in.		25	lbs		Ordnance
Pinefarm	83	99083004	9908300401							0.5	lbs		Fragment
Pinefarm	83	99083009	9908300901							0.25	lbs		Fragment
Pinefarm	83	99083013	9908301301			Blade				1	lbs		Fragment
Pinefarm	84	99084002	9908400201							0.25	lbs		Fragment
Pinefarm	84	99084006	9908400601							0.25	lbs		Fragment
Pinefarm	84	99084012	9908401201							0.5	lbs		Fragment
Pinefarm	84	99084018	9908401801							0.25	lbs		Fragment
Pond	166	99166003	9916600301			Paint can lid				2	lbs		Scrap
Pond	166	99166003	9916600301							0.25	lbs		Scrap
Pond	170	99170004	9917000401			Magnetic Rock							Magnetic Rock

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								DEPTH	UNITS	WEIGHT	UNITS		
Pond	170	99170005											
Pond	171	99171008	9917100801										
Pond	131	99131003								0.3	lbs		Scrap
Pnefarm	64	99084001	9908400101										
Natural Brush/Forest	248	99248006	9924800601							0.25	lbs		Fragment
Pond	152	99152015	9915201501							0.5	lbs		Fragment
Natural Brush/Forest	215	99215003								0.25	lbs		Fragment
Natural Brush/Forest	203	99203016	9920301601										
Natural Brush/Forest	70	99070007	9907000701							0.25	lbs		Fragment
EE/CA Grid 87	105	99105018	9910501801							1	lbs		Fragment
Natural Brush/Forest	279	99279001	9927900101			Soil layer				0.25	lbs		Fragment
Natural Brush/Forest	279	99279002	9927900201			Magnetic Rocks							Soil Layer
Natural Brush/Forest	279	99279003	9927900301										Magnetic Rock
Natural Brush/Forest	275	99275001	9927500101							0.1	lbs		Scrap
Natural Brush/Forest	276	99276001	9927600101							0.5	lbs		Scrap
Natural Brush/Forest	276	99276001	9927600102							0.5	lbs		Fragment
Natural Brush/Forest	281	99281001								1	lbs		Scrap
Natural Brush/Forest	281	99281002	9928100201										
Natural Brush/Forest	281	99281003	9928100301										
Natural Brush/Forest	281	99281004								3	lbs		Scrap
Natural Brush/Forest	281	99281005								3	lbs		Scrap
Natural Brush/Forest	283	99283001	9928300101			Soil layer							
Natural Brush/Forest	283	99283002	9928300201			Soil layer							Soil Layer
Natural Brush/Forest	283	99283003	9928300301			Barbed wire							Soil Layer
Natural Brush/Forest	283	99283004	9928300401			Magnetic Rock				1	lbs		Scrap
Natural Brush/Forest	231	99231001	9923100101										Magnetic Rock
Natural Brush/Forest	231	99231002	9923100201							1	lbs		Fragment
Natural Brush/Forest	231	99231003								0.25	lbs		Fragment
Natural Brush/Forest	230	99230001	9923000101										
Natural Brush/Forest	230	99230002	9923000201							0.5	lbs		Fragment
Natural Brush/Forest	229	99229001	9922900101							0.5	lbs		Fragment
Natural Brush/Forest	229	99229002	9922900201							0.5	lbs		Fragment
Natural Brush/Forest	229	99229003	9922900301							0.5	lbs		Fragment
Natural Brush/Forest	227	99227001	9922700101							0.5	lbs		Fragment
Natural Brush/Forest	227	99227002								0.25	lbs		Fragment
Natural Brush/Forest	227	99227003	9922700301										
Natural Brush/Forest	228	99228001	9922800101							2	lbs		Fragment
Natural Brush/Forest	228	99228002								0.5	lbs		Fragment
Natural Brush/Forest	157	99157001	9915700101			Barbed wire							
Natural Brush/Forest	157	99157002	9915700201							0.25	lbs		Fragment
Natural Brush/Forest	157	99157003								0.6	lbs		Fragment
Natural Brush/Forest	158	99158001	9915800101										
Natural Brush/Forest	158	99158002	9915800201							0.25	lbs		Fragment
Natural Brush/Forest	158	99158003	9915800301							0.5	lbs		Fragment
Natural Brush/Forest	159	99159001								0.5	lbs		Fragment
Natural Brush/Forest	159	99159002	9915900201										
Natural Brush/Forest	159	99159003	9915900301							0.25	lbs		Fragment
Natural Brush/Forest	159	99159004								0.25	lbs		Fragment

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OF ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH UNITS	WEIGHT UNITS	WEIGHT UNITS	WEIGHT UNITS		
Natural Brush/Forest	159	99159005	9915900501							0.25	lbs		Fragment
Landfill and Compositin	97	99097001	9909700101							0.25	lbs		Fragment
Landfill and Compositin	97	99097002											
Landfill and Compositin	97	99097003	9909700301							2	lbs		Scrap
Natural Brush/Forest	99	99099001	9909900101							0.13	lbs		Fragment
Natural Brush/Forest	99	99099002	9909900201							0.13	lbs		Fragment
Natural Brush/Forest	199	99199008	9919900801			(Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199009	9919900901			(Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199010	9919901001			(Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199011	9919901101			(Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199012	9919901201			(Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199013	9919901301			(Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199014	9919901401			(Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199015	9919901501			(Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199016											
Natural Brush/Forest	199	99199017											
Natural Brush/Forest	199	99199018	9919901801			(Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199019	9919901901			(Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199020	9919902001			(Second set)				0.5	lbs		Scrap
Natural Brush/Forest	199	99199021											
Natural Brush/Forest	199	99199022	9919902201			(Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199023											
Natural Brush/Forest	199	99199024	9919902401			Plow blade(Second Set)				3	lbs		Scrap
Natural Brush/Forest	199	99199025	9919902501			Nail (Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199026	9919902601			Nail (Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199027											
Natural Brush/Forest	199	99199028											
Natural Brush/Forest	199	99199029	9919902901			Nail (Second set)							Scrap
Natural Brush/Forest	199	99199030	9919903001			(Second set)				0.5	lbs		Scrap
Natural Brush/Forest	199	99199031	9919903101			Nail (Second set)				0.25	lbs		Scrap
Natural Brush/Forest	199	99199032	9919903201			Nail (Second set)				1	lbs		Scrap
Natural Brush/Forest	199	99199033											
Natural Brush/Forest	199	99199034											
Natural Brush/Forest	199	99199035											
Natural Brush/Forest	199	99199036											
Natural Brush/Forest	101	99101001	9910100101							0.25	lbs		Scrap
Natural Brush/Forest	101	99101002	9910100201							0.25	lbs		Fragment
Natural Brush/Forest	103	99103001	9910300101							0.25	lbs		Fragment
Natural Brush/Forest	103	99103002											
Natural Brush/Forest	103	99103003	9910300301							0.5	lbs		Scrap
Natural Brush/Forest	103	99103004											
Natural Brush/Forest	103	99103005											
Natural Brush/Forest	103	99103006											
Natural Brush/Forest	217	99217001											
Natural Brush/Forest	217	99217002											
Natural Brush/Forest	217	99217003											
Natural Brush/Forest	217	99217004	9921700401							0.25	lbs		Fragment
Natural Brush/Forest	217	99217005	9921700501							0.25	lbs		Fragment

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OE ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Natural Brush/Forest	218	99218001											
Natural Brush/Forest	218	99218002	9921800201							0.25	lbs		Fragment
Natural Brush/Forest	218	99218003											
Natural Brush/Forest	218	99218004											
Natural Brush/Forest	218	99218005	9921800501							0.25	lbs		Fragment
Natural Brush/Forest	218	99218006											
Natural Brush/Forest	218	99218007	9921800701							0.25	lbs		Fragment
Natural Brush/Forest	218	99218008	9921800801							0.25	lbs		Fragment
Natural Brush/Forest	219	99219001											
Natural Brush/Forest	219	99219002											
Natural Brush/Forest	219	99219003	9921900301							0.5	lbs		Fragment
Natural Brush/Forest	219	99219004	9921900401							0.5	lbs		Fragment
Natural Brush/Forest	219	99219005	9921900501							0.25	lbs		Fragment
Natural Brush/Forest	219	99219006	9921900601							0.25	lbs		Scrap
Natural Brush/Forest	220	99220001	9922000101							0.25	lbs		Fragment
Natural Brush/Forest	220	99220002	9922000201							0.5	lbs		Fragment
Natural Brush/Forest	220	99220003	9922000301							0.5	lbs		Fragment
Natural Brush/Forest	220	99220004											
Natural Brush/Forest	232	99232001											
Natural Brush/Forest	232	99232002	9923200201							0.5	lbs		Fragment
Natural Brush/Forest	232	99232003											
Natural Brush/Forest	232	99232004											
Natural Brush/Forest	232	99232005	9923200501							0.25	lbs		Fragment
Natural Brush/Forest	232	99232006	9923200601							0.5	lbs		Fragment
Natural Brush/Forest	232	99232007	9923200701							0.75	lbs		Fragment
Natural Brush/Forest	232	99232008											
Natural Brush/Forest	232	99232009											
Natural Brush/Forest	232	99232010	9923201001							0.5	lbs		Fragment
Pinefarm	73	99073001	9907300101							0.25	lbs		Fragment
Pinefarm	73	99073002	9907300201							0.5	lbs		Fragment
Pinefarm	73	99073003	9907300301			Fuze body							Fragment
Pinefarm	73	99073004	9907300401							0.25	lbs		Fragment
Pinefarm	73	99073005	9907300501							0.25	lbs		Fragment
Pinefarm	73	99073006	9907300601							0.25	lbs		Fragment
Pinefarm	73	99073007											
Pinefarm	78	99078001	9907800101							0.25	lbs		Fragment
Pinefarm	78	99078002	9907800201							0.5	lbs		Fragment
Pinefarm	78	99078003	9907800301							0.25	lbs		Fragment
Pinefarm	78	99078004	9907800401							0.25	lbs		Fragment
Pinefarm	78	99078005	9907800501							0.25	lbs		Fragment
Pinefarm	78	99078006	9907800601							0.25	lbs		Fragment
Natural Brush/Forest	214	99214031											
Natural Brush/Forest	214	99214030	9921403001							0.25	lbs		Fragment
Uninvestigated Area	74	99074001											
Uninvestigated Area	74	99074002											
Uninvestigated Area	74	99074003											
Uninvestigated Area	74	99074004											
Uninvestigated Area	74	99074005											

SITE CHARACTERIZATION DATA
ORDNANCE OPERABLE UNIT 6
FORMER CCATF OE ENGINEERING DESIGN

SECTORS NAME	GRID ID	ANOMALY ID	OBJECT ID	EASTING	NORTHING	DESCRIPTION	COMMENTS	DEPTH		WEIGHT		EXPLOSIVE	OBJ NAME
								DEPTH	UNITS	WEIGHT	UNITS		
Uninvestigated Area	74	99074006											
Uninvestigated Area	74	99074007											
Uninvestigated Area	74	99074008											
Uninvestigated Area	74	99075001											
Uninvestigated Area	75	99075002											
Uninvestigated Area	75	99075003											
Uninvestigated Area	75	99075004											
Uninvestigated Area	180	99180001											
Uninvestigated Area	180	99180002											
Natural Brush/Forest	284	99284001											
Natural Brush/Forest	284	99284002											
Natural Brush/Forest	284	99284003											
Natural Brush/Forest	284	99284004											
Natural Brush/Forest	284	99284005											
Natural Brush/Forest	284	99284006											
Natural Brush/Forest	284	99284007											
Natural Brush/Forest	284	99284008											
Natural Brush/Forest	284	99284009											
Natural Brush/Forest	284	99284010											Soil Layer
Natural Brush/Forest	284	99284011	9928401101										
Natural Brush/Forest	284	99284012											
Natural Brush/Forest	228	99228001											
Natural Brush/Forest	228	99228002											Soil Layer
Natural Brush/Forest	228	99228003	9922800301										Scrap
Natural Brush/Forest	282	99282001	9928200101								1 lbs		Scrap
Natural Brush/Forest	94	99094013	9909401301								0.5 lbs		Fragment

GEOPHYSICAL INVESTIGATION DATA

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)				
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM	
1/8/97	46	99046001	2	4	11	12	
		99046002	5	6	9	10	
		99046003	3	4	8	9	
		99046004					
		99046005	2	4	10	12	
		99046006	5	6	9	11	
		99046007	2	4	9	10	
		99046008	7	6	75	82	
		99046009	5	7	9	10	
		99046010	3	5	9	11	
Total Grids/Day:		10					
1/10/97	3	99003001	2	3	6	8	
		99003002	2	3	11	12	
		99003003	2	3	5	8	
		99003004	2	2	8	10	
		99003005	4	4	8	10	
		99003006	3	3	52	50	
		99003007	3	3	8	12	
		99003008	1	1	6	8	
		99003009	5	6	6	8	
		6	99006001	1	2	7	4
	99006002		2	3	8	11	
	99006003		2	0	16	19	
	99006004		3	5	9	10	
	99006005		0	1	7	10	
	99006006		1	3	8	10	
	24	99024001	5	5	16	20	
		25	99025001	8	6	17	17
	99025002		8	7	32	37	
	99025003		11	11	19	21	
	99025004		2	2	11	14	
	99025005		9	9	12	13	
	99025006		9	9	12	13	
	99025007		9	9	13	13	
	99025008		11	13	30	32	
	99025009		7	7	19	20	
	99025010		3	5	14	17	
	99025011		6	7	10	12	
	99025012		4	5	12	14	
	99025013		5	2	11	14	
	99025014		5	2	12	14	

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99025015	2	4	21	22
		99025016	6	6	8	11
		99025017	5	6	17	17
		99025018	5	6	19	20
		99025019	5	5	20	27
		99025020	2	3	18	17
		99025021	5	5	16	18
		99025022	5	5	16	17
		99025023	4	6	11	14
		99025024	2	2	11	12
		99025025	9	9	9	11
		99025026	9	9	19	17
		99025027	5	6	20	21
		99025028	3	5	11	12
		99025029	3	5	19	21
		99025030	3	5	21	23
	122	99122001	5	5	9	11
		99122002	5	5	11	12
		99122003	9	6	16	17
		99122004	5	6	16	17
		99122005	5	6	9	10
		99122006	6	5	10	10
		99122007	6	5	9	11
		99122008	5	4	11	11
		99122009	5	5	11	12
		99122010	5	6	8	8
	179	99179001	5	5	22	24
		99179002	5	5	13	11
		99179003	6	6	11	12
		99179004	6	6	12	15
		99179005	6	6	12	13
		99179006	7	7	15	8
		99179007	5	6	13	14
		99179008	5	5	11	12
		99179009	6	6	15	15
		99179010	6	7	13	14
		99179011	6	6	11	11
		99179012	6	6	11	12
		99179013	6	6	14	14
		99179014	9	9	14	15
		99179015	9	9	12	12
	Total Grids/Day:	6				

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
1/13/97	57	99057001	8	8	21	17
		99057002	8	9	20	18
		99057003	6	6	21	20
		99057004	9	9	17	17
		99057005	11	11	23	20
		99057006	8	8	20	19
		99057007	5	5	26	23
		99057008	17	17	30	30
		99057009	4	4	14	12
		99057010	9	9	17	14
	58	99058001	7	8	14	14
		99058002	8	10	25	29
		99058003	9	9	16	18
		99058004	8	10	19	15
		99058005	9	9	22	24
		99058006	6	6	24	25
		99058007	8	9	21	22
	59	99059001	11	11	20	18
		99059002	15	15	20	20
		99059003	8	8	26	29
		99059004	9	9	22	24
		99059005	10	12	19	20
		99059006	8	8	20	23
		99059007	11	11	18	19
		99059008	8	8	17	17
		99059009	8	8	18	20
		99059010	12	12	36	38
		99059011	9	9	18	20
		99059012	9	9	26	28
		99059013	11	11	17	18
		99059014	9	9	17	18
		99059015	9	9	21	21
		99059016	8	8	26	29
		99059017	10	10	17	18
	60	99059018	9	9	18	20
		99059019	11	11	20	20
		99059020	11	11	23	23
		99059021	8	8	23	23
		99060001	8	9	18	16
		99060002	9	11	15	16
		99060003	11	10	18	20
		99060004	5	7	12	14
		99060005	9	8	14	14

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99060006	8	8	14	15
		99060007	10	10	19	18
		99060008	11	11	18	17
		99060009	8	8	15	16
		99060010	9	10	23	25
		99060011	12	13	21	24
		99060012	11	12	21	21
		99060013	10	10	21	24
		99060014	13	14	20	20
		99060015	11	12	23	25
		99060016	15	17	43	43
		99060017	12	12	23	22
		99060018	12	12	24	23
	65	99065001	17	15	21	21
		99065002	14	14	18	19
		99065003	12	11	18	17
		99065004	12	11	21	23
		99065005	12	12	18	18
		99065006	16	14	18	18
		99065007	15	14	21	20
		99065008	16	14	17	15
		99065009	18	17	21	21
	66	99066001	9	9	17	17
		99066002	11	11	17	17
		99066003	11	10	19	19
		99066004	8	9	25	30
		99066005	11	11	19	21
		99066006	8	8	14	15
		99066007	11	11	20	20
		99066008	12	12	30	26
		99066009	11	9	20	18
		99066010	10	8	118	111
		99066011	9	10	17	18
		99066012	6	6	20	20
	67	99067001	9	8	20	20
		99067002	11	9	26	28
		99067003	9	9	17	18
		99067004	9	9	23	20
		99067005	8	8	26	29
		99067006	14	15	29	32
		99067007	12	13	20	20
		99067008	9	9	24	20
		99067009	9	9	27	23

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99067010	10	10	21	23
		99067011	15	13	23	26
	68	99068001	17	15	41	43
		99068002	13	14	23	22
		99068003	18	17	26	24
		99068004	14	14	20	20
		99068005	11	11	26	29
	85	99085001	7	10	11	14
		99085002	8	11	16	16
		99085003	9	11	131	121
		99085004	13	14	22	25
		99085005	10	13	17	20
		99085006	8	11	20	23
		99085007	9	11	20	22
		99085008	10	13	22	25
		99085009	10	13	22	25
		99085010	9	11	20	23
		99085011	10	12	32	35
		99085012	9	14	22	23
		99085013	9	11	20	23
		99085014	11	13	20	23
		99085015	14	15	23	26
		99085016	11	14	20	23
		99085017	10	14	25	26
		99085018	13	14	23	26
		99085019	14	16	20	23
	86	99086001	7	10	20	23
		99086002	7	9	31	34
		99086003	7	10	16	19
		99086004	7	11	17	21
		99086005	5	9	15	19
		99086006	9	13	17	21
		99086007	7	9	20	25
		99086008	8	9	125	124
		99086009	5	9	29	31
		99086010	7	10	22	24
	87	99087001	8	10	18	21
		99087002	8	10	27	31
		99087003	6	9	35	39
		99087004	6	9	27	29
		99087005	6	9	27	29
		99087006	11	13	20	23
	88	99088001	10	13	21	23

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99088002	15	15	26	27
		99088003	7	8	32	34
		99088004	10	11	20	21
		99088005	10	11	32	32
		99088006	8	10	22	24
		99088007	6	10	22	23
		99088008	9	11	21	24
		99088009	11	13	32	35
	Total Grids/Day:	12				
1/14/97	18	99018001	3	6	7	11
		99018002	4	7	10	12
	19	99019001	1	4	14	12
	20	99020001	1	4	7	10
		99020002	2	5	11	15
	29	99029001	9	8	24	26
		99029002	9	8	21	21
		99029003	9	8	28	30
		99029004	8	8	20	21
		99029005	9	8	28	22
		99029006	8	9	29	30
		99029007	12	12	19	20
		99029008	10	10	22	23
		99029009	6	8	18	21
		99029010	9	11	35	39
		99029011	9	9	18	19
		99029012	14	14	17	19
		99029013	12	12	32	35
		99029014	7	9	25	26
		99029015	7	9	33	33
		99029016	11	11	18	24
		99029017	6	6	31	29
		99029018	6	6	22	26
		99029019	14	14	30	31
		99029020	14	15	21	22
		99029021	9	11	35	37
		99029022	14	14	24	25
		99029023	6	5	24	26
		99029024	17	15	34	35
		99029025	5	5	18	20
	30	99030001	5	5	11	14
		99030002	5	5	38	40
		99030003	8	9	17	17

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99030004	8	8	18	17
		99030005	8	7	22	27
		99030006	2	2	17	17
		99030007	5	5	24	24
		99030008	8	8	36	38
		99030009	3	4	18	20
		99030010	8	8	23	22
		99030011	11	11	19	20
		99030012	8	9	24	27
		99030013	10	11	20	21
		99030014	5	6	19	20
		99030015	8	8	23	23
		99030016	8	8	24	24
		99030017	7	7	22	23
		99030018	6	6	19	19
		99030019	6	6	19	20
		99030020	7	11	32	35
		99030021	4	4	30	32
		99030022	4	4	18	18
		99030023	8	8	17	17
		99030024	11	12	32	35
		99030025	9	9	24	26
		99030026	9	9	18	20
	31	99031001	19	21	31	33
		99031002	17	18	33	35
		99031003	16	17	27	30
		99031004	11	14	33	36
		99031005	12	14	25	27
		99031006	16	17	29	29
		99031007	16	17	31	33
		99031008	18	19	35	37
		99031009	17	17	30	32
		99031010	17	18	41	42
		99031011	14	15	37	40
		99031012	12	14	29	29
	32	99032001	3	4	21	22
		99032002	8	8	20	20
		99032003	8	8	27	27
		99032004	6	6	21	21
		99032005	6	6	26	28
		99032006	8	8	17	20
		99032007	8	8	24	26
		99032008	15	15	28	30

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99032009	15	15	23	23
		99032010	15	15	25	27
		99032011	11	11	21	21
		99032012	10	11	23	26
		99032013	7	8	30	34
		99032014	11	11	20	22
		99032015	5	6	20	20
		99032016	5	5	18	20
		99032017	11	11	24	24
		99032018	11	11	47	41
		99032019	4	3	23	23
		99032020	7	2	28	29
		99032021	11	11	24	26
		99032022	9	9	18	20
		99032023	8	8	18	20
	33	99033001	2	3	11	14
		99033002	4	5	14	15
		99033003	2	3	11	11
		99033004	4	5	10	11
		99033005	1	2	12	14
		99033006	2	3	12	14
	34	99034001	6	8	10	11
		99034002	6	8	32	38
		99034003	8	9	13	16
		99034004	8	8	12	14
		99034005	4	5	14	16
		99034006	4	5	14	17
		99034007	4	5	14	17
		99034008	4	5	10	11
		99034009	8	9	13	14
		99034010	4	5	11	12
		99034011	4	5	11	12
		99034012	8	8	10	12
		99034013	5	6	13	15
		99034014	5	6	12	14
		99034015	8	8	15	15
		99034016	6	8	19	21
		99034017	6	7	16	17
		99034018	5	6	17	20
		99034019	5	6	10	12
		99034020	5	6	14	19
		99034021	6	8	12	16
	35	99035001	7	6	18	20

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
	36	99036001	5	6	10	12
		99036002	2	7	14	10
		99036003	2	4	10	12
		99036004	4	5	26	30
		99036005	7	8	23	29
		99036006	2	3	18	20
		99036007	2	3	11	12
		99036008	1	2	39	44
	61	99061001	19	21	26	28
		99061002	15	17	25	23
		99061003	13	14	168	151
		99061004	14	16	27	28
		99061005	14	16	22	24
		99061006	18	18	213	205
		99061007	12	14	28	30
	62	99062001	11	12	24	23
		99062002	15	16	26	28
		99062003	8	11	23	26
		99062004	21	22	27	29
		99062005	14	14	28	29
		99062006	16	17	23	24
		99062007	20	20	29	30
		99062008	10	11	23	24
		99062009	18	18	31	31
		99062010	8	10	21	23
		99062011	17	18	22	20
		99062012	14	15	39	39
		99062013	17	17	28	27
		99062014	21	22	25	24
	63	99063001	12	11	18	20
		99063002	8	8	15	14
		99063003	6	6	14	15
		99063004	7	8	14	15
		99063005	14	15	20	19
		99063006	11	13	20	18
		99063007	10	11	19	19
		99063008	8	6	18	20
		99063009	8	6	21	23
		99063010	8	9	23	28
		99063011	10	11	26	27
		99063012	10	9	24	24
		99063013	8	9	17	8
		99063014	7	8	20	21

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99063015	9	11	23	28
		99063016	11	11	22	22
		99063017	12	12	21	24
		99063018	12	12	18	21
		99063019	11	9	20	22
		99063020	12	12	21	22
		99063021	14	14	23	23
		99063022	15	14	23	24
		99063023	15	16	22	23
		99063024	14	17	23	22
		99063025	14	14	22	24
		99063026	13	14	20	23
		99063027	15	17	20	21
	64	99064001	14	6	20	23
		99064002	16	17	32	33
		99064003	13	15	21	24
		99064004	10	11	23	25
		99064005	10	11	22	23
		99064006	12	13	23	24
		99064007	16	17	21	21
		99064008	16	18	32	32
		99064009	12	15	34	35
		99064010	12	15	24	25
		99064011	13	14	27	29
		99064012	13	14	31	35
	Total Grids/Day:	15				
1/15/97	13	99013001	12	14	21	27
		99013002	11	13	35	37
		99013003	11	14	23	26
		99013004	10	11	50	61
		99013005	8	10	20	24
		99013006	6	9	27	31
		99013007	11	15	22	26
		99013008	6	9	23	28
		99013009	7	10	23	27
		99013010	11	13	26	30
		99013011	5	7	40	44
		99013012	11	13	27	30
		99013013	24	28	38	42
		99013014	4	9	26	29
		99013015	16	19	38	46
		99013016	12	14	32	34

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99013017	14	15	27	32
		99013018	14	15	33	42
	14	99014001	16	17	40	24
		99014002	6	9	14	11
		99014003	11	14	25	22
		99014004	8	11	19	25
		99014005	11	12	29	27
		99014006	11	12	37	32
		99014007	9	11	35	30
		99014008	9	11	31	26
		99014009	10	11	46	42
		99014010	13	14	27	24
		99014011	15	17	39	37
		99014012	16	18	38	34
		99014013	12	13	52	45
		99014014	8	9	23	18
		99014015	15	17	30	25
		99014016	14	18	290	306
	15	99014017	14	18	45	41
		99015001	12	14	23	26
		99015002	11	12	48	50
		99015003	17	17	40	40
		99015004	24	22	42	41
		99015005	15	16	35	37
		99015006	14	15	32	35
		99015007	14	15	31	35
		99015008	8	11	30	35
		99015009	9	11	28	33
		99015010	12	14	32	36
		99015011	11	14	25	30
	16	99016001	16	19	22	19
		99016002	10	11	36	31
		99016003	17	19	29	32
		99016004	8	11	20	20
		99016005	9	11	26	24
		99016006	16	14	18	20
		99016007	16	14	23	26
		99016008	14	17	31	29
		99016009	13	16	30	26
		99016010	16	16	31	32
		99016011	14	14	34	35
	26	99026001	8	11	13	16
		99026002	9	9	19	21

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99026003	8	10	17	19
		99026004	8	9	22	18
		99026005	7	8	14	15
		99026006	7	9	18	16
	27	99027001	5	9	18	14
		99027002	5	9	16	19
	28	99028001	3	6	11	15
		99028002	4	7	12	16
		99028003	2	5	17	19
		99028004	2	5	17	20
		99028005	5	7	15	19
		99028006	5	8	12	15
	37	99037001	2	3	8	9
		99037002	4	6	15	17
		99037003	3	5	8	10
		99037004	2	3	15	17
		99037005	1	2	12	14
		99037006	5	7	14	15
		99037007	2	3	9	11
		99037008	2	3	15	17
		99037009	4	5	10	11
		99037010	4	5	12	15
		99037011	2	4	9	11
		99037012	4	5	11	14
		99037013	3	4	12	14
		99037014	3	4	18	20
		99037015	2	3	9	11
		99037016	3	4	12	13
		99037017	3	4	15	18
		99037018	3	5	9	11
	38	99038001	1	2	9	10
		99038002	0	2	10	11
		99038003	1	1	5	5
		99038004	0	1	5	5
	39	99039001	6	8	9	10
		99039002	6	8	12	12
		99039003	8	8	11	11
		99039004	8	8	11	11
		99039005	6	6	17	17
		99039006	5	5	11	11
		99039007	8	8	14	14
		99039008	6	6	11	12
		99039009	6	7	17	18

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99039010	6	7	15	16
		99039011	8	8	14	15
		99039012	8	8	19	22
		99039013	9	9	14	14
		99039014	8	8	24	24
		99039015	5	5	9	9
		99039016	5	5	11	11
		99039017	2	3	14	18
		99039018	2	3	16	18
		99039019	5	5	13	13
		99039020	8	8	34	39
		99039021	3	3	15	16
		99039022	8	8	11	11
	40	99040001	0	2	10	11
		99040002	2	2	11	12
		99040003	2	3	4	5
		99040004	1	2	5	7
		99040005	2	3	8	9
		99040006	2	3	9	11
	41	99041001	1	2	8	9
		99041002	1	2	6	6
	42	99042001	1	2	5	5
		99042002	2	3	8	11
		99042003	2	2	5	5
		99042004	2	2	11	12
		99042005	1	2	14	16
		99042006	2	2	6	8
		99042007	3	4	9	11
		99042008	1	2	13	16
	43	99043001	2	2	4	5
		99043002	2	2	5	6
		99043003	1	2	6	7
	44	99044001	1	2	6	8
		99044002	1	2	10	11
		99044003	2	2	6	8
	69	99069001	1	2	6	8
		99069002	1	2	14	17
		99069003	0	1	6	8
		99069004	2	2	94	101
		99069005	1	2	5	8
		99069006	1	1	9	7
		99069007	0	1	8	11
	71	99071001	3	4	20	17

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99071002	3	4	21	17
		99071003	1	4	21	18
		99071004	2	4	17	19
		99071005	2	4	6	9
	Total Grids/Day:	17				
1/16/97	4	99004001	2	7	7	11
		99004002	0	3	17	22
	5	99005001	3	6	8	12
		99005002	4	5	16	12
		99005003	1	3	10	12
		99005004	3	5	11	14
		99005005	0	3	20	25
		99005006	6	8	10	13
	7	99007001	9	11	20	24
		99007002	4	6	13	17
		99007003	2	4	18	20
		99007004	2	4	15	17
		99007005	6	7	20	24
	8	99008001	3	5	14	16
		99008002	8	11	20	16
		99008003	4	6	24	19
		99008004	10	11	14	15
		99008005	5	6	20	17
		99008006	2	4	16	14
		99008007	7	9	28	21
		99008008	7	9	18	16
		99008009	4	5	14	17
		99008010	8	9	22	25
		99008011	5	6	21	26
	10	99010001	1	2	3	5
		99010002	2	2	3	5
		99010003	0	2	6	8
		99010004	0	2	4	5
		99010005	1	2	3	5
		99010006	1	2	11	12
		99010007	2	4	11	12
		99010008	2	4	8	9
		99010009	1	2	6	7
		99010010	1	2	10	12
		99010011	1	2	3	5
		99010012	1	2	8	10
		99010013	1	2	5	6

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99010014	1	2	6	6
		99010015	1	2	3	5
		99010016	1	2	5	5
		99010017	1	2	8	11
		99010018	1	2	7	11
		99010019	1	2	5	6
		99010020	1	2	8	9
		99010021	1	2	3	5
		99010022	1	2	6	7
		99010023	1	2	5	6
	12	99012001	6	6	8	10
		99012002	6	6	12	12
		99012003	3	4	12	13
		99012004	3	4	12	12
		99012005	7	7	10	11
		99012006	4	4	10	11
		99012007	5	5	18	20
		99012008	5	5	11	11
		99012009	2	3	10	11
		99012010	6	6	11	11
		99012011	6	6	11	11
		99012012	5	5	14	15
		99012013	6	6	12	14
		99012014	5	6	10	11
		99012015	5	5	10	11
		99012016	6	6	16	16
		99012017	6	6	17	8
		99012018	6	6	12	13
		99012019	5	6	21	29
		99012020	5	6	9	10
		99012021	6	6	13	13
		99012022	3	3	10	11
		99012023	6	7	11	11
		99012024	5	5	11	12
		99012025	5	5	10	11
	45	99045001	2	3	10	11
		99045002	1	2	10	11
		99045003	2	3	5	6
		99045004	2	3	6	8
		99045005	1	3	12	14
		99045006	3	4	10	11
		99045007	1	2	10	11
		99045008	4	5	5	6

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99045009	3	5	6	8
		99045010	3	4	12	14
		99045011	2	4	7	8
		99045012	2	3	5	7
		99045013	2	3	12	14
		99045014	1	2	8	9
		99045015	1	2	11	12
		99045016	0	1	8	9
		99045017	2	2	8	8
		99045018	1	3	8	8
		99045019	8	9	8	9
		99045020	3	4	6	7
		99045021	3	4	8	9
		99045022	4	5	8	9
		99045023	4	5	8	8
		99045024	5	5	14	15
	70	99070001	1	1	17	19
		99070002	1	1	5	5
		99070003	1	1	6	6
		99070004	1	1	6	6
		99070005	1	1	12	13
		99070006	1	1	6	6
		99070007	1	1	5	5
		99070008	1	1	19	18
		99070009	1	1	17	20
	72	99072001	1	1	5	5
		99072002	0	1	5	6
		99072003	0	0	6	7
		99072004	0	0	5	6
		99072005	0	1	3	5
		99072006	0	1	4	6
		99072007	0	1	3	4
		99072008	1	1	5	6
		99072009	0	1	6	8
		99072010	1	2	12	2
		99072011	1	0	14	16
		99072012	1	1	3	5
	109	99109001	7	6	21	19
		99109002	9	9	13	12
		99109003	9	9	14	15
		99109004	12	11	15	14
		99109005	12	11	28	24
		99109006	12	11	29	25

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99109007	9	8	31	32
		99109008	9	8	15	11
		99109009	18	15	127	104
		99109010	18	15	29	22
		99109011	18	17	30	27
		99109012	18	17	27	26
		99109013	14	12	29	30
		99109014	18	17	21	18
		99109015	18	17	26	23
		99109016	17	15	27	24
		99109017	9	8	17	18
		99109018	9	8	39	36
		99109019	9	8	36	32
		99109020	19	15	26	23
		99109021	19	15	45	35
		99109022	19	15	33	26
		99109023	15	17	25	24
		99109024	15	17	29	25
		99109025	12	10	26	23
		99109026	14	12	19	17
		99109027	16	20	14	26
		99109028	16	20	30	36
		99109029	15	15	35	30
		99109030	15	15	30	24
		99109031	24	23	33	33
		99109032	11	10	27	29
		99109033	11	10	23	21
		99109034	11	10	21	21
		99109035	16	15	36	33
		99109036	10	12	75	71
		99109037	10	12	23	22
		99109038	10	12	17	17
	110	99110001	4	11	11	15
		99110002	6	10	66	80
		99110003	12	16	61	64
		99110004	11	12	18	21
		99110005	19	20	62	51
		99110006	15	15	28	27
		99110007	19	20	33	35
		99110008	14	12	55	33
		99110009	9	11	31	30
		99110010	24	24	70	59
		99110011	17	17	36	37

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99110012	17	17	46	45
	111	99111001	21	20	37	36
		99111002	19	18	45	46
		99111003	17	18	26	28
		99111004	10	10	34	36
		99111005	13	14	35	36
		99111006	10	11	20	20
		99111007	15	16	42	43
		99111008	8	9	30	29
		99111009	20	21	43	43
		99111010	17	15	51	51
		99111011	10	11	29	30
		99111012	15	12	29	26
		99111013	16	14	34	28
	112	99112001	10	12	29	29
		99112002	11	15	19	22
		99112003	10	11	22	22
		99112004	17	17	21	22
		99112005	11	12	39	38
		99112006	11	12	21	22
		99112007	18	17	33	37
		99112008	11	12	39	39
		99112009	14	15	36	36
		99112010	11	13	20	22
		99112011	10	10	22	22
		99112012	13	13	23	26
		99112013	10	10	14	44
		99112014	10	10	37	37
		99112015	10	10	31	31
		99112016	19	17	32	32
		99112017	19	17	47	46
		99112018	27	27	33	31
	Total Grids/Day:	13				
1/17/97	121	99121001	4	4	12	12
		99121002	3	3	24	18
		99121003	6	6	56	62
		99121004	2	7	10	10
		99121005	3	3	11	11
		99121006	5	5	16	18
	124	99124001	2	3	7	8
		99124002	4	4	11	11
		99124003	5	5	11	11

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99124004	5	5	17	18
		99124005	2	3	8	11
		99124006	4	4	14	15
		99124007	4	4	18	19
	137	99137001	2	5	60	52
	138	99138001	4	5	7	10
		99138002	4	5	6	9
		99138003	4	6	7	10
		99138004	3	6	9	12
	139	99139001	9	10	12	14
	153	99153001	4	5	9	10
		99153002	4	5	9	8
		99153003	2	2	6	8
		99153004	2	2	8	10
		99153005	2	2	6	7
		99153006	4	5	8	9
		99153007	4	5	6	6
		99153008	2	2	8	9
		99153009	2	2	10	11
	154	99154001	3	4	15	20
		99154002	3	4	7	11
		99154003	2	3	10	11
		99154004	2	3	11	12
		99154005	3	3	9	11
		99154006	5	5	8	8
		99154007	5	5	8	8
		99154008	4	5	7	8
		99154009	5	5	8	9
		99154010	5	5	9	11
		99154011	2	3	9	11
	155	99155001	5	5	26	26
		99155002	5	5	10	11
		99155003	5	5	114	104
		99155004	4	5	29	33
		99155005	4	5	9	10
		99155006	4	5	8	8
		99155007	2	3	15	14
		99155008	6	5	18	18
		99155009	6	5	15	14
		99155010	6	5	17	18
		99155011	6	5	20	20
		99155012	6	5	16	14
		99155013	6	5	12	11

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99155014	2	3	20	21
		99155015	3	3	14	12
		99155016	9	9	11	11
		99155017	6	6	11	10
		99155018	6	6	12	14
		99155019	3	5	12	12
		99155020	5	5	12	14
	173	99173001	1	5	11	15
	174	99174001	2	4	159	147
	175	99175001	5	7	62	53
	176	99176001	2	5	6	10
		99176002	2	5	24	28
		99176003	5	7	10	12
	177	99177001	5	5	9	9
		99177002	5	6	7	8
		99177003	3	3	9	9
		99177004	3	5	8	9
		99177005	6	6	12	13
		99177006	8	9	17	19
		99177007	5	5	15	16
		99177008	5	5	11	11
		99177009	5	5	11	11
		99177010	5	5	8	9
		99177011	3	5	11	11
		99177012	3	5	11	12
		99177013	6	6	12	12
	178	99178001	2	2	11	14
		99178002	3	4	11	14
		99178003	3	4	23	27
		99178004	3	4	10	12
		99178005	2	4	11	14
		99178006	3	4	20	24
		99178007	2	3	20	26
		99178008	3	4	11	12
	180	99180001	8	8	13	15
		99180002	6	7	11	11
		99180003	6	7	24	24
		99180004	6	6	12	12
		99180005	5	5	12	12
		99180006	6	6	17	18
		99180007	6	6	12	14
		99180008	6	6	9	10
		99180009	3	3	11	11

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99180010	5	6	99	142
		99180011	5	6	38	44
		99180012	6	6	12	10
		99180013	3	3	14	16
		99180014	9	9	40	40
		99180015	9	9	14	17
		99180016	3	5	10	11
		99180017	6	6	13	14
		99180018	2	3	15	13
		99180019	5	5	15	15
		99180020	5	5	17	17
		99180021	6	6	12	12
		99180022	10	10	23	26
		99180023	10	10	22	23
		99180024	10	10	24	26
		99180025	10	10	60	66
		99180026	5	5	17	18
		99180027	5	5	10	11
		99180028	10	11	28	28
		99180029	10	10	22	23
		99180030	10	10	27	28
		99180031	7	7	12	15
		99180032	9	9	29	30
	193	99193002	6	8	8	10
		99193003	7	9	115	118
	195	99195001	14	14	17	18
	196	99196001	11	12	20	22
	Total Grids/Day:		18			
1/20/97	194	99194001	4	7	11	14
		99194002	9	10	11	11
		99194003	9	10	12	12
		99194004	10	11	15	15
	197	99197001	2	5	11	15
	198	99198001	2	5	9	11
		99198002	4	6	9	12
		99198003	4	6	8	11
	199	99199001	5	7	11	14
		99199002	5	7	9	12
		99199003	5	7	42	43
		99199004	122	124	179	163
		99199005	5	9	23	26
		99199006	14	15	103	104

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99199007	14	15	104	105
	200	99200001	5	7	10	13
		99200002	4	7	9	11
		99200003	5	7	10	13
	201	99201001	1	2	11	12
		99201002	2	2	8	10
		99201003	2	3	8	11
		99201004	3	3	12	13
		99201005	4	4	10	9
		99201006	4	4	104	113
	202	99202001	5	5	11	11
		99202002	3	3	9	9
		99202003	3	3	6	6
	203	99203001	10	8	15	12
		99203002	4	3	15	13
		99203003	6	5	16	14
		99203004	6	5	11	11
		99203005	4	4	14	14
		99203006	7	6	16	14
		99203007	7	6	24	24
		99203008	5	5	14	13
		99203009	6	7	12	10
		99203010	6	7	13	11
		99203011	5	5	20	18
		99203012	5	5	14	12
		99203013	6	5	11	10
		99203014	6	5	14	12
		99203015	6	5	12	11
		99203016	11	11	22	20
		99203017	11	11	17	15
		99203018	11	13	14	13
		99203019	11	13	15	14
		99203020	8	8	13	14
		99203021	5	5	19	20
		99203022	5	5	10	9
		99203023	5	5	17	17
		99203024	8	9	12	11
		99203025	8	9	15	14
		99203026	12	11	14	12
		99203027	12	11	17	19
	204	99204001	6	6	11	12
		99204002	7	7	9	11
		99204003	5	5	12	14

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99204004	3	5	11	11
		99204005	5	5	11	11
		99204006	5	5	11	12
		99204007	4	5	11	12
		99204008	2	3	16	18
		99204009	5	6	10	11
		99204010	5	6	8	9
		99204011	5	6	11	11
		99204012	5	6	12	13
		99204013	2	3	14	18
		99204014	5	6	9	11
		99204015	9	10	14	14
		99204016	4	5	10	9
		99204017	4	5	14	14
		99204018	2	3	10	11
		99204019	4	5	15	15
		99204020	4	5	12	13
		99204021	8	8	12	12
		99204022	8	8	12	2
		99204023	8	8	12	12
		99204024	5	6	10	11
		99204025	8	8	14	17
		99204026	8	8	17	15
	205	99205001	10	13	15	16
		99205002	11	12	23	24
		99205003	11	12	23	25
		99205004	16	17	23	27
		99205005	11	12	30	32
		99205006	13	14	18	19
		99205007	12	13	169	157
		99205008	9	9	25	27
		99205009	11	11	21	23
		99205010	12	13	26	28
		99205011	16	17	26	27
		99205012	11	13	15	16
		99205013	10	11	26	27
		99205014	12	13	20	23
		99205015	11	12	20	22
		99205016	9	9	27	27
		99205017	12	13	28	30
	206	99206001	13	14	18	16
		99206002	6	8	17	15
		99206003	11	12	17	18

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99206004	14	15	18	20
		99206005	17	18	24	25
		99206006	15	15	18	21
		99206007	9	11	19	21
		99206008	12	14	18	19
		99206009	8	9	16	19
		99206010	8	9	13	19
		99206011	12	14	19	21
	210	99206012	6	8	16	18
		99210001	5	5	23	23
		99210002	5	5	26	27
		99210003	2	2	12	19
		99210004	2	2	8	11
		99210005	3	4	20	23
		99210006	3	4	21	22
		99210007	0	2	12	14
		99210008	6	6	26	29
		99210009	1	2	29	26
		99210010	1	2	18	20
		99210011	1	2	10	11
		99210012	2	3	8	10
		99210013	2	3	17	17
		99210014	2	4	35	33
		99210015	4	4	20	21
		99210016	4	5	22	25
		99210017	4	5	18	18
		99210018	4	5	23	21
		99210019	5	6	27	29
		99210020	8	8	22	23
		99210021	5	6	42	45
		99210022	8	8	25	24
		99210023	2	3	12	15
		99210024	2	3	29	29
		99210025	2	3	11	13
		99210026	6	6	10	12
		99210027	3	5	13	16
		99210028	5	5	12	14
		99210029	5	5	13	14
		99210030	5	6	9	13
		99210031	5	6	12	12
		99210032	3	3	12	13
	211	99211001	0	2	8	11
		99211002	6	6	11	12

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99211003	1	3	13	15
		99211004	6	7	16	19
		99211005	6	8	27	30
		99211006	6	8	16	17
		99211007	6	8	15	15
		99211008	2	3	10	11
		99211009	2	3	9	11
		99211010	5	5	10	11
		99211011	3	4	11	12
		99211012	4	4	12	14
		99211013	5	5	17	19
		99211014	5	5	12	14
		99211015	5	6	14	14
		99211016	2	3	20	21
		99211017	8	8	26	31
		99211018	5	6	10	11
	Total Grids/Day:	13				
1/21/97	181	99181001	11	14	19	21
		99181002	20	21	30	32
		99181003	25	23	30	31
		99181004	25	23	44	41
		99181005	25	23	41	38
		99181006	25	23	97	96
		99181007	25	23	168	176
		99181008	25	23	74	73
		99181009	25	23	750	760
		99181010	25	23	68	64
		99181011	25	23	139	136
		99181012	19	18	41	42
		99181013	19	18	90	94
		99181014	19	18	109	108
		99181015	19	18	229	213
		99181016	67	57	485	401
		99181017	67	57	81	73
		99181018	67	57	79	83
		99181019	67	57	109	111
		99181020	29	28	59	62
		99181021	29	28	2815	2333
		99181022	29	28	68	65
		99181023	64	63	131	124
		99181024	64	63	59	61
		99181025	34	35	77	54

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
	182	99182001	11	12	16	19
		99182002	11	13	15	19
		99182003	11	14	14	16
		99182004	11	13	17	20
		99182005	11	12	19	22
		99182006	8	10	17	20
		99182007	8	9	18	18
		99182008	11	13	21	24
		99182009	7	10	17	21
		99182010	7	9	23	24
		99182011	9	11	20	22
		99182012	11	13	22	25
		99182013	11	13	22	25
		99182014	10	14	26	28
		99182015	13	14	18	21
		99182016	14	16	25	29
		99182017	11	13	18	20
	183	99183001	13	15	83	89
		99183002	13	15	19	21
		99183003	12	14	20	23
		99183004	16	16	19	20
		99183005	11	13	21	23
		99183006	10	11	36	38
		99183007	10	11	25	28
		99183008	11	12	25	27
		99183009	14	15	24	25
		99183010	11	11	26	29
		99183011	14	14	31	32
		99183012	16	16	30	31
		99183013	14	14	24	25
		99183014	15	15	23	26
		99183015	14	15	22	22
		99183016	16	17	26	26
		99183017	12	13	21	23
		99183018	12	13	26	28
		99183019	15	16	21	20
		99183020	12	13	25	25
		99183021	13	13	20	22
	184	99184001	20	21	25	26
		99184002	17	17	22	24
		99184003	16	17	22	24
		99184004	16	17	29	31
		99184005	18	19	26	31

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99184006	15	16	26	31
		99184007	25	25	40	40
		99184008	15	16	31	31
		99184009	15	15	31	32
		99184010	17	18	27	29
		99184011	15	18	36	36
		99184012	15	16	26	28
		99184013	25	26	50	47
		99184014	25	23	37	35
		99184015	25	23	53	50
		99184016	25	23	50	47
		99184017	25	22	26	23
		99184018	19	19	55	53
		99184019	22	22	50	52
		99184020	16	19	31	33
		99184021	22	22	48	48
	207	99207001	6	9	19	22
		99207002	9	11	12	14
		99207003	11	12	20	23
		99207004	12	13	16	19
		99207005	8	9	24	27
		99207006	8	9	14	16
		99207007	8	9	18	20
		99207008	10	11	18	19
		99207009	10	11	23	25
		99207010	12	12	20	21
		99207011	9	10	35	37
		99207012	15	15	19	22
		99207013	9	11	13	17
	208	99208001	9	10	26	32
		99208002	7	9	16	18
		99208003	7	9	19	21
		99208004	9	11	20	23
		99208005	9	11	29	34
		99208006	14	16	15	18
		99208007	14	16	19	21
		99208008	17	17	22	23
		99208009	15	17	22	24
		99208010	15	17	37	40
		99208011	17	18	21	24
		99208012	13	15	24	27
		99208013	13	15	21	24
		99208014	13	15	21	23

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99208015	10	12	17	18
		99208016	11	14	24	27
		99208017	8	9	19	21
		99208018	8	9	19	21
		99208019	15	17	17	18
		99208020	11	12	22	25
		99208021	7	8	20	24
	209	99209001	4	5	15	14
		99209002	4	5	14	17
		99209003	6	8	11	12
		99209004	6	8	11	12
		99209005	6	8	9	10
		99209006	0	1	17	19
		99209007	7	8	27	32
		99209008	7	10	15	16
		99209009	5	5	15	15
		99209010	4	5	20	21
		99209011	4	5	16	18
		99209012	4	5	14	14
		99209013	5	5	14	16
		99209014	5	5	12	12
		99209015	5	5	11	12
		99209016	5	5	6	8
		99209017	7	7	8	11
		99209018	5	5	11	11
		99209019	5	5	9	14
		99209020	0	1	9	11
		99209021	2	4	11	12
		99209022	2	4	14	15
		99209023	2	4	14	14
		99209024	5	5	8	8
		99209025	5	5	16	17
		99209026	5	5	16	18
		99209027	4	5	8	9
		99209028	3	4	14	16
		99209029	2	3	14	17
		99209030	2	3	16	17
		99209031	2	3	18	18
		99209032	4	5	10	10
		99209033	4	5	14	17
		99209034	3	4	14	15
		99209035	6	8	12	14
		99209036	2	3	13	12

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99209037	8	8	16	17
		99209038	6	6	18	19
		99209039	4	5	30	32
		99209040	4	5	15	15
		99209041	4	5	24	23
		99209042	3	5	11	13
		99209043	5	5	12	13
		99209044	5	5	16	17
		99209045	7	6	14	14
		99209046	7	6	11	11
		99209047	5	5	17	17
		99209048	5	5	23	20
		99209049	8	9	18	14
		99209050	8	9	9	10
	213	99213001	4	5	8	9
		99213002	4	5	11	11
		99213003	3	5	8	8
		99213004	2	3	9	10
		99213005	2	3	10	11
		99213006	2	3	19	21
		99213007	2	3	11	11
		99213008	4	4	10	11
		99213009	3	5	14	14
		99213010	4	4	10	10
		99213011	5	5	14	14
		99213012	5	5	9	10
		99213013	5	5	10	11
		99213014	6	6	11	11
		99213015	6	6	9	9
		99213016	8	8	14	16
		99213017	8	8	11	12
		99213018	4	5	10	10
		99213019	8	8	15	16
		99213020	5	6	9	9
		99213021	6	6	9	9
		99213022	5	5	9	9
		99213023	5	5	9	9
	214	99214001	6	6	17	17
		99214002	6	6	10	10
		99214003	6	6	11	14
		99214004	6	6	9	10
		99214005				
		99214006	5	5	11	11

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCODER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99214007	5	5	9	8
		99214008	6	6	9	9
		99214009	6	6	10	11
		99214010	6	6	12	12
		99214011	6	6	19	20
		99214012	5	5	12	12
		99214013	4	5	12	12
		99214014	6	6	9	9
		99214015	4	5	8	10
		99214016	5	5	11	12
		99214017	7	7	15	15
		99214018	7	7	12	12
		99214019	7	7	12	12
		99214020	6	6	9	10
		99214021	6	6	10	11
		99214022	5	5	8	10
		99214023	6	7	12	13
		99214024	2	4	18	20
		99214025	3	4	11	14
		99214026	3	4	10	12
		99214027	2	4	8	9
		99214028	2	4	10	11
		99214029	3	4	15	17
	215	99215001	5	7	7	9
		99215002	4	5	9	11
		99215003	4	5	10	10
		99215004	2	4	12	14
		99215005	5	6	24	28
		99215006	5	5	11	11
		99215007	4	5	11	12
		99215008	3	4	8	8
		99215009	3	4	8	9
		99215010	5	5	14	14
		99215011	3	5	9	11
		99215012	5	5	12	14
		99215013	3	3	12	14
		99215014	3	5	8	8
	216	99216001	6	6	13	14
		99216002	6	6	10	10
		99216003	5	6	9	9
		99216004	8	8	11	11
		99216005	8	8	17	17
		99216006	8	8	10	10

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99216007	8	8	9	10
		99216008	6	6	11	11
		99216009	6	6	10	10
		99216010	7	7	9	10
		99216011	7	7	8	9
		99216012	6	6	11	12
		99216013	7	7	15	16
		99216014	7	6	14	14
		99216015	3	4	9	11
		99216016	5	6	10	12
		99216017	5	6	12	14
		99216018	2	4	16	17
		99216019	2	4	11	11
		99216020	2	4	8	10
		99216021	4	5	6	8
		99216022	2	3	10	12
		99216023	2	3	8	11
		99216024	2	4	14	17
		99216025	2	4	9	11
	Total Grids/Day:	11				
1/22/97	127	99127001	5	8	10	12
		99127002	6	7	18	17
		99127003	11	12	14	17
		99127004	11	12	12	14
		99127005	9	11	40	41
		99127006	9	11	14	15
		99127007	9	10	35	35
		99127008	9	10	49	63
		99127009	9	10	50	54
		99127010	17	19	29	32
		99127011	6	8	46	63
		99127012	10	11	13	14
		99127013	4	8	29	32
		99127014	8	10	13	20
		99127015	10	11	21	21
		99127016	8	11	20	22
		99127017	19	19	20	22
		99127018	8	11	15	18
		99127019	10	11	19	19
		99127020	10	11	102	120
	128	99128001	7	9	16	19
		99128002	4	7	20	24

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99128003	10	12	17	20
		99128004	9	11	17	20
		99128005	8	9	14	19
		99128006	2	6	24	30
		99128007	3	7	18	22
		99128008	2	6	20	23
		99128009	4	6	8	11
		99128010	5	7	11	15
		99128011	4	6	25	29
		99128012	8	9	56	60
	129	99129001	6	8	11	13
		99129002	8	9	11	12
	132	99132001	1	2	8	8
		99132002	3	3	7	7
		99132003	2	3	20	24
		99132004	0	2	8	8
		99132005	2	3	7	7
		99132006	6	7	8	7
		99132007	6	7	9	9
		99132008	6	6	9	9
		99132009	6	6	9	10
		99132010	6	6	10	10
		99132011	6	6	11	11
	133	99133001	5	5	8	8
		99133002	5	5	12	12
		99133003	5	5	12	13
		99133004	7	7	8	8
		99133005	7	8	9	9
		99133006	5	5	11	10
		99133007	3	4	11	10
		99133008	3	4	13	12
		99133009	3	4	10	10
		99133010	2	3	11	8
		99133011	2	3	110	96
	134	99134001	8	8	11	12
		99134002	8	8	12	11
		99134003	6	5	18	18
		99134004	4	4	25	22
		99134005	3	3	12	14
		99134006	4	5	11	11
		99134007	5	5	12	14
		99134008	4	5	10	9
		99134009	7	7	14	18

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
	135	99135001	5	5	11	11
		99135002	6	5	35	36
		99135003	6	6	11	11
		99135004	6	5	9	9
		99135005	6	5	10	9
		99135006	5	5	22	23
		99135007	5	5	8	9
		99135008	5	4	10	8
		99135009	6	5	29	27
		99135010	3	3	15	15
		99135011	3	3	9	9
		99135012	3	3	12	12
		99135013	3	3	29	26
		99135014	3	3	11	11
		99135015	3	3	11	12
	136	99136001	3	5	7	10
		99136002	4	8	9	11
		99136003	5	7	7	10
		99136004	6	8	26	29
		99136005	2	6	13	16
		99136006	2	4	24	28
		99136007	4	6	9	12
	141	99141001	4	6	8	10
		99141002	8	10	12	14
		99141003	7	9	16	19
		99141004	8	10	14	15
		99141005	9	6	12	14
		99141006	7	9	19	23
		99141007	7	9	11	14
		99141008	8	10	13	15
		99141009	10	11	11	12
		99141010	8	10	62	74
		99141011	7	9	17	21
	142	99142001	7	8	9	11
		99142002	7	8	12	14
		99142003	5	7	7	10
		99142004	5	7	15	15
		99142005	7	8	18	19
		99142006	7	9	51	45
		99142007	6	8	12	13
		99142008	4	5	11	14
		99142009	7	7	12	13
		99142010	7	7	9	10

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCODER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
147		99147001	2	3	11	15
		99147002	2	3	9	11
		99147003	2	3	10	13
148		99148001	2	6	16	20
		99148002	2	6	11	15
		99148003	2	5	10	15
149		99149001	2	2	9	8
		99149002	2	2	11	11
		99149003	2	2	10	10
		99149004	2	2	10	11
		99149005	2	2	10	9
		99149006	4	4	14	14
		99149007	5	5	45	50
		99149008	3	3	11	11
		99149009	5	5	13	12
		99149010	5	5	24	24
		99149011	8	5	10	11
		99149012	5	5	12	13
150		99150001	3	2	8	8
		99150002	3	2	9	9
		99150003	1	1	8	8
		99150004	3	3	7	6
		99150005	3	3	7	6
		99150006	4	4	8	7
		99150007	2	1	7	6
		99150008	2	1	7	8
		99150009	2	2	11	11
		99150010	5	5	8	8
		99150011	5	5	8	8
		99150012	4	4	10	11
		99150013	2	3	15	15
		99150014	5	5	11	11
		99150015	5	5	8	8
		99150016	5	5	9	10
		99150017	5	5	10	11
		99150018	4	5	9	10
99150019	4	5	14	14		
99150020	4	5	14	13		
151		99151001	3	3	22	23
		99151002	3	3	14	14
		99151003	3	3	14	15
		99151004	3	3	32	34
		99151005	3	3	27	30

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99151006	3	4	24	34
		99151007	3	4	12	12
		99151008	3	4	12	12
		99151009	3	4	18	18
		99151010	3	3	10	11
		99151011	3	3	10	12
		99151012	2	3	11	14
		99151013	2	3	18	20
		99151014	2	3	8	8
		99151015	2	3	5	10
		99151016	7	5	26	33
		99151017	8	8	12	14
		99151018	8	8	12	14
		99151019	8	8	12	14
		99151020	8	8	9	10
		99151021	5	5	14	16
		99151022	3	2	9	11
		99151023	3	2	9	11
	152	99152001	3	2	12	12
		99152002	5	2	13	14
		99152003	5	2	11	12
		99152004	4	3	15	13
		99152005	4	3	9	9
		99152006	7	6	9	8
		99152007	7	6	20	18
		99152008	5	3	14	12
		99152009	8	6	22	21
		99152010	8	6	16	13
		99152011	6	4	21	22
		99152012	8	6	24	23
		99152013	8	6	16	15
		99152014	7	5	18	17
		99152015	8	6	16	15
		99152016	8	6	17	15
		99152017	8	6	22	27
		99152018	8	6	19	17
		99152019	8	6	14	11
		99152020	8	8	20	20
		99152021	8	8	15	15
		99152022	9	7	34	32
	169	99169001	3	6	10	12
	Total Grids/Day:		17			

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
1/23/97	77	99077001	1	2	7	8
		99077002	1	2	6	7
		99077003	1	2	5	6
	78	99078001	1	0	5	4
		99078002	0	1	5	4
		99078003	2	2	9	9
		99078004	2	2	8	8
		99078005	1	1	9	8
		99078006	0	1	14	13
		99078007	2	2	8	7
		99078008	2	2	7	6
	79	99079001	3	1	11	8
		99079002	2	0	8	5
		99079003	2	0	10	9
		99079004	1	1	9	6
		99079005	1	2	9	8
		99079006	5	3	9	8
		99079007	4	2	9	8
		99079008	2	2	8	8
		99079009	2	1	13	12
		99079010	2	3	12	11
		99079011	0	2	11	11
	80	99079012	2	1	11	11
		99080001	0	2	9	8
		99080002	0	1	8	10
		99080003	1	1	9	9
		99080004	2	2	8	8
		99080005	2	3	8	7
		99080006	1	1	9	11
	105	99080007	1	1	8	8
		99105001	13	14	27	27
		99105002	17	17	26	24
		99105003	18	18	26	26
		99105004	19	17	34	34
		99105005	18	17	30	28
		99105006	15	14	20	20
99105007		14	15	17	16	
99105008		17	15	28	26	
99105009		15	13	24	22	
99105010		15	14	26	25	
99105011		17	16	31	30	
99105012		19	17	25	24	
99105013	19	17	28	26		

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99105014	19	17	26	24
		99105015	19	17	35	32
		99105016	18	17	24	23
		99105017	17	17	25	26
		99105018	13	12	23	23
		99105019	11	12	19	20
	106	99106001	11	12	16	17
		99106002	8	9	14	16
		99106003	11	11	14	15
		99106004	9	10	13	13
		99106005	11	11	15	18
		99106006	9	10	16	17
		99106007	12	13	27	28
		99106008	12	12	26	26
		99106009	10	13	24	24
		99106010	16	16	21	21
		99106011	12	12	21	21
		99106012	10	11	25	25
		99106013	10	11	19	22
		99106014	16	16	34	36
		99106015	11	11	25	24
		99106016	11	11	27	27
	107	99107001	7	9	10	12
		99107002	8	9	14	16
		99107003	7	9	12	14
		99107004	7	9	13	16
		99107005	8	8	18	21
		99107006	8	8	10	12
		99107007	7	8	15	17
		99107008	7	8	11	13
		99107009	7	8	9	11
		99107010	7	8	12	13
		99107011	7	8	10	12
		99107012	5	7	13	14
		99107013	9	11	11	13
		99107014	9	11	9	11
		99107015	9	10	9	13
	108	99108001	11	11	12	14
		99108002	11	11	18	21
		99108003	11	11	19	21
		99108004	11	11	15	17
		99108005	11	11	19	19
		99108006	9	10	14	16

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99108007	7	8	16	17
		99108008	5	7	11	13
		99108009	8	10	22	24
		99108010	16	13	60	70
		99108011	7	8	18	20
		99108012	7	9	11	13
		99108013	7	9	11	14
		99108014	6	8	8	10
		99108015	5	7	11	13
		99108016	6	8	11	13
		99108017	6	8	12	12
		99108018	12	15	16	19
		99108019	12	15	13	15
	212	99212001	4	5	12	14
		99212002	4	5	9	11
		99212003	3	4	8	8
		99212004	1	2	8	8
		99212005	1	3	8	8
		99212006	3	5	12	14
		99212007	6	6	12	14
		99212008	2	2	14	15
		99212009	3	3	8	9
		99212010	3	4	13	14
		99212011	2	4	6	8
		99212012	1	2	7	8
		99212013	1	3	6	8
		99212014	1	2	7	8
		99212015	2	4	12	15
		99212016	1	2	8	9
		99212017	2	3	10	14
		99212018	2	3	6	8
	245	99245001	4	5	6	6
		99245002	4	5	9	11
		99245003	4	5	6	8
		99245004	3	4	19	18
		99245005	5	5	6	7
		99245006	1	2	5	6
		99245007	2	2	8	9
		99245008	2	2	8	9
	246	99246001	1	2	3	4
		99246002	1	2	5	5
		99246003	0	2	4	5
		99246004	0	2	6	8

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99246005	1	2	4	6
	247	99247001	2	2	4	5
		99247002	2	3	5	6
		99247003	2	3	5	5
		99247004	3	3	14	16
		99247005	3	3	5	6
		99247006	4	5	7	8
		99247007	2	2	6	6
		99247008	5	5	6	7
		99247009	5	5	8	7
	248	99248001	2	3	5	5
		99248002	2	3	6	6
		99248003	5	5	8	9
		99248004	4	5	17	18
		99248005	4	5	12	14
		99248006	4	5	11	12
	255	99255001	2	5	119	53
	256	99256001	2	8	6	8
	269	99269001	2	4	50	55
	272	99272001	2	3	9	12
	Total Grids/Day:		17			
1/26/97	22	99022001	1	6	4	8
		99022002	2	5	4	7
		99022003	3	6	7	12
		99022004	2	6	4	8
		99022005	3	6	11	14
		99022006	3	7	8	11
		99022007	3	6	5	9
		99022008	2	5	5	9
		99022009	2	5	6	10
		99022010	4	6	5	8
		99022011	1	4	4	8
	49	99049001	4	6	4	8
		99049002	3	6	9	15
		99049003	2	6	5	8
		99049004	2	5	14	18
		99049005	4	7	7	10
		99049006	1	4	7	9
		99049007	1	4	6	9
		99049008	1	4	4	7
	50	99050001	2	6	9	12
		99050002	2	6	4	7

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99050003	2	5	6	9
		99050004	1	5	5	8
	51	99051001	2	5	10	14
		99051002	3	6	4	8
		99051003	2	5	5	8
		99051004	2	5	4	10
		99051005	2	5	10	14
		99051006	2	5	5	8
		99051007	4	7	7	11
	52	99052001	3	7	5	8
		99052002	2	5	6	10
		99052003	2	5	5	9
		99052004	2	5	7	9
		99052005	2	5	7	11
	53	99053001	4	7	7	10
		99053002	4	7	8	11
		99053003	6	9	12	16
		99053004	5	7	6	10
		99053005	5	8	10	14
		99053006	4	7	11	15
		99053007	6	9	9	12
		99053008	4	6	14	18
		99053009	5	7	10	14
		99053010	4	7	5	10
		99053011	4	7	7	10
		99053012	6	8	12	13
		99053013	4	8	10	11
		99053014	3	6	8	10
		99053015	7	9	10	13
		99053016	3	7	121	111
	54	99054001	3	6	10	13
		99054002	3	6	9	11
		99054003	3	6	11	14
		99054004	2	5	5	8
		99054005	2	5	5	7
		99054006	2	5	8	11
		99054007	3	6	6	9
		99054008	4	6	7	10
	55	99055001	2	5	7	10
		99055002	2	6	5	7
		99055003	2	6	6	9
		99055004	4	7	14	17
		99055005	4	7	10	13

**·GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99055006	3	6	5	8
		99055007	3	6	5	8
		99055008	3	6	10	13
		99055009	2	5	6	9
		99055010	2	5	10	12
		99055011	2	6	5	7
		99055012	1	4	9	11
		99055013	3	6	10	12
		99055014	2	5	7	10
		99055015	5	7	19	14
	56	99056001	2	7	5	10
		99056002	4	7	5	10
		99056003	3	6	7	11
		99056004	3	7	7	10
		99056005	7	10	13	14
		99056006	4	7	6	10
		99056007	4	7	15	19
		99056008	4	6	10	13
		99056009	4	8	14	15
		99056010	5	8	8	10
		99056011	5	8	6	10
		99056012	3	6	5	9
		99056013	3	6	9	12
		99056014	3	7	7	11
		99056015	3	6	7	10
		99056016	4	7	8	11
		99056017	3	6	7	11
		99056018	3	7	6	10
		99056019	6	9	8	11
		99056020	5	8	11	15
		99056021	4	7	9	11
		99056022	2	6	7	10
		99056023	2	5	6	10
	233	99233001	2	2	5	7
		99233002	4	5	8	8
		99233003	3	4	8	8
		99233004	2	5	8	9
		99233005	2	5	8	10
		99233006	2	5	8	9
		99233007	3	5	8	9
		99233008	2	4	8	9
		99233009	2	4	8	9
		99233010	2	2	6	8

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99233011	2	3	8	9
		99233012	2	3	8	8
		99233013	2	3	8	8
		99233014	2	3	9	12
		99233015	0	1	8	8
		99233016	2	3	14	15
		99233017	2	2	11	11
		99233018	3	5	9	11
		99233019	2	2	7	8
	234	99234001	5	5	8	8
		99234002	5	5	10	11
		99234003	5	5	8	8
		99234004	5	6	13	13
		99234005	5	5	10	11
		99234006	5	5	11	11
		99234007	5	5	10	11
		99234008	5	5	9	11
		99234009	4	5	10	11
		99234010	5	5	8	8
		99234011	5	6	10	11
		99234012	5	5	12	13
		99234013	5	5	8	8
		99234014	5	5	8	9
		99234015	5	5	8	9
		99234016	5	5	8	8
	235	99235001	4	5	11	11
		99235002	3	3	5	6
		99235003	3	3	8	8
		99235004	4	5	11	14
		99235005	4	5	11	11
		99235006	2	3	8	11
		99235007	2	3	6	7
		99235008	1	2	7	8
	236	99236001	4	5	8	10
		99236002	4	5	9	10
		99236003	5	5	8	9
		99236004	4	5	8	9
		99236005	4	5	8	8
		99236006	4	5	11	12
		99236007	4	5	11	12
		99236008	4	5	8	8
		99236009	4	5	10	11
		99236010	4	5	8	10

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99236011	2	4	17	20
		99236012	4	5	6	8
		99236013	5	6	9	11
		99236014	5	6	9	10
		99236015	5	5	8	9
		99236016	5	6	11	12
		99236017	3	4	6	8
		99236018	5	6	12	14
		99236019	5	6	11	11
		99236020	3	4	10	12
	249	99249001	1	2	6	8
		99249002	1	2	5	6
		99249003	1	2	20	23
		99249004	1	2	26	30
	250	99250001	5	5	11	11
		99250002	3	4	8	8
		99250003	4	5	11	11
		99250004	4	5	8	8
		99250005	4	5	8	8
	251	99251001	2	2	5	5
		99251002	1	2	5	5
		99251003	2	2	5	5
		99251004	2	2	11	11
		99251005	1	2	5	6
		99251006	2	2	12	18
	252	99252001	1	2	1	9
		99252002	1	2	45	47
		99252003	1	2	4	5
	257	99257001	5	5	6	7
		99257002	3	4	8	8
		99257003	3	5	6	8
		99257004	5	6	8	9
		99257005	5	6	8	9
		99257006	5	6	8	9
		99257007	5	6	8	9
		99257008	5	6	8	8
		99257009	5	6	8	8
		99257010	5	6	8	8
	260	99260001	5	6	7	7
		99260002	5	6	8	9
		99260003	4	5	8	8
		99260004	5	6	9	9
		99260005	4	5	8	8

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCODER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99260006	4	5	7	8
		99260007	4	5	8	8
		99260008	0	5	8	8
		99260009	4	5	10	11
		99260010	4	3	11	14
		99260011	4	5	6	7
		99260012	4	4	15	11
	271	99271001	1	0	3	3
	Total Grids/Day:		20			
1/27/97	9	99009001	2	4	6	7
		99009002	3	5	8	10
		99009003	3	5	7	9
		99009004	1	2	5	7
	11	99011001	1	1	8	9
		99011002	3	3	9	10
		99011003	3	3	10	12
		99011004	2	4	8	9
		99011005	2	4	12	14
		99011006	2	3	12	14
		99011007	2	3	12	14
		99011008	2	2	6	6
		99011009	3	4	14	18
		99011010	3	4	11	14
		99011011	2	3	10	13
		99011012	2	2	11	13
		99011013	4	5	13	15
		99011014	4	5	12	14
	47	99047001	3	4	8	10
		99047002	2	4	6	8
		99047003	2	3	6	8
		99047004	2	3	10	11
		99047005	2	3	6	8
		99047006	2	3	6	8
		99047007	2	3	14	18
		99047008	2	3	11	12
		99047009	5	6	11	14
		99047010	5	6	7	8
		99047011	3	4	10	12
		99047012	5	7	11	12
		99047013	5	7	9	11
		99047014	3	4	8	9
		99047015	3	4	10	11

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99047016	3	4	10	11
		99047017	3	4	8	8
		99047018	3	5	12	14
		99047019	3	5	9	11
		99047020	3	5	8	10
		99047021	3	5	8	10
		99047022	3	5	10	12
		99047023	3	5	11	12
		99047024	3	5	13	12
		99047025	3	6	18	20
		99047026	7	6	19	21
		99047027	7	6	23	27
		99047028	4	5	11	13
	48	99048001	4	5	18	19
		99048002	3	5	16	17
		99048003	4	5	11	12
		99048004	4	5	8	9
		99048005	5	6	8	8
		99048006	4	5	11	9
		99048007	5	6	18	21
		99048008	4	5	7	8
		99048009	3	4	8	8
		99048010	8	8	101	90
		99048011	5	6	8	10
		99048012	5	6	10	12
		99048013	5	6	15	16
		99048014	3	4	20	17
		99048015	5	6	18	20
		99048016	5	6	23	24
		99048017	2	3	11	14
		99048018	2	3	9	11
		99048019	2	3	14	17
		99048020	2	3	14	15
		99048021	3	5	11	11
		99048022	3	5	32	35
		99048023	3	5	15	16
		99048024	3	5	16	20
		99048025	5	6	11	14
		99048026	5	6	11	11
		99048027	4	5	12	14
		99048028	5	6	17	18
		99048029	5	6	23	26
		99048030	5	6	17	20

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99048031	6	7	11	12
		99048032	6	7	9	9
	81	99081001	8	10	34	35
		99081002	8	10	21	21
		99081003	17	14	25	22
		99081004	58	53	197	135
		99081005	33	33	580	524
		99081006	33	33	56	59
		99081007	33	33	155	161
		99081008	33	33	240	230
		99081009	33	33	141	101
		99081010	33	33	211	195
		99081011	33	33	452	416
		99081012	31	26	41	41
		99081013	31	26	80	71
		99081014	31	26	286	281
		99081015	31	26	740	785
		99081016	31	26	90	90
		99081017	31	26	85	75
		99081018	31	26	127	121
		99081019	47	43	119	120
		99081020	47	43	190	147
		99081021	44	32	204	169
		99081022	58	46	410	354
		99081023	13	14	20	23
	82	99081024	13	14	46	44
		99082001	5	8	13	17
		99082002	5	3	14	17
		99082003	4	7	16	18
		99082004	9	11	14	17
		99082005	7	11	17	21
		99082006	5	7	12	14
		99082007	8	9	13	16
		99082008	8	10	14	17
		99082009	8	10	13	15
		99082010	7	9	14	15
		99082011	6	8	17	19
		99082012	7	10	18	20
		99082013	8	11	18	21
		99082014	3	6	11	15
		99082015	6	10	15	18
		99082016	7	8	20	25
		99082017	8	10	38	22

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99082018	95	62	462	354
		99082019	55	57	326	366
		99082020	30	30	49	49
		99082021	29	25	25	133
	83	99083001	25	22	221	218
		99083002	5	8	12	12
		99083003	5	8	12	16
		99083004	7	10	14	20
		99083005	15	14	71	56
		99083006	10	13	20	23
		99083007	9	12	20	25
		99083008	14	12	15	18
		99083009	5	7	21	25
		99083010	6	9	13	17
		99083011	7	9	17	20
		99083012	8	11	12	15
		99083013	5	7	17	20
		99083014	7	8	15	15
		99083015	5	11	23	28
		99083016	7	10	19	21
	84	99084001	8	10	18	21
		99084002	8	10	12	14
		99084003	8	10	13	16
		99084004	9	11	12	14
		99084005	9	11	18	21
		99084006	10	12	15	16
		99084007	10	12	19	20
		99084008	7	11	22	23
		99084009	11	13	20	20
		99084010	11	13	47	53
		99084011	5	8	11	14
		99084012	7	8	12	15
		99084013	8	10	19	20
		99084014	5	7	15	18
		99084015	8	10	17	17
		99084016	8	10	19	21
		99084017	11	13	17	19
		99084018	9	11	17	18
		99084019	7	9	10	12
		99084020	14	15	22	23
		99084021	12	15	15	17
		99084022	12	15	11	13
	89	99089001	2	1	8	6

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL GRID ID	ANOMALY ID	POLYCORDER READING (mV)			
			BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99089002	1	2	9	8
		99089003	1	2	6	4
		99089004	1	2	8	6
		99089005	1	2	9	6
	90	99090001	3	1	8	6
		99090002	2	0	7	5
		99090003	1	1	6	5
		99090004	2	1	8	6
		99090005	1	2	15	14
		99090006	2	1	6	5
		99090007	2	1	8	6
		99090008	1	1	12	11
		99090009	1	2	13	11
	91	99091001	4	2	6	5
		99091002	2	1	7	5
		99091003	5	3	8	5
		99091004	5	3	8	5
		99091005	5	3	9	7
		99091006	4	2	12	9
		99091007	2	1	8	6
		99091008	2	1	8	6
		99091009	2	1	8	5
		99091010	1	1	9	6
		99091011	3	2	8	5
		99091012	3	2	14	10
	92	99092001	1	2	6	3
		99092002	1	2	9	6
		99092003	4	2	6	5
	100	99100001	3	3	5	6
		99100002	2	3	7	8
	123	99123001	5	8	9	10
		99123002	5	7	10	12
		99123003	7	10	9	11
		99123004	6	8	23	23
		99123005	7	8	11	13
		99123006	8	10	11	12
		99123007	8	9	12	12
		99123008	7	8	9	11
		99123009	8	9	8	10
		99123010	8	9	12	14
	166	99166001	5	8	12	12
		99166002	13	14	17	20
		99166003	4	7	9	13

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99166004	13	17	102	90
		99166005	13	17	19	22
	168	99168001	9	7	115	122
		99168002	13	10	5078	4534
		99168003	2	5	8	9
		99168004	4	6	12	13
		99168005	8	9	10	14
		99168006	4	6	9	11
		99168007	3	6	13	15
	258	99258001	9	8	12	11
		99258002	9	8	11	10
		99258003	5	5	12	11
		99258004	6	6	20	18
		99258005	5	5	12	12
		99258006	6	7	15	15
		99258007	6	6	19	20
		99258008	6	6	18	17
		99258009	10	9	13	13
		99258010	9	8	12	11
		99258011	9	8	12	11
		99258012	9	8	12	11
	259	99259001	5	6	8	8
		99259002	5	6	11	11
		99259003	8	8	9	9
		99259004	7	8	9	10
		99259005	6	7	9	9
		99259006	6	7	9	9
		99259007	4	5	11	11
		99259008	4	5	11	11
	Total Grids/Day:		18			
1/28/97	93	99093001	5	1	12	11
		99093002	3	1	8	6
		99093003	5	2	12	11
		99093004	5	2	11	18
		99093005	4	2	11	8
		99093006	1	1	12	11
		99093007	1	2	11	9
		99093008	1	1	7	5
		99093009	1	1	9	8
		99093010	1	1	12	11
		99093011	2	0	6	4
	94	99094001	2	1	8	6

**GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft**

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99094002	2	1	6	4
		99094003	3	1	15	14
		99094004	2	0	6	4
		99094005	3	1	11	8
		99094006	3	1	35	32
		99094007	3	1	8	7
		99094008	3	1	47	46
		99094009	3	1	17	15
		99094010	3	2	6	4
		99094011	5	3	8	7
		99094012	2	1	9	8
	95	99095001	3	3	6	4
	96	99096001	1	3	11	9
	130	99130001	3	3	43	51
		99130002	3	4	21	17
	131	99131001	8	8	14	14
		99131002	10	9	25	31
		99131003	9	9	18	19
		99131004	9	10	19	20
	170	99170001	4	5	6	7
		99170002	4	5	7	8
		99170003	8	8	10	10
		99170004	7	6	8	8
		99170005	7	6	9	9
		99170006	6	7	9	9
		99170007	6	7	12	12
	171	99171001	6	2	17	19
		99171002	5	6	31	36
		99171003	3	3	31	24
		99171004	6	4	31	23
		99171005	2	3	77	8
		99171006	0	2	25	29
		99171007	1	1	20	24
		99171008	3	1	6	8
		99171009	1	0	15	18
		99171010	1	0	19	26
	Total Grids/Day:		8			
1/29/97	237	99237001	1	0	6	8
		99237002	1	0	11	11
		99237003	1	0	8	8
		99237004	1	0	3	3
	238	99238001	1	1	6	6

GEOPHYSICAL INVESTIGATION
 ORDNANCE OPERABLE UNIT (OOU) 6
 Former Camp Croft

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99238002	0	1	7	6
		99238003	0	0	27	32
		99238004	1	2	7	9
	240	99240001	1	2	6	8
	261	99261001	2	3	15	16
	262	99262001	5	8	55	65
		99262002	6	6	43	43
	263	99263001	8	9	15	18
		99263002	7	7	22	25
		99263003	5	6	10	11
	280	99280001	4	3	6	4
		99280002	3	3	51	33
		99280003	3	2	7	6
		99280004	3	2	260	293
		99280005	3	2	6	6
		99280006	4	3	8	6
	289	99289001	1	0	5	3
	290	99290001	2	2	5	4
		99290002	1	1	5	5
		99290003	1	1	4	4
		99290004	3	3	6	5
	291	99291001	3	2	7	6
		99291002	2	2	6	5
		99291003	1	1	10	11
		99291004	1	1	5	5
	292	99292001	1	1	20	21
		99292002	1	1	4	4
		99292003	1	1	9	9
		99292004	2	2	4	3
		99292005	2	2	4	3
	296	99296001	1	0	20	18
	298	99298001	6	7	46	49
		99298002	5	6	21	24
		99298003	5	6	12	13
	300	99300001	15	16	20	19
		99300002	8	9	13	13
	Total Grids/Day:		14			
1/30/97	279	99279001	10	10	7	7
		99279002	13	12	7	7
		99279003	11	13	2	3
	Total Grids/Day:		1			
2/3/97	73	99073001	5	8	1	4
		99073002	4	7	1	4

GEOPHYSICAL INVESTIGATION
 ORDNANCE OPERABLE UNIT (OOU) 6
 Former Camp Croft

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99073003	9	12	1	4
		99073004	10	14	1	3
		99073005	4	7	1	3
		99073006	4	7	1	4
		99073007	3	6	1	4
	74	99074001	3	6	1	3
		99074002	3	6	1	3
		99074003	3	6	0	4
		99074004	6	9	3	5
		99074005	8	8	3	5
		99074006	155	147	2	5
		99074007	3	6	0	4
		99074008	3	7	1	4
	75	99075001	7	10	2	4
		99075002	4	7	2	3
		99075003	5	8	1	3
		99075004	4	7	0	4
	76	99076001	5	9	1	3
		99076002	3	6	1	3
		99076003	3	8	1	3
		99076004	4	7	1	4
		99076005	4	7	2	3
		99076006	6	11	0	4
	97	99097001	8	10	2	5
		99097002	5	9	2	5
		99097003	20	23	2	5
	99	99099001	4	8	2	4
		99099002	5	8	2	4
	157	99157001	3	7	0	3
		99157002	3	6	1	2
		99157003	11	15	1	2
	158	99158001	5	8	1	2
		99158002	2	6	0	3
		99158003	7	10	1	2
	159	99159001	48	49	3	4
		99159002	11	13	2	4
		99159003	5	7	1	3
		99159004	4	8	1	1
		99159005	7	11	1	3
	160	99160001	12	15	3	3
		99160002	8	11	1	2
	217	99217001	5	8	2	5
		99217002	6	8	2	5
		99217003	4	8	2	3
		99217004	5	8	1	4

GEOPHYSICAL INVESTIGATION
ORDNANCE OPERABLE UNIT (OOU) 6
Former Camp Croft

DATE	GEOPHYSICAL		POLYCORDER READING (mV)				
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM	
		99217005	5	8	2	3	
	218	99218001	4	6	2	5	
		99218002	5	8	2	5	
		99218003	11	15	2	4	
		99218004	4	7	2	5	
		99218005	6	10	2	3	
		99218006	6	8	1	3	
		99218007	6	8	2	3	
		99218008	6	8	2	4	
	219	99219001	5	8	3	6	
		99219002	5	8	2	4	
		99219003	8	11	2	5	
		99219004	5	8	3	5	
		99219005	6	9	2	4	
		99219006	10	13	2	5	
	220	99220001	4	7	2	5	
		99220002	8	12	2	5	
		99220003	6	8	2	5	
		99220004	5	8	1	4	
	Total Grids/Day:		14				
2/5/97	101	99101001	7	9	1	3	
		99101002	9	11	2	4	
	103	99103001	6	8	3	4	
		99103002	8	8	3	4	
		99103003	10	12	2	0	
		99103004	7	7	1	2	
		99103005	7	7	3	5	
		99103006	8	8	3	3	
	199	99199001	6	8	0	3	
		99199002	5	7	0	3	
		99199003	33	36	6	8	
		99199004	35	36	2	5	
		99199005	33	35	8	8	
		99199006	35	36	8	8	
		99199007	59	60	9	9	
		99199008	126	118	9	9	
		99199009	107	106	9	9	
		99199010	52	51	7	8	
		99199011	51	49	7	8	
		99199012	65	59	7	8	
		99199013	136	133	7	8	
		99199014	65	57	7	8	
		99199015	69	68	7	8	
		99199016	129	126	7	8	

GEOPHYSICAL INVESTIGATION
 ORDNANCE OPERABLE UNIT (OOU) 6
 Former Camp Croft

DATE	GEOPHYSICAL		POLYCORDER READING (mV)			
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM
		99199017	142	145	7	8
		99199018	46	40	7	8
		99199019	53	53	7	8
		99199020	32	30	7	8
		99199021	57	52	7	8
		99199022	92	94	7	8
		99199023	79	76	7	8
		99199024	52	49	7	8
		99199025	35	35	16	16
		99199026	105	99	16	16
		99199027	74	72	16	16
		99199028	13	15	8	8
		99199029	13	13	1	3
	226	99226001	9	10	6	7
		99226002	11	11	8	8
		99226003	10	10	8	8
	227	99227001	7	8	3	3
		99227002	11	11	4	5
		99227003	47	48		
	228	99228001	8	10	2	4
		99228002	7	8	3	5
	281	99281001	14	11	6	6
		99281002	50	53	7	8
		99281003	25	24	7	7
		99281004	26	26	5	5
		99281005	11	10	10	9
	282	99282001	11	12	5	6
	284	99284001	17	14	9	8
		99284002	17	15	11	10
		99284003	17	15	13	12
		99284004	17	15	13	12
		99284005	17	15	13	12
		99284006	21	18	15	13
		99284007	17	13	11	10
		99284008	22	18	12	11
		99284009	22	18	12	11
		99284010	22	18	12	11
		99284011	17	14	10	9
		99284012	18	15	15	13
	Total Grids/Day:	9				
2/7/97	229	99229001	38	37	18	16
		99229002	23	24	10	8
		99229003	32	35	14	14
	230	99230001	23	23	14	12

GEOPHYSICAL INVESTIGATION
 ORDNANCE OPERABLE UNIT (OOU) 6
 Former Camp Croft

DATE	GEOPHYSICAL		POLYCORDER READING (mV)				
	GRID ID	ANOMALY ID	BG TOP	BG BOTTOM	PEAK TOP	PEAK BOTTOM	
		99230002	26	25	13	11	
	231	99231001	23	24	11	9	
		99231002	19	18	11	9	
		99231003	20	18	13	11	
	232	99232001	14	14	5	6	
		99232002	21	23	5	6	
		99232003	11	13	7	8	
		99232004	26	28	8	8	
		99232005	15	18	9	9	
		99232006	35	42	12	11	
		99232007	23	25	11	11	
		99232008	34	35	6	6	
		99232009	31	33	7	7	
		99232010	23	25	10	9	
	275	99275001	15	18	3	3	
	276	99276001	13	15	4	5	
	283	99283001	9	10	7	7	
		99283002	13	13	7	7	
		99283003	25	30	7	7	
		99283004	14	14	11	11	
	Total Grids/Day:		4				

APPENDIX D
OE*Cert* ANALYSIS REPORT

**FORMER CAMP CROFT
OOU6
OECert ANALYSIS
FINAL REPORT**

For Parsons Engineering Science, Inc.

TECHNICAL REPORT 97R019

Contract Number: 727736-3019-00

QuantiTech, Inc.
500 Boulevard South
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Huntsville, AL 35802

Prepared by: Shannon Crabb
Approved by: Dale Bugbee
Director, Projects and Programs

23 July 1997

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

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**FORMER CAMP CROFT OOU6
OECert ANALYSIS**

DRAFT FINAL REPORT

EXECUTIVE SUMMARY

QuantiTech, Inc., was contracted by Parsons Engineering Science, Inc. to apply the Ordnance and Explosives Cost-Effectiveness Risk Tool (OECert) in evaluation of the ordnance and explosives (OE) contamination at the former Camp Croft Ordnance Operable Unit (OOU6) Training Facility in South Carolina. QuantiTech was to provide an estimate of risk for each former Camp Croft OOU6 area both in terms of to the individual and to the total population. OECert measures risk in terms of how often people are exposed to OE when participating in commonly performed activities at a site, e.g., hiking, hunting, etc.

The assessment areas for the former Camp Croft OOU6 are the same as in the Engineering Design report.

The removal options to be considered in the analysis were provided by Parsons ES to QuantiTech and are identified in Table ES-1.

Table ES-1. Removal Options for Former Camp Croft OOU6

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Roads & Site Operations Building	X	X	X	X
Pine Farm	X	X	X	X
Landfill and Composting Areas	X	X	X	X
Pond Area	X	X	X	X
Natural Brush/Forest A	X	X	X	X
Natural Brush/Forest B	X	X	X	X

Table ES-2 shows the OE density estimates for each area. The density estimates were derived from the 15 OE-related items found during the Engineering Design intrusive OE sampling of which one item was classified as UXO. The density estimates also include the three UXO items found during the Time Critical Removal Action (TCRA) in the Landfill and Compositing Areas. Anomaly count, intrusive area investigated, specific ordnance location and depth, and additional area characterization criteria were primary

elements in the estimation of the ordnance density and area(s) definition. In each area, ordnance density, activities, and public participation parameters were prepared for the risk assessment database. The density estimate identifies the extrapolated results of the TCRA and Engineering Design sampling field work. The OE items on the surface are reflected in the surface percentage of ordnance density as shown in Table ES-2.

Table ES-2. OE Density Estimates for Former Camp Croft OOU6

Area	Sampled Density Estimate	
	OE per Acre	% OE on Surface
Roads and Site Operations Building	0.00	0%
Pine Farm	0.154 (1 in 6.5 acres)	6%
Landfill and Composting Areas	0.154 (1 in 6.5 acres)	6%
Pond Area	0.154 (1 in 6.5 acres)	6%
Natural Brush/Forest A	0.154 (1 in 6.5 acres)	6%
Natural Brush/Forest B	0.0	0%

Table ES-3 identifies the expected annual exposures for the density estimates. OECert methodology defines an expected exposure as a participant in an activity being in the proximity of ordnance, with or without knowledge to the presence of ordnance. These annual exposures, shown in Table ES-3, add together all the participants' exposures across all the activities during an entire year. The ordnance density, activity area (e.g., path width, subsurface intrusion depth), and annual number of participants are factors in the calculations. No exposures are estimated for the Natural Brush/Forest B since no OE items were found during the Engineering Design investigation in this area. The Roads and Site Operations Building are considered to have a physical barrier (building or improved surface covering) to the OE; therefore, no OE exposure is accumulated unless additional intrusive activities are performed.

Table ES-3. Expected Annual Exposures: Former Camp Croft OOU6

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Roads and Site Operations Building	0	0	0	0
Pine Farm	4	2	1	1
Landfill and Composting Areas	1	1	1	0
Pond Area	18	2	0	0
Natural Brush/Forest A	7	4	2	2
Natural Brush/Forest B	0	0	0	0
SITE TOTAL	30	9	4	3

In response to the need to compare OE risks to common risks and also to utilize the experience from OECert analysis, QuantiTech has identified a list of common risks that can provide the basis for comparing OE risk to the public. Using this list of common risks, QuantiTech has developed a methodology that portrays the comparison of these common risks to quantitative OE risks. The application of the methodology as compared to former Camp Croft is detailed in Appendix F.

The risk assessment for former Camp Croft OOU6 places it in the low expected exposure risk grouping when compared to other Formerly Used Defense Sites (FUDS) that have had a site OECert risk quantification. Table ES-4 lists former Camp Croft OOU6 with the other sites in lowest to highest exposures. The site annual expected exposures shown in this table are based on the expected, or most likely, OE density estimate (based on OE sampling) for performing no removal actions at the site. Some of these site risk assessments may only include portions of the entire site or facility. For specific details and supporting data concerning site activities and individual probabilities of OE exposures, the site OECert report may need to be reviewed.

Table ES-4. Site Comparison of Expected Ordnance and Explosives Public Risk Exposures - No Action

Expected Public OE Risk Exposures	Site
0 - 500	Nansemond Army Depot Camp Greene Former Camp Croft OOU6 Camp Grant Pantex Ordnance Plant Dutch Harbor former Camp Croft EE/CA Baywood Park Fort Monroe
501 - 15,000	Attu Raritan Arsenal Duck Target Facility Motlow Range
15,001 - 300,000	Dolly Sods Culebra Island NWR Fort Ord EE/CA Phase I Sites Camp Claiborne
> 300,000	Southwest Proving Grounds Sioux Army Depot

**FORMER CAMP CROFT OOU6
OECert ANALYSIS**

DRAFT FINAL REPORT

1.0 BACKGROUND

QuantiTech, Inc., was contracted by Parsons Engineering Science (ES), Inc. to apply the Ordnance and Explosives Cost-Effectiveness Risk Tool (OECert) to evaluate the ordnance and explosives (OE) contamination at the former Camp Croft Ordnance Operable Unit 6 (OOU6) in South Carolina. QuantiTech was to provide an estimate of risk for each former Camp Croft OOU6 area both in terms of "to the individual" and "to the total population." OECert measures risk in terms of how often people are exposed to OE when participating in commonly performed activities at a site, e.g., hiking, hunting, etc. Appendix A provides a brief description of the OECert risk estimating methodology with an example of the OECert calculation for a hunting activity at the former Camp Croft OOU6.

Risk areas are defined as physically contiguous areas with homogeneous OE contamination density and terrain factors such as vegetation density, terrain slope, and soil type. The data collected for use in the OECert analysis, along with the source for each, is provided in Appendix B. The assumptions made in the OECert analysis, along with the rationale for each, are provided in Appendix C.

Density estimates were developed using the results of the TCRA and the Engineering Design grid sampling data. Primary site areas were delineated by Parsons ES and provided to QuantiTech. Areas were then defined to reflect changes in OE density, public activities, and site characterization features. (See Figure ES-1 for the area identifications.) Results from the Engineering Design sampling provided a density estimate of 0 OE items per acre for the Natural Brush/Forest B (no OE items were found during sampling). The Roads and Site Operations Building are considered to have a physical barrier (building or improved surface covering) to the OE; therefore, no OE exposure is accumulated unless additional intrusive activities are performed.

2.0 ANALYSIS

2.1 RISK ESTIMATING INPUTS

The analysis performed to estimate exposures for areas contained within the former Camp Croft OOU6 included the consideration of four removal options. Each removal option was evaluated using the calculated density estimate. The removal options are:

- No action
- OE removed from surface
- OE removed to a depth of 1 foot
- OE removed to a depth of 4 feet

All OE items at these areas are estimated to be found from the surface down to 2 feet. No OE items were found below 2 feet. In approximating the distribution percentages of OE items using the site sampling results, the following numbers were estimated:

Surface	6%
0 - 1 feet	69%
1 - 2 feet	25%
>2 feet	0%

In the Pond Area a one foot soil erosion was taken into account. Therefore, the following distribution percentages of OE items were estimated:

Surface	75%
0 - 1 feet	25%
>1 feet	0%

Density estimates used in the calculation of risk can be found in Table ES-2.

Activities present in each area are included in Appendix C. *OECert* methodology calculates public and individual risk according to activities identified as taking place in each partitioned area and according to whether the activities are surface only or include a ground intrusive component.

2.2 ANALYSIS RESULTS

Figure 2.2-1 shows the expected annual exposures for "No Action" in each area in the former Camp Croft OOU6 given the sampled density estimate for ordnance. The "No Action" removal option is included to represent the current expected annual exposures for the site.

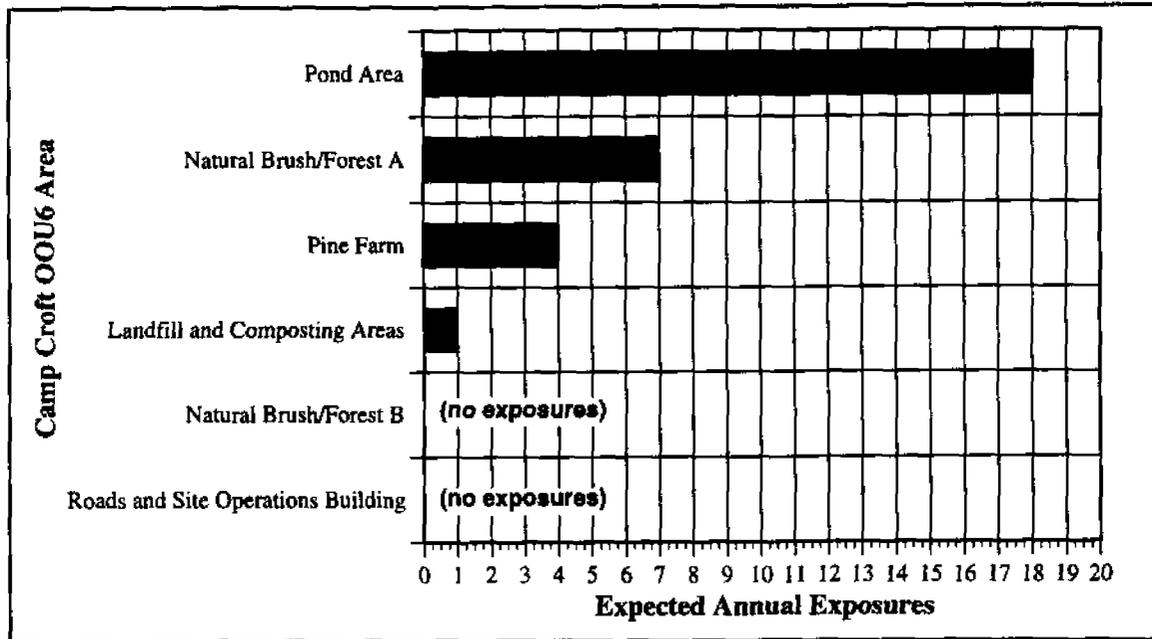


Figure 2.2-1. Expected Annual Exposures for Population: No Action

Table 2.2-1 identifies the rank-ordered list using the No Action removal alternative of the OE expected annual exposures to the public for each former Camp Croft OOU6 area. This table summarizes across all activities at the area. Additional area level summary of expected public exposures are provided in Appendix D.

Table 2.2-1. Expected Annual Exposures for Former Camp Croft OOU6

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Pond Area	18	2	0	0
Natural Brush/Forest A	7	4	2	2
Pine Farm	4	2	1	1
Landfill and Composting Areas	1	1	1	0
Natural Brush/Forest B	0	0	0	0
Roads and Site Operations Building	0	0	0	0

2.3 INTERPRETATION OF ANALYSIS RESULTS

Figure 2.2-1 identifies the results for the current (no action) level of risk at the former Camp Croft OOU6 for each area. The Pond Area has the highest number of expected OE exposures. This area was expected to have more activities and the impact of soil erosion exposing subsurface OE items were significant factors in the assessment. No exposures were assessed in the Natural Brush/Forest B since no ordnance items were found during the Engineering Design sampling. The Roads and Site Operations Building that have been improved (paved, building construction, etc.) also have no expected exposures. These improved areas are considered to be free of further exposure to the public unless future intrusive activities are performed.

The OE exposures quantified by OECert for each of the areas represent a cumulative annual result over all the activities. Some activities are spread throughout the year while others may be accumulated over a much smaller increment (weeks or few months) of the year. In attempting to highlight which of the activities may have a more immediate potential for OE exposures, it may be appropriate to review the timing (schedule) and extent (period of time) of OOU6 area activities. For example, if immediate plans are to impact the pond area then this area may have the more immediate potential for OE (hazardous UXO) exposures. The overall risk results show small differences between the annual expected exposures in the areas for several reasons that include:

- very low expected OE density (1 in 6.5 acres),
- all areas (except Natural Brush/Forest B) with the same OE density,
- similar surface and intrusive activities across the areas, and
- similar public participation in the activities across OOU6.

Table 2.2-1 shows the number of exposures remaining after surface, one foot, and four foot removal actions based on the TCRA and the Engineering Design sampling data. A surface removal provides a surface sweep of OE items with a 100% efficiency. This sweep efficiency is based on the site conditions (soil, slope, vegetation, etc.), instrument sensitivity, removal action personnel, and ordnance type (weight, depth, type, etc.). A four foot removal provides a sweep of those items just below the surface down to one foot at 100% efficiency, to two feet at 97% efficiency, and to four feet at an 83% efficiency. (The surface is not considered to be swept again during the removal.) The sweep efficiencies are detailed in Appendix C.

Appendix D details the number of exposures for each activity with additional explanation about assumptions and calculations of OE exposure risk at the former Camp Croft OOU6. Additionally, Appendix E is included with this report to provide calculations concerning the OE density estimates developed and used in this report.

APPENDIX A

OE*Cert* RISK ESTIMATING DESCRIPTION

APPENDIX A

OE*Cert* RISK ESTIMATING DESCRIPTION

Public exposure to both surface and subsurface OE items is characterized by a Poisson process. The Poisson distribution is considered the appropriate distribution because it is believed that the delineated sectors, via appropriate sampling techniques, exhibit homogeneously distributed OE. This homogeneous distribution of OE allows the passage of participants through the site to be characterized as a Poisson process.

The public exposures result from individuals performing specific activities (both recreational and occupational) within OE-contaminated areas. The expected number of surface OE exposures per participant in an area is dependent on OE density, the proportion of OE on the surface of the ground, and the activity participant's exposure area (the area traversed by an individual while performing an activity). The expected number of subsurface OE exposures per participant in an area is dependent on the OE density, the proportion of OE beneath the surface of the ground, the density distribution of the subsurface OE, and the area associated with an activity performed in the area.

The calculation of the total expected number of exposures to OE at a site follows a step-by-step process. First, for each area, the expected number of exposures for a single individual participating in a specific activity is calculated. Second, the number of individuals that are expected to participate annually in that activity on the site is determined based on the demographics (e.g., population) surrounding the site and activity participation data. The two values are combined as shown in the following relationship to give the total annual number of exposures expected to occur for participants in the activity that was identified.

$$E[\text{Activity Exposures}] = E[\text{exposures for single participant}] \cdot E[\text{annual participants}].$$

These calculations are then performed for each activity that has been determined to be participated in at the FUDS. The values for the expected number of exposures resulting from participation in each activity are summed to yield the overall risk value for the site.

$$E[\text{Total Exposures}] = \sum_{\text{all activities}} E[\text{Activity Exposures}].$$

A.2 OECert EXAMPLE

Calculating Risk for Hunting at the Natural Brush/Forest A

The risk associated with hunting at a FUDS involves calculation of surface exposures. The number of exposures to ordnance for a single individual participating in hunting is calculated by multiplying the OE density by the effective area. The effective area is defined as the minimum of the sector area and the area that an individual covers while hunting. The resulting value for a single individual exposure is called mu (μ).

To find mu for a density of 0.154 OE/acre, first find the overall density per square foot for all depths:

$$\begin{aligned} \text{density/acre} &= 0.154 \text{ OE/acre} \\ \text{density/sq ft} &= 0.154/43,560 \text{ sq ft} \\ &= 0.00000354 \text{ OE/sq ft} \end{aligned}$$

Then find the density on surface by multiplying the overall density by 6.0%, which is the proportion of the ordnance within the surface area for hunting as calculated from the sampling data:

$$\begin{aligned} \text{surface density} &= 0.00000354 \text{ OE/sq ft} \cdot 0.06 \\ &= 0.0000002 \text{ OE/sq ft} \end{aligned}$$

Finally, calculate mu by multiplying the surface density by the surface effective area (42,457 ft²):

$$\begin{aligned} \mu &= (0.0000002 \text{ OE/sq ft} \cdot 42,457 \text{ sq ft}) \\ \mu &= 0.009006 \end{aligned}$$

The expected number of exposures for all hunters is found by multiplying the mu value by the total number of annual participants. The expected number of exposures for 1 foot and 4 foot removal is the same as the expected number of exposures for surface removal because hunting is a surface only activity (i.e., it is non-intrusive).

The mu value is also used to calculate the probability of an exposure for a single individual. This is done by substituting the mu value into the following equation:

$$p(Exp) = 1 - e^{-\mu}$$

The expected annual exposures while hunting are shown in Table A-1. The following assumptions were made: OE density equals 0.154 OE/acre and 96 annual hunters.

Table A-1. Expected Exposures for All Hunters, Annually

Removal Option	Expected Exposures
No Removal Action	1
Surface Removal	0
1 Foot Removal	0
4 Foot Removal	0

APPENDIX B

**DATA COLLECTED FOR FORMER CAMP
CROFT OOU6 OECert ASSESSMENT**

APPENDIX B
DATA COLLECTED FOR FORMER CAMP CROFT OOU6 OECert
ASSESSMENT

The following table includes the facts used as inputs to the analysis performed for the former Camp Croft OOU6 using OE Cost-Effectiveness Tool (OECert). Each fact is accompanied by its source.

Table B-1. Data Collected for Former Camp Croft OOU6

Fact	Source
Area of Former Camp Croft OOU6 is approximately 403 acres	Former Camp Croft Training Facility Archive Search Report, Prepared by U.S. Army Corps of Engineers, Rock Island District, April 1994
Vegetation of Road and Site Operations Building = Clear	Croft Site Visit
Vegetation of Pine Farm = Brushy/Trees	Croft Site Visit
Vegetation of Landfill and Composting Areas = Brushy/Trees	Croft Site Visit
Vegetation of Pond Area = Brushy/Trees	Croft Site Visit
Vegetation of Natural Brush/Forest = Brushy/Trees	Croft Site Visit
Slope of Road and Site Operations Building = 0° - 10°	Croft Site Visit
Slope of Pine Farm = 0° - 10°	Croft Site Visit
Slope of Landfill and Composting Areas = 0° - 10°	Croft Site Visit
Slope of Pond Area = 0° - 10°	Croft Site Visit
Slope of Natural Brush/Forest = 0° - 10°	Croft Site Visit
Soil Type of Road and Site Operations Building is Clay	Croft Site Visit
Soil Type of Pine Farm is Clay	Croft Site Visit
Soil Type of Landfill and Composting Areas is Clay	Croft Site Visit
Soil Type of Pond Area is Clay	Croft Site Visit
Soil Type of Natural Brush/Forest is Clay	Croft Site Visit

APPENDIX C

**ASSUMPTIONS FOR FORMER CAMP CROFT
OOU6 OECert ASSESSMENT**

APPENDIX C
ASSUMPTIONS FOR FORMER CAMP CROFT OOU6 OECert
ASSESSMENT

The following table includes the assumptions used as inputs to the analysis performed for the former Camp Croft OOU6 using the OE Cost-Effectiveness Tool (OECert). Each assumption is accompanied by its source/rationale.

Table C-1. Data Assumptions for Former Camp Croft OOU6

Assumption	Source/Rationale
Hunting, Off-Road Vehicling, and Short Cut take place in the Pine Farm	Croft Site Visit
Construction, Hunting, and Short Cut take place in the Landfill and Composting Areas	Croft Site Visit
Child Play, Construction, Hiking, Hunting, Picnicking, and Off-Road take place in the Pond Area	Croft Site Visit
Crop Farming, Hiking, Hunting, and Off-Road Vehicling take place in the Natural Brush/Forest Area	Croft Site Visit
Population of Spartenburg = 42,767	1990 Census of Population and Housing
Roads and Site Operations Building is approximately 0.08 acres	Croft Assessment Sheets, Parsons ES
Pine Farm is approximately 38.94 acres	Croft Assessment Sheets, Parsons ES
Landfill and Composting Areas is approximately 21.31 acres	Croft Assessment Sheets, Parsons ES
Pond Area is approximately 25.87 acres	Croft Assessment Sheets, Parsons ES
Natural Brush/Forest A is approximately 117 acres.	Croft Assessment Sheets, Parsons ES (QuantiTech Partitioning)
Natural Brush/Forest B is approximately 85.24 acres	Croft Assessment Sheets, Parsons ES (QuantiTech Partitioning)
OE Density estimate for the Pine Farm is: 0.154 OE per acre	TCRA and Site sampling results
OE Density estimate for the Landfill and Composting Areas is: 0.154 OE per acre	TCRA and Site sampling results
OE Density estimate for the Pond Area is: 0.154 OE per acre	TCRA and Site sampling results
OE Density estimate for the Natural Brush/Forest A is: 0.154 OE per acre	TCRA and Site sampling results
OE Density estimate for the Natural Brush/Forest B is: 0.00 OE per acre	TCRA and Site sampling results (No OE found during EE/CA sampling)
OE Density estimate for the Road and Site Operations Building is: 0.00 OE per acre	OECert Methodology, Previously Improved Areas
Sweep efficiencies for surface anomalies are 100%	Guidance by CEHNC
Sweep efficiencies for anomaly depth 0 to 1 ft. are 100%	Guidance by CEHNC
Sweep efficiencies for anomaly depth 1 to 2 ft. are 97%	Guidance by CEHNC
Sweep efficiencies for anomaly depth 2 to 4 ft. are 83%	Guidance by CEHNC
Sweep efficiencies for anomaly depth 4 to 6 ft. are 49%	Guidance by CEHNC

Table C-1. Data Assumptions for Former Camp Croft OOU6 (Concluded)

Sweep efficiencies for anomaly depth 6 to 8 ft. are 16%	Guidance by CEHNC
Sweep efficiencies for anomaly depth 8 to 10 ft. are 3.0%	Guidance by CEHNC
OE Depth Distribution	Site Sampling Results Based on 15 OE Related Items
Surface 6%	
0-1 69%	
1-2 25%	
>2 0%	

APPENDIX D

RISK ESTIMATES

APPENDIX D RISK ESTIMATES

The risk levels provided include expected annual exposures to OE by members of the public and the probability of exposure per individual participating in a particular activity. An expected annual exposure is defined by the *OECert* methodology as a participant in an activity being in the proximity of ordnance, with or without knowledge of the participant to its presence. The probability of an individual exposure is defined as follows: If an individual is participating in an activity under analysis in the contaminated area, what is the probability that the individual will experience at least one exposure to at least one OE item in a single year?

Table D-1 shows the expected annual exposures to OE by members of the public in each partitioned area for each removal option. This value can be thought of as the "risk to the many" since it considers the annual entrants to the former Camp Croft OOU6. The expected annual exposures per area reflected in Table D-1 are the sum of all expected exposures for each activity occurring in each area (refer to Appendix A). Tables D-3 through D-7 show the expected annual exposures per activity for each area from which the totals are derived.

The no action alternative reflects the site conditions as they currently are. Surface removal provides a surface sweep of OE items with a 100% efficiency. This sweep efficiency is based on the site conditions (soil, slope, vegetation, etc.), instrument sensitivity, removal action personnel, and ordnance type (weight, depth, type, etc.). A four foot removal provides an ordnance sweep of those items just below the surface down to one foot at 100% efficiency, to two feet at 97% efficiency, and to four feet at an 83% efficiency. The surface is not considered to be swept again.

Each area at former Camp Croft has an estimated ordnance density estimate, activities, and an estimate of public participation as described in this report and appendices. Exposure calculations consider the surface area covered during an activity and the subsurface intrusion area of the activity (if one exists). Generally, areas with many activities and many public participants in an area of OE contamination will have many exposures.

Table D-1. Total Expected Annual Exposures for Former Camp Croft OOU6

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Roads & Site Operations Building	0	0	0	0
Pine Farm	4	2	1	1
Landfill and Composting Areas	1	1	1	0
Pond Area	18	2	0	0
Natural Brush/Forest A	7	4	2	2
Natural Brush/Forest B	0	0	0	0
SITE TOTAL	30	9	4	3

Table D-2 shows a probability of individual exposure measure for the former Camp Croft OOU6. The values displayed indicate the probability that an individual participating in an activity in the indicated partitioned area will be exposed to at least one OE item in a single year if the indicated removal option is implemented (e.g., 1/1 indicates that an individual is exposed during each visit/activity; 1/1.6M indicates exposure only once in 1.6 million visits/activities). This measure can be thought of as the "risk to an individual" because it does not consider the annual participants in activities at former Camp Croft, but considers only a single participant.

Table D-2. Probability of Individual Exposure for Former Camp Croft OOU6

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Roads & Site Operations Building	0	0	0	0
Pine Farm	1/111	1/252	1/944	1/944
Landfill and Composting Areas	1/2	1/2	1/5	1/138
Pond Area	1/5	1/5	0	0
Natural Brush/Forest A	1/4	1/4	1/14	1/14
Natural Brush/Forest B	0	0	0	0

Table D-3. Expected Annual Exposures for Pine Farm

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Hunting	1	0	0	0
Off-Road Vehicling	2	2	1	1
Short Cut	1	0	0	0

Table D-4. Expected Annual Exposures for Landfill and Composting Areas

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Construction	1	1	1	0
Hunting	0	0	0	0
Short Cut	0	0	0	0

Table D-5. Expected Annual Exposures for Pond Area

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Child Play	8	0	0	0
Construction	1	1	0	0
Hiking	3	0	0	0
Hunting	3	0	0	0
Picnicking	1	0	0	0
Off-Road Vehicling	2	1	0	0

Table D-6. Expected Annual Exposures for Natural Brush/Forest A

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Crop Farming	3	2	1	1
Hiking	1	0	0	0
Hunting	1	0	0	0
Off-Road Vehicling	2	2	1	1

Table D-7. Expected Annual Exposures for Natural Brush/Forest B

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Crop Farming	0	0	0	0
Hiking	0	0	0	0
Hunting	0	0	0	0
Off-Road Vehicling	0	0	0	0

Tables D-8 through D-12 show the probability of individual exposure measure for each activity for each removal option. These numbers indicate the chance of an individuals OE exposure while performing the specified activity.

Table D-8. Probability of Individual Exposure for Pine Farm

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Hunting	1/111	0	0	0
Off-Road Vehicling	1/237	1/252	1/944	1/944
Short Cut	1/2,844	0	0	0

Table D-9. Probability of Individual Exposure for Landfill and Composting Areas

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Construction	1/2	1/2	1/5	1/138
Hunting	1/22	0	0	0
Short Cut	1/7,063	0	0	0

Table D-10. Probability of Individual Exposure for Pond Area

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Child Play	1/14	1/3.5M	0	0
Construction	1/5	1/5	0	0
Hiking	1/21	0	0	0
Hunting	1/10	0	0	0
Picnicking	1/237	1/4.5M	0	0
Off-Road Vehicling	1/237	1/944	0	0

Table D-11. Probability of Individual Exposure for Natural Brush/Forest A

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Crop Farming	1/4	1/4	1/14	1/14
Hiking	1/250	0	0	0
Hunting	1/112	0	0	0
Off-Road Vehicling	1/237	1/252	1/944	1/944

Table D-12. Probability of Individual Exposure for Natural Brush/Forest B

Area	No Action	Surface Removal	1 Foot Removal	4 Foot Removal
Crop Farming	0	0	0	0
Hiking	0	0	0	0
Hunting	0	0	0	0
Off-Road Vehicling	0	0	0	0

APPENDIX E

**ESTIMATION OF ORDNANCE REMAINING AT
FORMER CAMP CROFT OOU6**

APPENDIX E

ESTIMATION OF ORDNANCE REMAINING AT FORMER CAMP CROFT OOU6

E.1 ESTIMATION OF REMAINING ORDNANCE

Table E-1 shows the estimated number of remaining ordnance items for each area at the former Camp Croft OOU6. These numbers were calculated using the land area, estimated OE density, and percentage of OE on surface for each area.

Table E-1. Estimated Remaining Ordnance at Former Camp Croft OOU6

Area	Expected Surface OE	Expected Subsurface OE	Total Expected OE
Roads and Site Operations Building	0	0	0
Pine Farm	1	5	6
Landfill and Composting Areas	0	1	1
Pond Area	3	1	4
Natural Brush/Forest A	1	17	18
Natural Brush/Forest B	0	0	0
SITE TOTAL	5	24	29

APPENDIX F

**COMPARATIVE RISK ASSESSMENT
FOR FORMER CAMP CROFT OOU6**

APPENDIX F

COMPARATIVE RISK ASSESSMENT FOR FORMER CAMP CROFT OOU6

The comparative risk results are injury/death projections based on the expected annual OE exposures as calculated by *OECert*. Table F-1 and Table F-2 are the enhanced comparative risk lists. Table F-1 ranks the lists (both common and OE) according to the annual chance of occurrence column. Table F-2 ranks the lists according to the 20 year injury and death estimate column. The primary difference between the two tables is the population basis of the particular risk. Some of the common risks are based on a specific subset of the former Camp Croft population. Figure F-1 shows a graphic representation of the 20 year injury and death rankings. Another method of comparison is shown in Figure F-2 by breaking out the comparative risk assessment by activities (recreational and occupational) expected to be performed at the site.

Table F-1. Comparative Risk Ranked by Chance

Candidates	Number of Injuries/Deaths	Activity Population Basis	Camp Croft Population Basis	20 Year Injury/ Death Estimate	Chance of Injury/Death (1 in # person-years)
Construction industry disabling injuries	350,000	6,500,000	1,069	1,151,419	19
Transportation and public utilities industry disabling injuries	300,000	6,400,000	1,053	986,931	21
Agriculture industry disabling injuries	140,000	3,400,000	559	460,568	24
Mining, quarrying industry disabling injuries	20,000	600,000	99	65,795	30
Manufacturing industry disabling injuries	600,000	18,300,000	3,010	1,973,862	31
Trade industry disabling injuries	840,000	28,500,000	4,688	2,763,406	34
Government industry disabling injuries	550,000	18,700,000	3,076	1,809,373	34
Disabling injury from work-related accident	3,600,000	124,400,000	20,462	11,843,169	35
Injury from a home accident	7,300,000	260,000,000	42,767	24,015,315	36
Services industry disabling injuries	800,000	42,000,000	6,909	2,631,815	53
Injury from motor-vehicle accident	3,987,000	260,000,000	42,767	13,116,310	65
Injuries relating to soccer	162,115	12,500,000	2,056	533,321	77
Injury from venomous snake, lizard, or spider	402,000	260,000,000	42,767	1,322,487	647
Injury from poisoning by solid, liquid, gas, or vapor	348,000	260,000,000	42,767	1,144,840	747
Not wearing seatbelts (added injuries)	200,000	260,000,000	42,767	657,954	1,300
Injury from fire or burn	171,000	260,000,000	42,767	562,551	1,520
Student injuries on school bus	11,000	20,000,000	3,290	36,187	1,818
Recreational boating injuries	4,965	11,420,585	1,879	16,334	2,300
Deaths due to complications, misadventures of surgical, medical care	2,724	6,452,000	1,061	8,961	2,369
Mining, quarrying industry deaths	180	600,000	99	0,592	3,333
Pedestrian injury	70,000	260,000,000	42,767	230,284	3,714
Agriculture industry deaths	800	3,400,000	559	2,632	4,250
Injury from motorcycle accident	56,000	260,000,000	42,767	184,227	4,643
Death from motor-vehicle accident	43,900	260,000,000	42,767	144,421	5,923
Construction industry deaths	1,040	6,500,000	1,069	3,421	6,250
Injury from collision with a bicycle, moped, etc.	40,000	260,000,000	42,767	131,591	6,500
Transportation and public utilities industry deaths	850	6,400,000	1,053	2,796	7,529
Death from a home accident	26,400	260,000,000	42,767	86,850	9,848
Homicide	26,009	260,000,000	42,767	85,564	9,997
Passenger Death - Cars and taxis	21,813	260,000,000	42,767	71,760	11,919
Recreational boating fatalities	836	11,420,585	1,879	2,750	13,661
Death from accidental fall	12,600	260,000,000	42,767	41,451	20,635
Victim of a property crime	12,217	260,000,000	42,767	40,191	21,282
Death from work-related accident	5,300	124,400,000	20,462	17,436	23,472
Death from poisoning by solid, liquid, gas, or vapor	10,600	260,000,000	42,767	34,872	24,528
Manufacturing industry deaths	730	18,300,000	3,010	2,402	25,068
Not wearing seatbelts (added fatalities)	9,175	260,000,000	42,767	30,184	28,338
Injury from accidental fall	7,616	260,000,000	42,767	25,055	34,139
Government industry deaths	530	18,700,000	3,076	1,744	35,283
Pedestrian death	6,300	260,000,000	42,767	20,726	41,270
Death from drowning	4,500	260,000,000	42,767	14,804	57,778
Trade industry deaths	490	28,500,000	4,688	1,612	58,163
Services industry deaths	680	42,000,000	6,909	2,237	61,765
Death from fire or burn	4,100	260,000,000	42,767	13,488	63,415
Death from motorcycle accident	2,100	260,000,000	42,767	6,909	123,810
Injury from collision with a railroad train	2,000	260,000,000	42,767	6,580	130,000
Victim of a violent crime	1,924	260,000,000	42,767	6,330	135,135
Injury from a hunting accident	1,094	260,000,000	42,767	3,599	237,660
Death from collision with a bicycle, moped, etc.	900	260,000,000	42,767	2,961	288,889
Death from a water-transport accident	800	260,000,000	42,767	2,632	325,000
Death from airplane crash - General	732	260,000,000	42,767	2,408	355,191
Fatalities directly related to football (all high school)	4	1,472,300	242	0,013	368,075
Death from collision with a railroad train	500	260,000,000	42,767	1,645	520,000
Passenger Injury - Railroad trains	497	260,000,000	42,767	1,635	523,139
Student fatalities on school bus	30	20,000,000	3,290	0,099	666,667
Camp Croft - No Action			42,767	0,63141	1,354,640
Camp Croft - Surface Removal			42,767	0,63127	1,354,948
Camp Croft - 1 Foot Removal			42,767	0,63124	1,355,022
Camp Croft - 4 Foot Removal			42,767	0,63123	1,355,037
Death from airplane crash - Large	166	260,000,000	42,767	0,546	1,566,265
Passenger Death - Scheduled airlines	159	260,000,000	42,767	0,523	1,635,220
Death from a hunting accident	107	260,000,000	42,767	0,352	2,429,907
Death from a cataclysmic storm or flood	96	260,000,000	42,767	0,316	2,708,333
Death from lightning	72	260,000,000	42,767	0,237	3,611,111
Death from a tornado	69	260,000,000	42,767	0,227	3,768,116
Death from airplane crash - On-demand	52	260,000,000	42,767	0,171	5,000,000
Death from hornet, wasp, or bee	39	260,000,000	42,767	0,128	6,666,667
Deaths due to dog bites	20	260,000,000	42,767	0,066	13,000,000
Death from a cataclysmic earth surface movement or eruption	17	260,000,000	42,767	0,056	15,294,118
Passenger Death - Buses	15	260,000,000	42,767	0,049	17,333,333
Death from airplane crash - Commuter	9	260,000,000	42,767	0,030	28,888,889
Death from venomous snake, lizard, or spider	9	260,000,000	42,767	0,030	28,888,889
Passenger Death - Railroad trains	5	260,000,000	42,767	0,016	52,000,000

Table F-2. Comparative Risk Ranked by Injury/Death

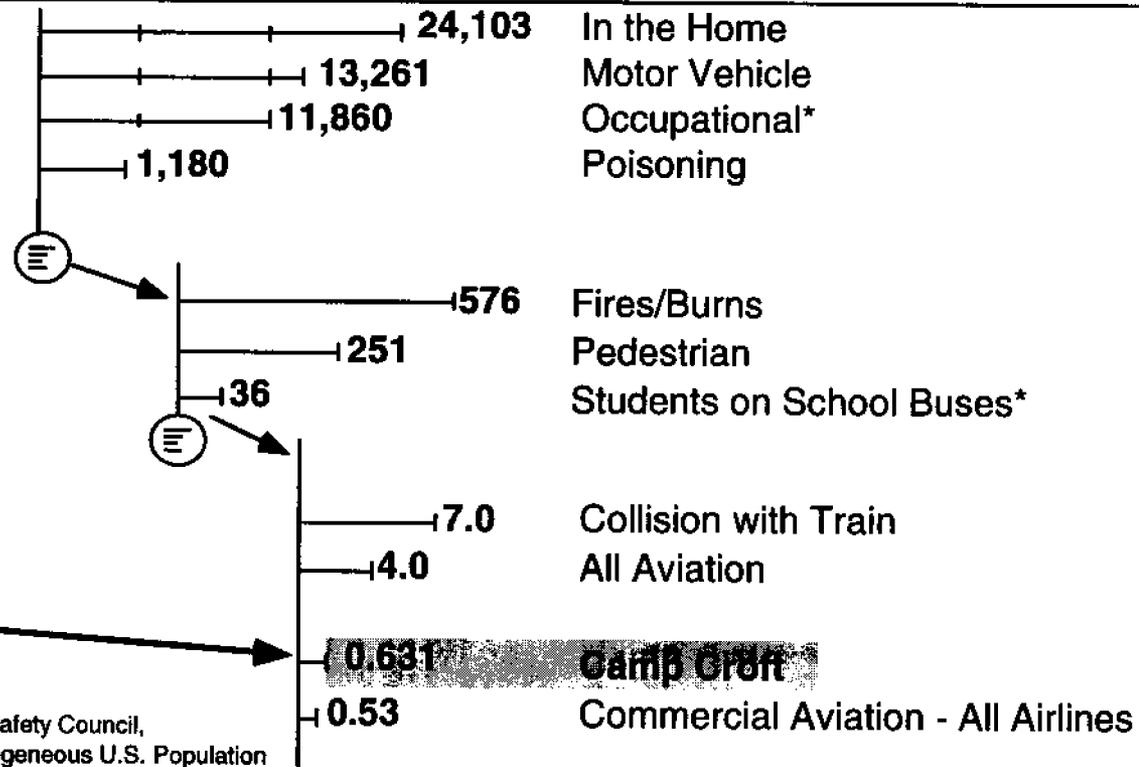
Candidates	Number of Injuries/Deaths	Activity Population Basis	Camp Croft Population Basis	20 Year Injury/Death Estimate	Chance of Injury/Death (1 in # person-years)
Injury from a home accident	7,300,000	260,000,000	42,767	24,015.315	36
Injury from motor-vehicle accident	3,987,000	260,000,000	42,767	13,116.310	65
Disabling injury from work-related accident	3,600,000	124,400,000	20,462	11,843.169	35
Trade industry disabling injuries	840,000	28,500,000	4,688	2,763.406	34
Services industry disabling injuries	800,000	42,000,000	6,909	2,631.815	53
Manufacturing industry disabling injuries	600,000	18,300,000	3,010	1,973.862	31
Government industry disabling injuries	550,000	18,700,000	3,076	1,809.373	34
Injury from venomous snake, lizard, or spider	402,000	260,000,000	42,767	1,322.487	647
Construction industry disabling injuries	350,000	6,500,000	1,069	1,151.419	19
Injury from poisoning by solid, liquid, gas, or vapor	348,000	260,000,000	42,767	1,144.840	747
Transportation and public utilities industry disabling injuries	300,000	6,400,000	1,053	986.931	21
Not wearing seatbelts (added injuries)	200,000	260,000,000	42,767	657.954	1,300
Injury from fire or burn	171,000	260,000,000	42,767	562.551	1,520
Injuries relating to soccer	162,115	12,500,000	2,056	533.321	77
Agriculture industry disabling injuries	140,000	3,400,000	559	460.568	24
Pedestrian injury	70,000	260,000,000	42,767	230.284	3,714
Injury from motorcycle accident	56,000	260,000,000	42,767	184.227	4,643
Death from motor-vehicle accident	43,900	260,000,000	42,767	144.421	5,923
Injury from collision with a bicycle, moped, etc.	40,000	260,000,000	42,767	131.591	6,500
Death from a home accident	26,400	260,000,000	42,767	86.850	9,848
Homicide	26,009	260,000,000	42,767	85.564	9,997
Passenger Death - Cars and taxis	21,813	260,000,000	42,767	71.760	11,919
Mining, quarrying industry disabling injuries	20,000	600,000	99	65.795	30
Death from accidental fall	12,600	260,000,000	42,767	41.451	20,635
Victim of a property crime	12,217	260,000,000	42,767	40.191	21,282
Student injuries on school bus	11,000	20,000,000	3,290	36.187	1,818
Death from poisoning by solid, liquid, gas, or vapor	10,600	260,000,000	42,767	34.872	24,528
Not wearing seatbelts (added fatalities)	9,175	260,000,000	42,767	30.184	28,338
Injury from accidental fall	7,616	260,000,000	42,767	25.055	34,139
Pedestrian death	6,300	260,000,000	42,767	20.726	41,270
Death from work-related accident	5,300	124,400,000	20,462	17.436	23,472
Recreational boating injuries	4,965	11,420,585	1,879	16.334	2,300
Death from drowning	4,500	260,000,000	42,767	14.804	57,778
Death from fire or burn	4,100	260,000,000	42,767	13.488	63,415
Deaths due to complications, misadventures of surgical, medical care	2,724	6,452,000	1,061	8.961	2,369
Death from motorcycle accident	2,100	260,000,000	42,767	6.909	123,810
Injury from collision with a railroad train	2,000	260,000,000	42,767	6.580	130,000
Victim of a violent crime	1,924	260,000,000	42,767	6.330	135,135
Injury from a hunting accident	1,094	260,000,000	42,767	3.599	237,660
Construction industry deaths	1,040	6,500,000	1,069	3.421	6,250
Death from collision with a bicycle, moped, etc.	900	260,000,000	42,767	2.961	288,889
Transportation and public utilities industry deaths	850	6,400,000	1,053	2.796	7,529
Recreational boating fatalities	836	11,420,585	1,879	2.750	13,661
Agriculture industry deaths	800	3,400,000	559	2.632	4,250
Death from a water-transport accident	800	260,000,000	42,767	2.632	325,000
Death from airplane crash - General	732	260,000,000	42,767	2.408	355,191
Manufacturing industry deaths	730	18,300,000	3,010	2.402	25,068
Services industry deaths	680	42,000,000	6,909	2.237	61,765
Government industry deaths	530	18,700,000	3,076	1.744	35,283
Death from collision with a railroad train	500	260,000,000	42,767	1.645	520,000
Passenger Injury - Railroad trains	497	260,000,000	42,767	1.635	523,139
Trade industry deaths	490	28,500,000	4,688	1.612	58,163
Camp Croft - No Action			42,767	0.63141	1,354,640
Camp Croft - Surface Removal			42,767	0.63127	1,354,948
Camp Croft - 1 Foot Removal			42,767	0.63124	1,355,022
Camp Croft - 4 Foot Removal			42,767	0.63123	1,355,037
Mining, quarrying industry deaths	180	600,000	99	0.592	3,333
Death from airplane crash - Large	166	260,000,000	42,767	0.546	1,566,265
Passenger Death - Scheduled airlines	159	260,000,000	42,767	0.523	1,635,220
Death from a hunting accident	107	260,000,000	42,767	0.352	2,429,907
Death from a cataclysmic storm or flood	96	260,000,000	42,767	0.316	2,708,333
Death from lightning	72	260,000,000	42,767	0.237	3,611,111
Death from a tornado	69	260,000,000	42,767	0.227	3,768,116
Death from airplane crash - On-demand	52	260,000,000	42,767	0.171	5,000,000
Death from hornet, wasp, or bee	39	260,000,000	42,767	0.128	6,666,667
Student fatalities on school bus	30	20,000,000	3,290	0.099	666,667
Deaths due to dog bites	20	260,000,000	42,767	0.066	13,000,000
Death from a cataclysmic earth surface movement or eruption	17	260,000,000	42,767	0.056	15,294,118
Passenger Death - Buses	15	260,000,000	42,767	0.049	17,333,333
Death from airplane crash - Commuter	9	260,000,000	42,767	0.030	28,888,889
Death from venomous snake, lizard, or spider	9	260,000,000	42,767	0.030	28,888,889
Passenger Death - Railroad trains	5	260,000,000	42,767	0.016	52,000,000
Fatalities directly related to football (all high school)	4	1,472,300	242	0.013	368,075

Comparative Risk Analysis - Former Camp Croft OOU6 - 20 Year Estimate - Injuries and Deaths

- No Injuries or Deaths Have Been Documented to Date
- 42,767 Population Base in County/Site Area
- 30 Annual OE Exposures Calculated by OECert

20 Year
Planning Horizon

OE Expected
Risks



Common Risk Data Source: National Safety Council,
Accident Facts, 1996 Based on a Homogeneous U.S. Population

*Based on Subset of Total Population Base

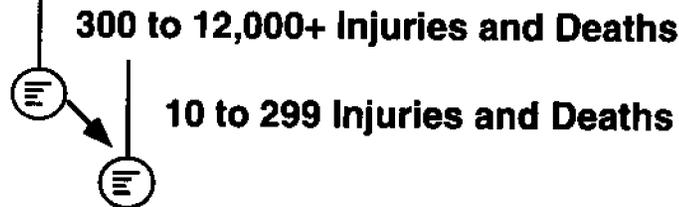
F-5

Figure F-1. Camp Croft OOU6 Comparative 20 Year Risk Estimate

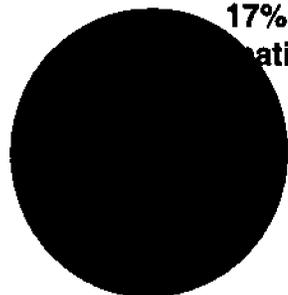
Comparative Risk Analysis - Former Camp Croft OOU6

20 Year Planning Horizon Estimate - Injuries and Deaths - By Activity

- No Removal Action Alternative
- OECert Risk and Population Assumptions (42,767)
- Projected Odds (1 in # person-years)



Camp Croft OOU6
OE Exposures by
Activity



7.0	Collision with Train (1 in 122,191 person-years)
4.0	All Aviation (1 in 213,835 person-years)
0.631	Camp Croft - All Activities (1 in 1.3 Million person-years)
0.53	Commercial Aviation (1 in 1.6 Million person-years)

F-6

Figure F-2. Camp Croft OOU6 Comparative Risk by Activity

APPENDIX G

SWEEP EFFICIENCIES

25 Feb 97

MEMORANDUM FOR Director, Ordnance and Explosives (OE) Team

SUBJECT: Sweep Efficiencies Used in Ordnance and Explosives Cost Effectiveness Risk Tool (OECERT)

1. The default sweep efficiencies in OECERT are appropriate for traditional techniques which yield overall detection and removal rates of around 30% for the upper ten feet. When newer technologies having much better detection rates are used, the default values in OECERT should be changed when performing the site risk assessment.
2. The enclosure provides a procedure for estimating appropriate sweep efficiencies for each of the depths required by OECERT, based on the overall detection rate for the particular search technology used.
3. Project Managers should work with their Technical Manager to determine the appropriate sweep efficiencies for each site risk assessment, based on the actual site conditions and geophysical processes used.
4. Feel free to contact Dr. John Potter if you have comments or questions.

Encl

*Original signed by
 Ronald R. Lein*
 RONALD R. LEIN, P.E.
 Director of Engineering

CF:
 ED-SY-T Read/Potter

Ry YOUNG, ED-ES-G
AF FANNING, ED-SY-O
Q LOYD, ED-SY-T
2/27 W WILSON, ED-SY
2/27 Q OE-CX-R

APPENDIX E
DAILY JOURNAL OF ALL FIELD ACTIVITIES

Length of Workday:
Activities Conducted:

12/11/96
8
Mobilization/Setup
State Permits for Trailer

12/12/96
8
Benchmark Locations/GPS Setup
Office Trailer Arrival/Setup
Duke Power/UXB Familiarization

12/13/96
8
Benchmark Locations/GPS Setup
Port-o-Johns Delivered
Survey Control Point Confirmation
Office Trailer Setup

Logbook #/pages
UXB Personnel/Activity:

1 p.1
None

1 p.2,3
Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)

1 p.4,5
Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)

Parsons Personnel/Activity:

DMS/Site Manager
OAA/PM

DMS/Site Manager
OAA/PM

DMS/Site Manager
OAA/PM

Other Persons Onsite:

Mike Casey
Wayne Bogan/Site Access Approvals

Dr. Lowry
-Expressed Pond Area Concerns
Mike Casey
-Provided Site Access Key(s)

Phone Contacts/Results:

1. Dr. Lowry
-Approved Site Trailer Location

Length of Workday
Activities Conducted:

12/14/96

8

Grid Surveying Initiated
-Jim Tomiko reminded to photograph
all ordnance recovered as per WP.
Generator onsite
Survey = 11 Grids
11,21,23,24,25,26,27,28,45,46,48

12/15/96

8

Grid Survey Continues:1 3-man crew

Survey = 8 Grids
3,4,5,6,7,8,12,47

12/16/96

8

Grid Survey Continues:2 2-man crew
1 crew corner GPS, 1 crew completes
Brushcut Initiated:2 2-man crew
UXB concerned about 20grids/day in WP
Survey = 10 Grids
9,10,17,18,19,20,33,34,35,36
Brushcut = 6 Grids
3,24,45,46,47,48

Logbook #/pages
UXB Personnel/Activity:

1 p.6,7

Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)

1 p.8,9

Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)

1 p.10,11

Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Brushcut)
Clint Morris (Brushcut)
Mike Brantley (Brushcut)

Parsons Personnel/Activity:

DMS/Site Manager
OAA/PM

DMS/Site Manager

DMS/Site Manager
Steve Bach (wetlands survey)

Other Persons Onsite:

Dr. Lowry
-Verbally described previous
ordnance finding locations.
-He informed landfill closed most
Sat/Sun so we can work when needed.
-Concerned grid locations in field area
near trailer already cleared.

Dr. Lowry
-Showed Survey Crew Lowry #3

Dr. Lowry
-Concern over grids in "cleared" areas
-He provided us copy of TCRA report.

Phone Contacts/Results:

Length of Workday
Activities Conducted:

12/17/96
8

Grid Survey Continues: 2 2-man crew
1 crew corner GPS, 1 crew completes
Brushcut Continues: 2 2-man crew
Phone installed/UXB Schonstedt screen
Survey = 8 Grids
13-16, 61-64
Brushcut = 14 Grids
4-12, 25-28, 13

12/18/96
8

Grid Survey Continues: 2 2-man crew
1 crew corner GPS, 1 crew completes
Brushcut Continues: 2 2-man crew
"Test Grid" prepared/planted
Survey = 12 Grids
57-60, 37-40, 29-32
Brushcut = 14 Grids
17-20, 33-36, 16, 24-28 (already clear)

12/19/96
8

Grid Survey Continues: 2 2-man crew
1 crew corner GPS, 1 crew completes
Brushcut Continues: 2 2-man crew
Electric Wiring Completed
Survey = 8 Grids
41-44, 69-72
Brushcut = 9 Grids
14, 15, 57-60, 29-31

Logbook #/pages
UXB Personnel/Activity:

1 p. 12, 13

Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)/grid screen
Bill Pursino (H & S)/grid screen
Steve Parker (Brushcut)
Karl Norberg (Brushcut)
Clint Morris (Brushcut)
Mike Brantley (Brushcut)

1 p. 14, 15, 16

Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)/test grid
Bill Pursino (H & S)
Steve Parker (Brushcut)/test grid
Karl Norberg (Brushcut)
Clint Morris (Brushcut)
Mike Brantley (Brushcut)

1 p. 17, 18, 19

Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Brushcut)
Clint Morris (Brushcut)
Mike Brantley (Brushcut)

Parsons Personnel/Activity:

DMS/Site Manager
Steve Bach (wetlands survey)
OAA/PM

DMS/Site Manager
OAA/PM

DMS/Site Manager

Other Persons Onsite:

Neil Robinette - Property access likely
Mike Casey

Neil Robinette - Signed property access

Phone Contacts/Results:

1. Dr. Lowry
-Requested move grids
2. Wayne Bogan
-Hire electric contractor. Not use Lowry

1. Patti Berry
-Received Karl Norberg Certs.

**Length of Workday
Activities Conducted:**

12/20/96

8

Grid Survey Continues:2 2-man crew
1 crew corner GPS, 1 crew completes
Brushcut Continues:2 2-man crew
Electric Inspection/UXB demob.
Survey = 5 Grids
65-68,86
Brushcut = 5 Grids
61-64,32

**Logbook #/pages
UXB Personnel/Activity:**

1 p.20,21

Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Brushcut)
Clint Morris (Brushcut)
Mike Brantley (Brushcut)

Parsons Personnel/Activity:

DMS/Site Manager

Other Persons Onsite:

Neil Robinette

Phone Contacts/Results:

1/6/97

8

Grid Survey Continues:2 3-man crew
Change to compass/tape with corner GPS
Brushcut Continues:2 3-man crew
UXB mob./Power Connected
Survey = 11 Grids
81-85, 87,88,109,110,112,111
Brushcut = 11 Grids
42-44,65-72

1 p.22,23,24

Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Brushcut)
Clint Morris (Brushcut)
Mike Brantley (Brushcut)
4 "ONSITE" Laborers
DMS/Site Manager

Mike Casey - Deer Season over

1/7/97

8

Survey Continues:1 3-man, 1 2-man crew
Compass/tape with corner GPS
Brushcut Continues:2 3-man crew
Survey = 16 Grids
149-151,89-91,93-95,157-159
Brushcut = 11 Grids
41,37-40,85-88,81,82

1 p.25,26,27,28

Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Brushcut)
Clint Morris (Brushcut)
Mike Brantley (Brushcut)
3 "ONSITE" Laborers
DMS/Site Manager
OAA/PM

Beatrice Bidwell/EM-61 "test" grid/grid 46

Mike Casey

	1/8/97	1/9/97	1/10/97
Length of Workday	8	8	8
Activities Conducted:	Survey Continues:1 3-man, 1 2-man crew Compass/tape with corner GPS Brushcut Continues:2 3-man crew OLA/DMS assign pond grids, "test" grid Survey = 26 Grids 121-126,137-140,173-180,153-155,209-212 Brushcut = 8 Grids 83,84,109-112,150,152	UXB called off work after 1+ hours of morning bad weather Survey = 0 Grids Brushcut = 0 Grids	Survey Continues:1 3-man, 1 2-man crew Compass/tape with corner GPS Brushcut Continues:2 3-man crew Survey = 19 Grids 168-170,129,133,141,147,148,127,128,107,213,215,216,233-236,248 Brushcut = 21 Grids 149, 151, 153-155, 121-126,137-139,173-177,179,180 EM-61 = 7 Grids 122,179,3,6,25,24,63
Logbook #/pages	I p.29,30,31	I p.32,33	I p.34-37
UXB Personnel/Activity:	Dave Tyer (Surveyor) Chuck Stoddard (Surveyor) Mark Holley (Rodman) Bill Jakubowski (Rodman) Jim Tomiko (Site Sup.) Bill Pursino (H & S) Steve Parker (Brushcut)/escort Karl Norberg (Brushcut) Clint Morris (Brushcut) Mike Brantley (Brushcut) 3 "ONSITE" Laborers DMS/Site Manager OAA/PM Beatrice Bidwell/EM-61 "test" grid/grid 63 Tamir Klaff/grid 63	Dave Tyer (Surveyor) Chuck Stoddard (Surveyor) Mark Holley (Rodman) Bill Jakubowski (Rodman) Jim Tomiko (Site Sup.) Bill Pursino (H & S) Steve Parker (Brushcut) Karl Norberg (Brushcut) Clint Morris (Brushcut) Mike Brantley (Brushcut) 3 "ONSITE" Laborers DMS/Site Manager OAA/PM Beatrice Bidwell/EM-61 Tamir Klaff/EM-61	Dave Tyer (Surveyor) Chuck Stoddard (Surveyor) Mark Holley (Rodman) Bill Jakubowski (Rodman) Jim Tomiko (Site Sup.) Bill Pursino (H & S) Steve Parker (Brushcut) Karl Norberg (Brushcut) Clint Morris (Brushcut) Mike Brantley (Brushcut) 3 "ONSITE" Laborers OAA/PM Beatrice Bidwell/EM-61 Tamir Klaff/EM-61
Parsons Personnel/Activity:			
Other Persons Onsite:	Mike Casey	Mike Casey	
Phone Contacts/Results:		Karl Blankinship replaces P. Berry	Corps Teleconference - Magazine setup issues - Escort requirement lifted for EM-61

Length of Workday:
Activities Conducted:

1/13/97
8
Survey Continues: 1 3-man, 1 2-man crew
Compass/tape with corner GPS
Brushcut Continues: 2 3-man crew

Survey = 23 Grids
185-187, 171-172, 193-196, 198-200, 245-247, 253-256, 269-272
Brushcut = 7 Grids
140, 197, 209-213
EM-61 = 11 Grids
57-60, 65-68, 85-88

Logbook #/pages
UXB Personnel/Activity:

1 p. 38-40
Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Brushcut)
Clint Morris (Brushcut)
Mike Brantley (Brushcut)
3 "ONSITE" Laborers
DMS/Site Manager
OAA/PM
Beatrice Bidwell/EM-61
Tamir Klaff/EM-61
Jeff Ulmer
Josh Bowers/EM-61
Doug Daniels/EM-61

Parsons Personnel/Activity:

Other Persons Onsite:

Phone Contacts/Results:

1/14/97
8
Survey Continues: 2 3-man crew
Compass/tape with corner GPS
Brushcut Continues: 2 3-man crew
Corps site tour/Mag. fence construction

Survey = 22 Grids
257-260, 249-252, 217, 218, 49-56, 73-78
Brushcut = 11 Grids
214-216, 253-256, 269-272
EM-61 = 16 Grids
61-64, 33-36, 29-32, 17-20

1 p. 41-45
Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Brushcut)
Clint Morris (Brushcut)
Mike Brantley (Brushcut)
3 "ONSITE" Laborers/4th added afternoon
DMS/Site Manager
Beatrice Bidwell/EM-61
Tamir Klaff/EM-61
Jeff Ulmer
Josh Bowers/EM-61
Doug Daniels/EM-61
Karl Blankinship
Tommy Hunt/Wayne Bogan
Patti Berry/Greg Bayuga
Mike Casey/Neil Robinette/Dr. Lowry
Greg Bayuga issues raised/addressed
10% QC issue addressed

Dr. Lowry called:

- Discussed barn area/magazine area
- Talked with Wayne about grid locations

1/15/97
8
Survey Continues: 2 3-man crew
Compass/tape with corner GPS
Brushcut Continues: 2 3-man crew
Mag. arrives site

Survey = 18 Grids
201-208, 183, 219-220, 277-280, 290-292
Brushcut = 16 Grids
233-236, 249-252, 257-260, 245-248
EM-61 = 17 Grids
26-28, 13-16, 37-44, 69, 71

1 p. 46-49
Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Brushcut)
Clint Morris (Brushcut)
Mike Brantley (Brushcut)
4 "ONSITE" Laborers
DMS/Site Manager
Sean Buckley/EM-61
Tamir Klaff/EM-61
Jeff Ulmer
Josh Bowers/EM-61
Doug Daniels/EM-61
Clark Vandeventer (UXB w/Mag)
Patti Berry/Tommy Hunt
Greg Bayuga

Dr. Lowry called:

- Discontent with Mag. fence setup
 - Discontent with QC and frag to be left
 - Discontent not informed of Corps onsite
- Corps met with Dr. Lowry at his house

**Length of Workday:
Activities Conducted:**

1/16/97

8

Survey Continues: 1 3-man, 1 2-man crew
Compass/tape with corner GPS
Brushcut Continues: 2 3-man crew
Intrusive Work Initiated
Survey = 23 Grids
181,182,184,229,232,225-228,289,293-300,282-284
Brushcut = 10 Grids
178,193,194,196,198-204
EM-61 = 13 Grids
4,5,7,8,10,12,45,70,72,109-112

1 p.50-52

Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Brushcut/Intrusive)
Clint Morris (Brushcut)
Mike Brantley (Brushcut/Intrusive)
3 "ONSITE" Laborers
DMS/Site Manager
OAA/PM
Sean Buckley/EM-61
Tamir Klaff/EM-61
Jeff Ulmer
Josh Bowers/EM-61
Doug Daniels/EM-61

Parsons Personnel/Activity:

Other Persons Onsite:

Patti Berry/Tommy Hunt
Greg Bayuga

Phone Contacts/Results:

Dr. Lowry called:
- Requested project status
Intrusive = Grid 13

1/17/97

8

Survey Continues: 2 2-man crew
Compass/tape with corner GPS
Brushcut Continues: 1 3-man, 1 2-man crew
Intrusive Work/Magazine grounded
Survey = 22 Grids
261,261-266,237-240,273,278,22,142,134-136,130-132,274
Brushcut = 5 Grids
181-184,195 (heavy brush)
EM-61 = 19 Grids
153,155,121,124,173-176,137-140,183,185,198,178,177,180,154

1 p.53-57

Dave Tyer (Surveyor)
Chuck Stoddard (Surveyor)
Mark Holley (Rodman)
Bill Jakubowski (Rodman)
Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Intrusive)
Clint Morris (Brushcut)
Mike Brantley (Intrusive)
3 "ONSITE" Laborers
DMS/Site Manager
OAA/PM
Sean Buckley/EM-61
Tamir Klaff/EM-61
Jeff Ulmer
Josh Bowers/EM-61
Doug Daniels/EM-61

Grids 125/126 deleted per Karl B
Video tapping of site activities began
Grid 65, 13, 14 MK 26ed in detail
10% QC Patterns defined for UXB
Intrusive = Grids 14,65

1/20/97

8

Survey Continues: 1 3-man crew
Compass/tape with corner GPS
Brushcut Continues: 1 3-man, 1 2-man crew
Intrusive Work/Mock 60 burial in test grid
Survey = 12 Grids
79,101-104,97-100,287,288,275
Brushcut = 12 Grids
205-208,165-172
EM-61 = 13 Grids
194,197-199,201-204

1 p.58-61

Dave Tyer (Surveyor)

Jim Tomiko (Site Sup./test grid)
Bill Pursino (H & S/Rodman)
Steve Parker (Brushcut)
Karl Norberg (Intrusive)
Clint Morris (Brushcut)
Mike Brantley (Intrusive)
4 "ONSITE" Laborers
DMS/Site Manager

Sean Buckley/EM-61
Tamir Klaff/EM-61

Josh Bowers/EM-61
Doug Daniels/EM-61

EM-61 Broken Handle Day/Repair
Video tapping of site activities continued
First 105mm illum round found Grid 66

Intrusive = Grids 66,67,68

	1/21/97	1/22/97	1/23/97
Length of Workday	8	8	8
Activities Conducted:	Survey Continues: 1 3-man crew Compass/tape with corner GPS Brushcut Continues: 1 3-man, 1 2-man crew Intrusive Work Survey = 7 Grids 105-106, 77, 78, 80 FINISHED Brushcut = 26 Grids (9 only surf. clear) EM-61 = 11 Grids 207-209, 181-184, 213-216	Survey Complete Intrusive Continues: 1 2-man crew Brushcut Continues: 2 3-man crew Intrusive = 8 Grids 199/193/195/196/206/205/139/140 Brushcut = 8 Grids 49-51, 77-80, 108 EM-61 = 18 Grids 141, 142, 127-129, 141, 132-136, 147-152, 169, 172	Survey Complete Intrusive Continues: 1 2-man crew Brushcut Continues: 2 3-man crew Intrusive = 9 Grids 173-176, 137, 138, 178, 179, 194 Brushcut = 6 Grids 22, 52-56 (heavy brush/Robinette) EM-61 = 20 Grids 245-248, 272, 212, 77-80, 105-108, 253-258, 269, 270
Logbook #/pages	I p. 62-65	I p. 66-68	I p. 69-71
UXB Personnel/Activity:	Dave Tyer (Surveyor)		
Parsons Personnel/Activity:	Jim Tomiko (Site Sup.) Bill Pursino (H & S/Rodman) Steve Parker (Brushcut) Karl Norberg (Intrusive) Clint Morris (Brushcut) Mike Brantley (Intrusive) 4 "ONSITE" Laborers DMS/Site Manager Sean Buckley/EM-61 Tamir Klaff/EM-61 Josh Bowers/EM-61 Doug Daniels/EM-61	Jim Tomiko (Site Sup.) Bill Pursino (H & S) Steve Parker (Brushcut) Karl Norberg (Intrusive) Clint Morris (Brushcut) Mike Brantley (Intrusive) 4 "ONSITE" Laborers DMS/Site Manager Sean Buckley/EM-61 Tamir Klaff/EM-61 Josh Bowers/EM-61 Doug Daniels/EM-61 Mike Casey - No driving off roadways	Jim Tomiko (Site Sup./QC) Bill Pursino (H & S/QC) Steve Parker (Brushcut) Karl Norberg (Intrusive) Clint Morris (Brushcut) Mike Brantley (Intrusive) 4 "ONSITE" Laborers DMS/Site Manager OAA/PM Sean Buckley/EM-61 Tamir Klaff/EM-61 Josh Bowers/EM-61 Doug Daniels/EM-61 Mike Casey/Neil Robinette Dale Bugbee (QuantifTech)
Other Persons Onsite:			
Phone Contacts/Results:	Dr. Lowry called: - Requested intrusive in pond area priority Intrusive = Grids 29, 197, 198, 200 Video taping of site activities continued	Dr. Lowry called: - Project status and inert 105 found - Damage to firebreaks and browses Video taping of site activities continued Second 105mm illum round found Grid 205	Dr. Lowry called: - Project status and 2 inert 105s found QC = 22 grids by UXB Video taping of site activities continued Third 105mm illum round found Grid 137 Fourth 105mm illum round found Grid 174

Length of Workday:
Activities Conducted:

1/26/97
8
Survey Complete
Intrusive Continues: 4 teams

Intrusive = 6 Grids, partials
26-28,45,46,59
Brushcut = 0 Grids

EM-61 = 20 Grids
249-252,271,233-236,257,260,22,49-56

Logbook #/pages
UXB Personnel/Activity:

Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Intrusive)
Karl Norberg (Intrusive)
Clint Morris (Intrusive)

Parsons Personnel/Activity:

4 "ONSITE" Laborers
DMS/Site Manager

Sean Buckley/EM-61
Tamir Klaff/EM-61

Josh Bowers/EM-61
Jeff Ulmer/EM-61
Mike Casey & Family

Phone Contacts/Results:

1/27/97
Survey Complete
Intrusive Continues: 1 2-man crew
Brushcut Continues: 2 3-man crew

Intrusive = 2 Grids
177,180
Brushcut = 10 Grids
89-96, 98, 100 (98,100 clear only)
EM-61 = 16 Grids
8,11,47,48,98,100,258,259,123,81-84,165,168,168

Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Intrusive)
Clint Morris (Brushcut)
Mike Brantley (Intrusive)
4 "ONSITE" Laborers
DMS/Site Manager

Sean Buckley/EM-61
Tamir Klaff/EM-61

Josh Bowers/EM-61
Jeff Ulmer/EM-61
Mike Casey/Neil Robinette

Dr. Lowry called:
- Project status

Video tapping of site activities continued

1/28/97
8
Survey Complete
Intrusive Continues: 1 2-man crew
Brushcut Continues: 2 3-man crew
Initially all Intrusive then switched over
Intrusive = 3 Grids
57,60,62
Brushcut = 8 Grids
293-300
EM-61 = 13 Grids
89-96,167,170,171,130,131

Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Intrusive)
Clint Morris (Brushcut)
Mike Brantley (Intrusive)
4 "ONSITE" Laborers
DMS/Site Manager

Sean Buckley/EM-61
Tamir Klaff/EM-61

Josh Bowers/EM-61
Jeff Ulmer/EM-61
Neil Robinette

Video taping of site activities continued
Fifth 105mm illum round found Grid 48

Length of Workday
Activities Conducted:

1/29/97

8

Survey Complete

Intrusive on hold
Brushcut Continues: 3 teams

Intrusive = 0 Grids

Brushcut = 16 Grids

261-264, 237-240, 289-292, 277-280

EM-61 = 21 Grids

293-296, 237-240, 289-292, 280, 297-300, 261-264

| p.81-83

Logbook #/pages

UXB Personnel/Activity:

Jim Tomiko (Site Sup./QC)
Bill Pursino (H & S/QC)
Steve Parker (Brushcut)
Karl Norberg (Intrusive)
Clint Morris (Brushcut)
Mike Brantley (Intrusive)
4 "ONSITE" Laborers
DMS/Site Manager

Sean Buckley/EM-61
Tamir Klaff/EM-61

Josh Bowers/EM-61
Jeff Ulmer/EM-61
Mike Casey/Neil Robinette

Parsons Personnel/Activity:

Other Persons Onsite:

Phone Contacts/Results:

Video taping of site activities continued

Dr. Lowry called:

- Project status and 5th 105

Grid 288 deleted

QC = 10 grids by UXB

1/30/97

8

Survey Complete

Intrusive Continues: 1 2-man crew
Brushcut Continues: 2 3-man crew

Intrusive = 12 Grids

289-300 (5 had 0 anomalies)

Brushcut = 9 Grids

101-104, 217-220, 97

EM-61 = 3 Grids (1 crew for 1/2 day)

277-279

| p.84-86

Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Intrusive)
Clint Morris (Brushcut)
Mike Brantley (Intrusive)
4 "ONSITE" Laborers
DMS/Site Manager

Sean Buckley/demob
Tamir Klaff/EM-61

Josh Bowers/demob
Jeff Ulmer/EM-61

Video taping of site activities completed

Dr. Lowry called:

- Project status

1/31/97

8

Survey Complete

Intrusive on hold
Brushcut Continues: 2 2-man crew

Intrusive = 0 Grids

Brushcut = 7 Grids

73-77, 99, 157, 158

EM-61 = 0

| p.87-89

Jim Tomiko (Site Sup.)
Bill Pursino (H & S)
Steve Parker (Brushcut)
Karl Norberg (Brushcut)
Clint Morris (Brushcut)
Mike Brantley (Brushcut)
DMS/Site Manager

Mike Casey

Sixth 105mm illum round found Grid 85

Length of Workday
Activities Conducted:

2/3/97
8
Survey Complete
Intrusive on hold
Brushcut Continues: 2 2-man crew

Intrusive = 0 Grids

Brushcut = 4 Grids

159,160,281,284

EM-61 = 14 Grids

73-76,157-160,97,99,217-220

Logbook #/pages
UXB Personnel/Activity:

1 p.90-95

Jim Tomiko (Site Sup/QC.)
Bill Pursino (H & S/QC)
Steve Parker (Brushcut)
Karl Norberg (Brushcut)
Clint Morris (Brushcut)
Mike Brantley (Brushcut)

Parsons Personnel/Activity:

OAA/PM
Jeff Ulmer/EM-61
Tamir Klaff/EM-61

Other Persons Onsite:

Jim Anelle (Corps QA)

Phone Contacts/Results:

Dr. Lowry called:
- Project status
QC = 12 grids by UXB

Survey Complete

Intrusive Continues: 2 2-man crew
Brushcut on hold

Intrusive = 27 Grids, (9 were 0 anomalies)

237-240,249-258,281-284,289,270,272,87,248,277-280,201,202

Brushcut = 0 Grids

EM-61 = 0 Grids

1 p.96-98

Jim Tomiko (Site Sup/QC.)
Bill Pursino (H & S/QC)
Steve Parker (Intrusive)
Karl Norberg (Intrusive)
Clint Morris (Intrusive)
Mike Brantley (Intrusive)

DMS/Site Manager

OAA/PM
Jeff Ulmer
Tamir Klaff

Jim Anelle (Corps QA)
Randy Frasser (Corps QA)

QC = 4 grids by UXB
Grids 148 and 75 deleted

2/5/97

8

Survey Complete

Intrusive on hold
Brushcut Continues: 2 2-man crew

Intrusive = 0 Grids

Brushcut = 8 Grids

225-228,229-232

EM-61 = 11 Grids

101-104,225-228,281,282,284,225-228,199 (recheck),29

1 p.99-100

Jim Tomiko (Site Sup/QC.)
Bill Pursino (H & S/QC)
Steve Parker (Brushcut)
Karl Norberg (Brushcut)
Clint Morris (Brushcut)
Mike Brantley (Brushcut)

DMS/Site Manager

OAA/PM
Jeff Ulmer/EM-61
Tamir Klaff/EM-61

Jim Anelle (Corps QA)
Randy Frasser (Corps QA)

Jim/Bill also assisted in Brushcut
QC = 5 grids by UXB

	2/6/97	2/7/97	2/10/97
Length of Workday	8	8	10
Activities Conducted:	Survey Complete Intrusive Continues: 1 2-man crew Brushcut Continues: 1 2-man crew Intrusive = 1 Grids 154, several partials Brushcut = 8 Grids 273-276, 285-287, 283 FINISHED EM-61 = 0 Grids	Survey Complete Intrusive Continues: 2 2-man crew Brush Cut Complete Intrusive = 24 Grids (8 had 0 anomaly) 18-20, 22, 33, 35, 36, 41, 43, 44, 48-52, 54, 17, 98, 102, 104, 165, 167, 172, 225 EM-61 = 12 Grids, "Skirt" mode today 273-276, 283, 285-287, 229-232	Survey Complete Intrusive Continues: 2 2-man crew Brush Cut Complete Intrusive = 13 Grids (8 had 0 anomaly) 3-8, 15, 16, 34 (0 anomalies for 273, 274, 285-287) EM-61 Work Completed
Logbook #/pages	II p.1-4	II p.5-7	II p.8-9
UXB Personnel/Activity:	Jim Tomiko (Site Sup/Intrusive) Bill Pursino (H & S/Intrusive) Steve Parker (Brushcut) Karl Norberg (Intrusive) Clint Morris (Brushcut) Mike Brantley (Intrusive)	Jim Tomiko (Site Sup/QC/Intrusive) Bill Pursino (H & S/QC/Intrusive) Steve Parker (Intrusive) Karl Norberg (Intrusive) Clint Morris (Intrusive) Mike Brantley (Intrusive)	Jim Tomiko (Site Sup/QC/Intrusive) Bill Pursino (H & S/QC/Intrusive) Steve Parker (Intrusive) Karl Norberg (Intrusive) Clint Morris (Intrusive) Mike Brantley (Intrusive)
Parsons Personnel/Activity:	DMS/Site Manager OAA/PM Jeff Ulmer	DMS/Site Manager Jeff Ulmer/EM-61 Tamir Kaff/EM-61	DMS/Site Manager
Other Persons Onsite:	Jim Anella/Randy Frasser (Corps QA) Karl Blankinship/Ken Stockwell Wayne Bogan/Major Mike Casey-Pond area work now		Neil Robinette
Phone Contacts/Results:	Mobilized UXB to intrusive at location Landfill not closed/workers moved temp. Seventh 105mm illum round found Grid 155 Dr. Lowry called: - Project status and 7th 105 illum. - Reiterated pond area priority	QC = 2 grids by UXB	Karl Blankinship fax for hours change QC = 20 grids by UXB

Length of Work
Activities Conducted:

2/11/97

10

Survey Complete

Intrusive Continues: 2 2-man crew
Brush Cut Complete

Intrusive = 23 Grids

111,112,121,122,124,153,155,42,69,70-72,89-95,157-159...12

EM-61 Work Completed

Logbook #/pages
UXB Personnel/Activity:

II p.10-12

Jim Tomiko (Site Sup/Intrusive)
Bill Pursino (H & S/Intrusive)
Steve Parker (Intrusive)
Karl Norberg (Intrusive)
Clint Morris (Intrusive)
Mike Brantley (Intrusive)

Parsons Personnel/Activity:

DMS/Site Manager

Other Persons Onsite:

Jim Anelle/Randy Frasser (Corps QA)

Phone Contacts/Results:

Grid 123 Intrusive Issue

2/10/97

Survey Complete

Intrusive Continues: 2 2-man crew
Brush Cut Complete

Intrusive = 29 Grids

87,99-101,103,217-220,245,248,271,275,276,281-284,
247,257-260,228-231

EM-61 Work Completed

II p.13-15

Jim Tomiko (Site Sup/Intrusive)
Bill Pursino (H & S/Intrusive)
Steve Parker (Intrusive)
Karl Norberg (Intrusive)
Clint Morris (Intrusive)
Mike Brantley (Intrusive)

DMS/Site Manager

Jim Anelle/Randy Frasser (Corps QA)
UXB Brantley departure day
QC = 7 grids by UXB

2/13/97

10 (Weather Shortened to 4)

Survey Complete

Intrusive Continues: 2 2-man crew
Brush Cut Complete

Intrusive = 1 Grids

152 - Worked called by UXB for Weather

EM-61 Work Completed

II p.16-17

Jim Tomiko (Site Sup)
Bill Pursino (H & S)
Steve Parker (Intrusive)
Karl Norberg (Intrusive)
Clint Morris (Intrusive)

DMS/Site Manager

Jim Anelle/Randy Frasser (Corps QA)
UXB Weather Day

Mike Casey

	2/14/97	2/16/97	2/19/97	2/20/97
Length of Workday	6	10	10	10
Activities Conducted:	Survey Complete Intrusive Continues: 2 2-man crew Brush Cut Complete	Survey Complete Intrusive Continues: 2 2-man crew Brush Cut Complete	Survey Complete Intrusive Continues: 2 2-man crew Brush Cut Complete	Survey Complete Intrusive Continues: 2 2-man crew Brush Cut Complete
	Intrusive = 2 Grids 106,107	Intrusive = 16 Grids 126-136,141,147,166,168-171	Intrusive = 15 Grids 232,105,106,73,76-80,127,142,149-151	Intrusive = 9 Grids
	EM-61 Work Completed	EM-61 Work Completed	EM-61 Work Completed	EM-61 Work Completed
Logbook #/pages	II p.18-19	II p.20-25	II p.26-28	II p.29-31
UXB Personnel/Activity:	Jim Tomiko (Site Sup/QC/intrusive) Bill Pursino (H & S/QC/intrusive) Steve Parker (intrusive) Karl Norberg (intrusive) Clint Morris (intrusive)	Jim Tomiko (Site Sup/QC/intrusive) Bill Pursino (H & S/QC/intrusive) Steve Parker (intrusive) Karl Norberg (intrusive) Clint Morris (intrusive) Mark Holley (intrusive)	Jim Tomiko (Site Sup/QC/intrusive) Bill Pursino (H & S/QC/intrusive) Steve Parker (intrusive) Karl Norberg (intrusive) Clint Morris (intrusive) Mark Holley (intrusive)	Jim Tomiko (Site Sup/QC/intrusive) Bill Pursino (H & S/QC/intrusive) Steve Parker (intrusive) Karl Norberg (intrusive) Clint Morris (intrusive) Mark Holley (intrusive)
Parsons Personnel/Activity:	DMS/Site Manager	DMS/Site Manager	DMS/Site Manager	DMS/Site Manager
Other Persons Onsite:	UXB Weather Makeup Day QC = 13 grids by UXB	Jim Anelle (Corps QA) Demolition/30 min landfill closure QC = 15 grids by UXB 8th 105mm illum round found Grid 166 9th 105mm. LIVE HE round found Grid 131 10th 105mm illum round found Grid 133 Dr. Lowry called: - Project status and LIVE 105	Jim Anelle/Hank Counts(Corps QA) QC = 39 grids by UXB 11th 105mm illum round found Grid 61 Mike Casey Dr. Lowry called: - Project status and claims issues	Jim Anelle(Corps QA) Dr. Lowry Mike Casey/Neil Robinette QC = 48 grids by UXB "Gator" onsite from HFA
Phone Contacts/Results:				

Length of Workday
Activities Conducted:

2/21/97

10

Survey Complete

Intrusive Continues: 2 2-man crew

Brush Cut Complete

Intrusive = 9 Grids
9-12,47,53,55,56,64

EM-61 Work Completed

II p.32-33

Logbook #/pages
UXB Personnel/Activity:

Jim Tomiko (Site Sup/QC/intrusive)
Bill Pursino (H & S/QC/intrusive)
Steve Parker (intrusive)
Karl Norberg (intrusive)
Clint Morris (intrusive)
Mark Holley (intrusive)

Parsons Personnel/Activity:

DMS/Site Manager

Other Persons Onsite:

Phone Contacts/Results:

Bill Pursino last day-left early
QC = 1 grids by UXB

2/24/97

10

Survey Complete

Intrusive Continues: 2 2-man crew

Brush Cut Complete

Intrusive = 11 Grids
233-236,203,204,208,182,183,184,110

EM-61 Work Completed

II p.34-37

Jim Tomiko (Site Sup/intrusive)
Jeff Osborne (H & S/QC/intrusive)
Steve Parker (intrusive)
Karl Norberg (intrusive)
Clint Morris (intrusive)
Mark Holley (intrusive)
James Ferris (UXB Corporate/QC)
DMS/Site Manager

Dr Lowry/Mike Casey
-informed him of 105mm illum finding today
-discussed mag fence location/barn issue
Hank Counts(Corps QA)

QC = 8 grids by UXB
12th 105mm illum round found Grid 110

2/25/97

10

Survey Complete

Intrusive Continues: 2 2-man crew

Brush Cut Complete

Intrusive = 12 Grids
81-84,37-40,63,85-87

EM-61 Work Completed

II p.38-41

Jim Tomiko (Site Sup/intrusive)
Jeff Osborne (H & S/QC/intrusive)
Steve Parker (intrusive)
Karl Norberg (intrusive)
Clint Morris (intrusive)
Mark Holley (intrusive)
James Ferris (UXB Corporate/QC)
DMS/Site Manager

Jim Anelle(Corps QA)

QC = 21 grids by UXB
13th 105mm illum round found Grid 81
14th 105mm illum round found Grid 83
15th 105mm illum round found Grid 83
Dr. Lowry called:
- Project status and 105 findings

2/26/97

10

Survey Complete

Intrusive Continues: 2 2-man crew

Brush Cut Complete

Intrusive = 7 Grids
25, 199 (redo),181,109,30-32 FINISHED

EM-61 Work Completed

II p.42-45

Jim Tomiko (Site Sup/intrusive)
Jeff Osborne (H & S/QC/intrusive)
Steve Parker (intrusive/demob)
Karl Norberg (intrusive/demob)
Clint Morris (intrusive/demob)
Mark Holley (intrusive/demob)
James Ferris (UXB Corporate/QC)
DMS/Site Manager

Jim Anelle/Hank Counts(Corps QA)

Restored "test" grid. Returned objects
QC = 24 grids by UXB. QC FINISHED
49 grids QAed by Corps as of 2/25/97
50 grids QAed by Corps today

	2/27/97	3/4/97
Length of Workday	10	
Activities Conducted:	Survey Complete Intrusive Work Completed Brush Cut Complete EM-61 Work Completed	Survey Complete Intrusive Work Completed Brush Cut Complete EM-61 Work Completed Final Site Closure/Restoration

Logbook #/pages	II p.46-48
UXB Personnel/Activity:	

Jim Tomko (Site Sup/demob)
 Jeff Osborne (H & S/demob)
 Steve Parker (demob)
 Karl Norberg (demob)
 Clint Morris (demob)
 Mark Holley (demob)
 James Ferris (UXB Corporate)
 DMS/Site Manager

OAA/PM

Other Persons Onsite:	Jim Anelle(Corps QA) Mike Casey/Neil Robinette
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Phone Contacts/Results:	"Gator" signed by Jim Anelle QC = FINISHED QA by Corps to continue next week Dr. Lowry called: - Project status Karl Blankinship-explosives ownership issue	QC = FINISHED
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APPENDIX F
QC DOCUMENTATION

3



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 3 NE

III. QCI Results: SAT
1- HIT SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures
[Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

4



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT 00U6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 4 SE

III. QCI Results: SAT

1 HIT SM FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr UXO Supervisor/Project Manager

5



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 5 CTR

III. QCI Results: SAT
3 HITS 5M FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
Sr. UXO Supervisor/Project Manager

6



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 6 NW

III. QCI Results: SAT
4 HITS SM FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

7



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/16/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 7 CTR

III. QCI Results: SAT
6 HITS NUMEROUS FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

[Signature]
Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____
Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 7 SW

III. QCI Results: SAT

7-HITS SM FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

Bill Pursino

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Sim Tomiko

Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 24 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp. Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 10 Center

III. QCI Results: Sat
14 Hits, Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature] QCI Team Leader

[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 24 Feb 97 Time: 1400 Contract Number: _____
Delivery Order Number: 7206,002 Location: Cp Craft
Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 11 Center

III. QCI Results: Sat
18 hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 24 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206002 Location: Cp Coct
 Personnel Involved: J. Dehorne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 12 Center

III. QCI Results: Sat
15 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

13



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 5 FEB 47 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 13 NW

III. QCI Results: SAT - 11 HTS
SMALL FRAG / BARB WIRE

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature] QCI Team Leader
[Signature] Sr. LXB Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

14



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 5 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 14 NE

III. QCI Results: SAT - 14 HITS, SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 16 SE

III. QCI Results: SAT
8 - HITS NUMEROUS FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

15



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # ~~7~~ 15 NE

III. QCI Results: SAT
12- HITS NUMEROUS PLACES

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 18 NW

III. QCI Results: SAT
NUMEROUS FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature] QCI Team Leader
 I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature] Sr. UXO Supervisor/Project Manager

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Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/16/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 17 SE

III. QCI Results: SAT
2 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: *[Signature]* I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
 QCI Team Leader *[Signature]* Sr. UXO Supervisor/Project Manager

20



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 20 SE

III. QCI Results: SAT
SMALL FRAG 3 HITS

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

19



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 19 NW

III. QCI Results: SAT

SMALL FLAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
 I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature] Sr. UXO Supervisor/Project Manager

24



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 7 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 24 SW

III. QCI Results: SAT
SM piece wire

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QC Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

22



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 7 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 22 NE

III. QCI Results: SAT
1 SMALL Pc FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
 QCI Team Leader Sr. UXO Supervisor/Project Manager [Signature]



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2 FEB 97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 265E

III. QCI Results: SAT - 6 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Cse Ft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 25

4

III. QCI Results: SAT

4 Hits small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
 Sr. UXO Supervisor/Project Manager

28



UXB International, Inc.

Quality Conformance Inspection (QCI) Record

Date: 5 FEB 47 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 78 NE

III. QCI Results: SAT 5 SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

27



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 5 FEB 97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 27 CTR

III. QCI Results: SAT 1 SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Osborne, J Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 30 Center

III. QCI Results: Sat
7 Hits small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QC Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

29



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 1-23-97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 24 SW

III. QCI Results: SATISFACTORY

4 SMALL PIECES FLAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

N/A

V. Signatures:

Bill Pursino

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Jim Tomiko

Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 26 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 32

III. QCI Results: Sat
6 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 26 Feb 97 Time: 1400 Contract Number: _____

Delivery Order Number: 7206.002 Location: Cp. Craft

Personnel Involved: J. Osborne, J Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 31

III. QCI Results: Sat

3 2 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 34

III. QCI Results: Sat
0 Hits

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QC Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Osterman, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 33

III. QCI Results: Sat
2 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____

Delivery Order Number: 7206.002 Location: Cp Craft

Personnel Involved: J. Osborne J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # ~~02~~ 36

III. QCI Results: Sat

3 hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____

Delivery Order Number: 7206.002 Location: Cp Co Eff

Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # ~~34~~ 35

III. QCI Results: Sat

3 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 38 Center

III. QCI Results: Sat
6 kits, small frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. LXB Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LUXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 37 Center

III. QCI Results: Sat
15 Hits Small Feeg

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
 I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature] Sr./UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 40 Center

III. QCI Results: Set
2 Hits Small Frog

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 39 Center

III. QCI Results: Set
2 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

42



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/14/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 42 SE

III. QCI Results: SAT

2 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

41



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/14/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 41 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

44



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/14/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 4450

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

43



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1-14-97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT COULB
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 43NE

III. QCI Results: SAT
6 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

46



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 46 SW

III. QCI Results: SAT
2-HITS 5m FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

45



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 455E

III. QCI Results: SAT

6-HITS SM FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

48



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 48 NW

III. QCI Results: SAT
2-HITS 5M FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: *[Signature]* *[Signature]*
 QCI Team Leader Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 24 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp. Craft
 Personnel Involved: J. Osborne J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 47 Center

III. QCI Results: Sat
9 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

50



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 50 NE

III. QCI Results: SAT
1 - HIT SM FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

44



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 49 SW

III. QCI Results: SAT

1 - HOT SM FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. LXB Supervisor/Project Manager

52



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 52 SW

III. QCI Results: SAT

2 - HITS 5m FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

57



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: _____ Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 51 CTRL

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures

[Signature]
 QC Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
 Sr. UXO Supervisor/Project Manager

54



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/10/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 54 NE

III. QCI Results: SAT
4 HITS 5m FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 24 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp. Craft
 Personnel Involved: U. Osborne J. Ferris

I. Work Plan Reference: ~~Grid #~~ Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # S3 Center

III. QCI Results: Set
4 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature] QCI Team Leader

[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 24 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp. Craft
 Personnel Involved: J. Osborne J. Ferris

I. Work Plan Reference: Section 41

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid F 56 Center

III. QCI Results: 4/ Sat
4 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 24 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7266.582 Location: Cp. Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 55 Center

III. QCI Results: Sat
2 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature] QCI Team Leader

[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

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Quality Conformance Inspection (QCI) Record



UXB International, Inc.

Date: 1/29/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 58 SW

III. QCI Results: SAT
SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures: *[Signature]* I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
 QCI Team Leader *[Signature]* Sr. UXO Supervisor/Project Manager

57



Quality Conformance Inspection (QCI) Record

LUXB International, Inc.

Date: 1/29/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 57 SE

III. QCI Results: SAT
Small FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

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Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1/29/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 60 CTR

III. QCI Results: SAT

SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures:
[Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

59



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1/29/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 59 NW

III. QCI Results: SAT
SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Bill Pursino Jim Tomiko
 QCI Team Leader Sr. UXO Supervisor/Project Manager

62



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1/29/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 625E

III. QCI Results: SAT
SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____

Delivery Order Number: 7206.002 Location: Cp Craft

Personnel Involved: J. Osborne J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 101 Center

III. QCI Results: Sat

8 digs Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Sr. UXO Supervisor/Project Manager

64



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206,002 Location: Cp Craft
 Personnel Involved: J. Osborne J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 64 Center

III. QCI Results: Sat
28 Digs Entire grid heavily contaminated with small frags.

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Ostrone, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 103 Center

III. QCI Results: Sat
10 Digs, Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

66



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1-23-77 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 66NW

III. QCI Results: SATISFACTORY
3EA 1" x 5" FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

65



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 1-23-97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 65 CENTER

III. QCI Results: SATISFACTORY

2EA SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

N/A

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

68



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1/23/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 68 SE

III. QCI Results: SATISFACTORY
1 PC 6' LONG COMM WIRE

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

67



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1-23-97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 67 CENTER

III. QCI Results: SATISFACTORY

1 ea SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

N/A

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

Quality Conformance Inspection (QCI) Record



UXB International, Inc.

Date: 2-14-97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 7G 5E

III. QCI Results: SAT
1 HIT SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

69



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/14/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CRAFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 69 SW

III. QCI Results: SAT

3 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

[Signature]

QCI Team Leader

Sr. UXO Supervisor/Project Manager

72



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2-14-97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 72 NW

III. QCI Results: SAT
1 HIT SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

71



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2-14-97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 71 NE

III. QCI Results: SAT
2 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

76

Quality Conformance Inspection (QCI) Record



UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 76 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

73



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 73 SE

III. QCI Results: SAT
1 HIT SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] _____ [Signature] _____
 QCI Team Leader Sr UXO Supervisor/Project Manager

78NW



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 78NW

III. QCI Results: SAT
1 HIT SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr UXO Supervisor/Project Manager

77



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 77 CTR

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

80 NE



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PERSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 80 NE

III. QCI Results: SAT
1 HIT SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

79



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 79 NW

III. QCI Results: SAT
2 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature] QCI Team Leader
[Signature] Sr UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7204.002 Location: Cp Crest
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 82 Center

III. QCI Results: Sat
2 hits, Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7266002 Location: Cp Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 81 Center

III. QCI Results: Sat

25 Hits - non UXO trash, numerous hits throughout grid - appears to be primarily fill materials.

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

[Signature]
Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7266.002 Location: Cp CccFt
 Personnel Involved: J. DeBosch J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 84 Center

III. QCI Results: Sat
18 hits Non-UXO/OEW trash, fill material throughout grid

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 72010.002 Location: Cp Craft
 Personnel Involved: J. Osborne J Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 83 Center

III. QCI Results: Sat
4 hits, small frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Ostrom, J Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 86 Center

III. QCI Results: Sat
21 Digs Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

85



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 25 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206002 Location: Cp. Coast
 Personnel Involved: J. Osborne J. Ferris

I. Work Plan Reference: Section 41

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 85 Center

III. QCI Results: Sat
23 Days Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

88



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 25 Feb 97 Time: 1400 Contract Number: _____

Delivery Order Number: 72060 002 Location: Ep. Sect

Personnel Involved: J. Osborne J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 38

III. QCI Results: Sat

0 Digs

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

87



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 72010.002 Location: Cp Sect 4
 Personnel Involved: J Osborne J Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 87 Center

III. QCI Results: Sat
1 Dig Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

90



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 12 FEB 47 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PARSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 90NW

III. QCI Results: SAT

5 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

89



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 12 FEB 47 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 89 CTR

III. QCI Results: SAT

2 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

92



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 17 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 92 NW

III. QCI Results: SAT
9 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
Bill Pursino I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
 QCI Team Leader Sim Tomiko
Sr. BXO Supervisor/Project Manager

91



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 12 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 91 NE

III. QCI Results: SAT
4 HITS SMALL FRAGS & MAG ROCKS

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
 I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature] Sr. UXO Supervisor/Project Manager

94



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 12 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 94 NE

III. QCI Results: SAT
12 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: Bill Pursino QCI Team Leader
Jim Tomiko Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

93



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 17 FEB 97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 93 SW

III. QCI Results: SAT
2 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
QC/ Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
Sr. OXO Supervisor/Project Manager

47



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 47SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

95



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 17 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 95 CTR

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

99



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: _____ Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 99 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

98



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/30/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 98 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

101



UXB International, Inc.

Quality Conformance Inspection (QCI) Record

Date: 7/20/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 101 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
Sr. UXO Supervisor/Project Manager

100



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 160 CTR

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

103



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 7/30/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 103 CTR

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

102



UXB International, Inc.

Quality Conformance Inspection (QCI) Record

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 102 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

105



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CRAFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 105 NE

III. QCI Results: SAT
2 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

104



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 104 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

Bill Pursino

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Jim Tomiko

Sr. UXO Supervisor/Project Manager

107



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2-14-97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 107 SW

III. QCI Results: SAT
4 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

106



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/14/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 106 SE

III. QCI Results: SAT

7 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 24 Feb 97 Time: 1400 Contract Number: _____

Delivery Order Number: 7266.002 Location: Cp Crct

Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 109 Center

III. QCI Results: Sat

3 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
QCI Team Leader

[Signature]
Sr. UXO Supervisor/Project Manager

108



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 108 CTR

III. QCI Results: SAT
3 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 1450 Contract Number: _____

Delivery Order Number: 7206.002 Location: Cp Crcft

Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 111 Center

III. QCI Results: Set

18 hits non-uxc/ocul trash area

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 26 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 110 center

III. QCI Results: Sat
3 Hits, small frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____ I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

121

Quality Conformance Inspection (QCI) Record



UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 1215E

III. QCI Results: SAT
1 HIT MRE Rack

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 36 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 112 Center

III. QCI Results: Sat
6 Hits small flag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
 Sr. UXO Supervisor/Project Manager

124



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL AURSINO - JIM TOMIKO

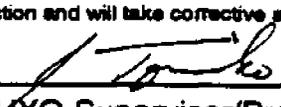
I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 124 SE

III. QCI Results: SAT
1 HIT MAG SERL

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

122



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/26/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 122 SE

III. QCI Results: SAT
2 HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

128



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 128 CTR

III. QCI Results: SAT
1 HIT - BELT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. OXO Supervisor/Project Manager

127



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 127 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

Bill Pursino
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
Jim Tomiko
 Sr. UXO Supervisor/Project Manager

130



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/18/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 130 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

Bill Pursino
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

129



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/13/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 129NW

III. QCI Results: 3AT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

37



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/18/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 132 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
Bill Pursino
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
Jim Tomiko
 Sr. UXO Supervisor/Project Manager

131



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/18/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CRAFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 131 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

134



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/18/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 134 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

[Signature]
Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

133



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/18/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # ~~NW~~ 133 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

136



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/26/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 136 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/18/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL AURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 135NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. QCI Supervisor/Project Manager

137



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1/23/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 137 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

138



LXB International, Inc.

Quality Conformance Inspection (QCI) Record

Date: 1/23/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 138 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures:

 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

139



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1/23/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 139 NE

III. QCI Results: SAT
1 SMALL PICE FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Bill Pursino _____ Jim Tomiko _____
 QCI Team Leader Sr UXO Supervisor/Project Manager

140



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1/23/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT 00U6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 140 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures:
[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
Sr. UXO Supervisor/Project Manager

141



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 141 SW

III. QCI Results: SAT
1 HIT SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

142



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 142 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

Bill Pursino
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Jim Tomiko
Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 26 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 147 Center

III. QCI Results: Sat
6 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature] QCI Team Leader

[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

149



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/20/99 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 149 SE

III. QCI Results: SAT
1 HIT SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

150



Quality Conformance Inspection (QCI) Record

LUXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 150 CTR

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

[Signature]
Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

151



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 151 NE

III. QCI Results: SAT

1 HIT SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

151



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 7/20/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 151 NE

III. QCI Results: SAT

1 HIT SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

152



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 152 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

[Signature]
Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

153



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 153 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

[Signature]
Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

154



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/26/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 154 SW

III. QCI Results: SAT
BULLDOZED PRIOR TO QC

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

155



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 155 SW

III. QCI Results: SAT
3 HITS MAG ROCKS

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

157



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/14/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 157 NE

III. QCI Results: SAT
1 HIT SMALL BARBWIRE

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: *[Signature]* *[Signature]*
 QCI Team Leader Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

158



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/14/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 158 SE

III. QCI Results: SAT
1 HIT - SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader
[Signature]
 Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

159



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 14 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 159 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
 QCI Team Leader

[Signature]
 Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

165



Quality Conformance Inspection (QCI) Record

UXB International, Inc.:

Date: 2/18/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 165 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

166



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/18/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 166 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 SUXO Supervisor/Project Manager

167



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/18/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 167NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

168



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/18/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 168SE

III. QCI Results: SAT
1 HIT SMALL WIRE

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr UXO Supervisor/Project Manager

169



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/18/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 169 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

170



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 7/18/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 170 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. JXO Supervisor/Project Manager

171



Quality Conformance Inspection (QCI) Record

LXB International, Inc.:

Date: 2/18/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 1715W

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

[Signature]
Sr. XO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

172



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/18/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 172 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

173



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1-23-97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 1735E

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

N/A

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

174



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 1/23/47 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 174 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

N/A

V. Signatures:

Bill Pursino

QC/Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Tomiko

Sr. UXO Supervisor/Project Manager

175



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 1/23/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 175 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

N/A

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

176



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 1/23/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CRAFT OOU6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 176 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

177



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 1/29/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL AURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 177 NE

III. QCI Results: SAT

SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

178



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1-23-47 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 178 NW

III. QCI Results: SATISFACTORY

33' FROM 178 NE > CONTACT GREATER
18' FROM 178 NW > THAN 4'

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures:

[Signature]
 QCI Team Leader

[Signature]
 Sr UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

179

Quality Conformance Inspection (QCI) Record



UXB International, Inc.

Date: 1/29/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 179 SW

III. QCI Results: SAT
SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

180



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 1/29/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 180 SW

III. QCI Results: SAT
SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures:
[Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 26 Feb 97 Time: 1450 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Craft
 Personnel Involved: J. Osborne, J Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 181 SW

III. QCI Results: Sat
21 H.ts Area saturated with non-OEW garbage

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

182



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 25 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7266 002 Location: Cp Crift
 Personnel Involved: J. Ostrom, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 182 Center

III. QCI Results: Sat
In dig small frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp CoFt
 Personnel Involved: J. Osborn J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 183 Center

III. QCI Results: Sat
3 Digs Small Crag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

184



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 25 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206-002 Location: Cp Crct
 Personnel Involved: J. Oskow

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 184 Center

III. QCI Results: Sat
7 Digs small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

193



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 1/23/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PARSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 193 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures:

[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
 Sr. UXO Supervisor/Project Manager

194



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1/23/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 194 CENTER

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

N/A

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

195



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1/23/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 195 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

196



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 1/23/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 196 CENTER

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures:
[Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

197



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 1/23/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 197 CENTER

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

198



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 1/25/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 1985E

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures: [Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

199



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 1/23/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 199 SE

III. QCI Results: FAILED QC
2 LG PIECES OF METAL @ 12" AND 1 MULE SHOE @ 18"
IN THE NW CORNER OF THE QC GRID. NUMEROUS LARGE
CONTACTS THROUGH OUT TOTAL GRID.

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
RECOMMEND RE-MAGGING WITH THE EM-61.
RE-MAG ENTIRE RES WITH GRID AND COMPARE
RESULTS
* REINSPECTION REQUIRED

V. Signatures:
[Signature]
 QCI Team Leader
 I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 26 Feb 97 Time: 1400 Contract Number: _____

Delivery Order Number: _____ Location: CP Croft

Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 199 Center

III. QCI Results: Sat

5 Hits, Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

200



Quality Conformance Inspection (QCI) Record

UXB International, Inc.:

Date: 1/23/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 200 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures:
[Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7286 002 Location: Cp Craft
 Personnel Involved: J. Daborn, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 201 Center

III. QCI Results: Sat
4 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

208



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 25 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp CscFt
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 202

III. QCI Results: Sat
3 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
 QCI Team Leader

[Signature]
 Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 25 Feb 97 Time: 1400 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp Crest
 Personnel Involved: J. Osborne

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 203

III. QCI Results: Sat
1 Hit small frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

204



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 1400 Contract Number: _____

Delivery Order Number: 7206.082 Location: Cp Craft

Personnel Involved: J. Osborn, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 204

III. QCI Results: Set

3 Hits: small frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

205



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 1/29/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 205 CTR (NORTH TO SOUTH)

III. QCI Results: SAT

SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

N/A

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

206



Quality Conformance Inspection (QCI) Record

UXB International, Inc.:

Date: 1/29/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 206 NE

III. QCI Results: SAT
SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):
N/A

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

207



Quality Conformance Inspection (QCI) Record

LXB International, Inc.:

Date: 2/20/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 207 NW

III. QCI Results: SAT
5 HITS SMALL FRAGS

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 0900 Contract Number: _____

Delivery Order Number: 7206.002 Location: Cp. Craft

Personnel Involved: J. Ostigme, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 208 Center

III. QCI Results: Set

4 Hits, Small Frog

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

209



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 0900 Contract Number: _____

Delivery Order Number: 7256.002 Location: Cp. Craft

Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 21

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 209 Center

III. QCI Results: Sat

23 Hits, Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp. Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 210 Center

III. QCI Results: Sat
21 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

211



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 0900 Contract Number: _____

Delivery Order Number: 7206.002 Location: CP. Crcft

Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 211 Center

III. QCI Results: Sgt

18 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. XO Supervisor/Project Manager

212



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp. Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 212 Center

III. QCI Results: Sat
12 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. LXB Supervisor/Project Manager

213



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/26/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 213 CTR

III. QCI Results: SAT
3 HITS Small FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

214



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 214 SW

III. QCI Results: SAT
1- HIT SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

215



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 215 SE

III. QCI Results: SAT
1 - HIT SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

316



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 216 SW

III. QCI Results: SAT
2-HITS SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

217



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 7/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CRAFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 217 CTR

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

218



Quality Conformance Inspection (QCI) Record

LUXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 218 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: *Bill Pursino* QCI Team Leader
Tomiko Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

219



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 219 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

270



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 220SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

775



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 775 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

226



Quality Conformance Inspection (QCI) Record

UXB International, Inc.:

Date: 2/19/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 226 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

227



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 227 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

228



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 225 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

229



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 229 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

230



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 230 SE

III. QCI Results: SAT
SMALL FRAG - 1 HIT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

231



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 7/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 731NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: _____
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

 Sr. UXO Supervisor/Project Manager

232



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 232 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

233



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7206.002 Location: Cp. Croft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 233 Center

III. QCI Results: Sat
4 Hits - Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

234



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7206 002 Location: Cp Craft
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 21

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 234 Center

III. QCI Results: Set
2 Hits Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

235



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 72cw.002 Location: CP. Coast
 Personnel Involved: J. Osborne, J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 235 Center

III. QCI Results: Sat
8 hits, Small Frag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
 Sr. UXO Supervisor/Project Manager

236



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 25 Feb 97 Time: 0900 Contract Number: _____
 Delivery Order Number: 7206 082 Location: Cp. Craft
 Personnel Involved: J. Osborne J. Ferris

I. Work Plan Reference: Section 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description) Grid # 236 Center

III. QCI Results: Set
6 Hits Small Flag

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
 QCI Team Leader

[Signature]
 Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

237 SE



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 7/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 237 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

238



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 7/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 238 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

239



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 239 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

240



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 240 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

245



Quality Conformance Inspection (QCI) Record

LXB International, Inc.:

Date: 3/19/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 245 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
Sr. UXO Supervisor/Project Manager

246



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 246 CTR

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
 QCI Team Leader

[Signature]
 Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

247



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL AURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 247 NW

III. QCI Results: SAT
1 HIT MAGNETIC ROCK

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

248



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 248 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

Bill Pursino
QCI Team Leader

Tomiko
Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

249



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 249 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

[Signature]
Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

250



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 250 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

Bill Pursino

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Jim Tomiko

Sr. UXO Supervisor/Project Manager

251



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL FURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 251 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: *Bill Fursino* QCI Team Leader
Sim Tomiko Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

252



Quality Conformance Inspection (QCI) Record

LXB International, Inc.:

Date: 2/26/94 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 752 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

Bill Pursino

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Jim Tomiko

Sr. UXO Supervisor/Project Manager

253



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 253 CTR

III. QCI Results: SAT
2 HITS MAGNETIC SOIL

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

254



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT 00U6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 254 SE

III. QCI Results: JAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
Sr. UXO Supervisor/Project Manager

255



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 255 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
Bill Pursino
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
Jim Tomiko
 Sr. UXO Supervisor/Project Manager

256



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 256 NW

III. QCI Results: SAT

2 HITS BRICKS

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

257



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 257NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Bill Pursino QCI Team Leader Jim Tomiko Sr. UXO Supervisor/Project Manager

258



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 258 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

259



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 259 NW

III. QCI Results: SAT
1 HIT SMALL FRAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

260



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 260 CTR

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

261



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 7/30/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 761 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

267



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 7/30/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 762 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

263



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 7/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CRAFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 263 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
Sr. UXO Supervisor/Project Manager

264



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 7/30/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 264 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] [Signature]
 QCI Team Leader Sr. UXO Supervisor/Project Manager

269



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 269 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

[Signature]
Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

270



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 270 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

271



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 271 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

272



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 272 NW

III. QCI Results: SAT
5 HITS - MAGNETIC SOIL

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
[Signature] Sr. LXB Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

273



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 273 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Bill Pursino QCI Team Leader Jim Tomiko Sr. LXB Supervisor/Project Manager

274



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 274 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
 QCI Team Leader

[Signature]
 Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

275



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 275 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: *Bill Pursino* QCI Team Leader
Jim Tomiko Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

276



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 276 SW

III. QCI Results: SAT
1 HIT - MAGNETIC SOIL

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

277



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 4 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 277 NE

III. QCI Results: SAT - MAGNETIC ROCKS

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr UXO Supervisor/Project Manager

278



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 4 FEB 97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 278 NW

III. QCI Results: SAT - MAGNETIC ROCKS

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

279



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 4 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 279 NE

III. QCI Results: SAT - MAGNETIC ROCKS

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

[Signature]
Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

280

Quality Conformance Inspection (QCI) Record



UXB International, Inc.

Date: 4 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 280 SE

III. QCI Results: SAT - MAGNETIC ROCKS

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

289



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 7/30/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 281 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

282

Quality Conformance Inspection (QCI) Record



UXB International, Inc.

Date: 2/20/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 282 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

Bill Pursino
QCI Team Leader

Sim Tomiko
Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

283



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/26/99 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 283 CTR

III. QCI Results: SAT
2 HITS MAG Rock

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

284

Quality Conformance Inspection (QCI) Record



UXB International, Inc.

Date: 7/30/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 284 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
 Sr. UXO Supervisor/Project Manager

285



LXB International, Inc.

Quality Conformance Inspection (QCI) Record

Date: 2/19/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 285 SW

III. QCI Results: SAT

1 HIT - METAL PIN FLAG

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

Bill Pursino

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Jim Tomiko

Sr. UXO Supervisor/Project Manager

286

Quality Conformance Inspection (QCI) Record



UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 286 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
Bill Pursino QCI Team Leader
Jim Tomiko Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

787



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 2/19/97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 787 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]

Sr. UXO Supervisor/Project Manager

289



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 3 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 289 CTR

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
 QCI Team Leader

[Signature]
 Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

290



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 3 FEB 97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 290 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature]
Sr. UXO Supervisor/Project Manager

290
291

Quality Conformance Inspection (QCI) Record



UXB International, Inc.

Date: 3 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 291 NW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
Sr. UXO Supervisor/Project Manager

292



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 3 FEB 97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6

Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 292 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature]
QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
Sr. UXO Supervisor/Project Manager

293

Quality Conformance Inspection (QCI) Record



UXB International, Inc.

Date: 3 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 293 SW

III. QCI Results: ~~INCOMPLETE~~: 20+ HITS ON
MAGNETIC ROCKS. DID NOT DIG.

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:
[Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

294



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 3 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 294 SE

III. QCI Results: SAT - 7 MAG ROCK HITS
DUG & CLEARED.

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

[Signature] QCI Team Leader [Signature] Sr. UXO Supervisor/Project Manager

295



UXB International, Inc.

Quality Conformance Inspection (QCI) Record

Date: 3 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 295 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature]
 QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).
[Signature]
 Sr. UXO Supervisor/Project Manager

296



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 3 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 296 NW

III. QCI Results: ~~IT IS~~ GRID HAS TOO MANY
MAGNETIC ROCK CONTACTS.
HAD 20+ HITS THAT WERE NOT DUE

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Bill Pursino Jim Tomiko
 QCI Team Leader Sr. UXO Supervisor/Project Manager

297



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 3 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 297 NE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: [Signature] QCI Team Leader
[Signature] Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

298



Quality Conformance Inspection (QCI) Record

UXB International, Inc.

Date: 3 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 298 CTR

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures: *[Signature]* *[Signature]*
 QCI Team Leader Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

299

Quality Conformance Inspection (QCI) Record



UXB International, Inc.

Date: 3 FEB 97 Time: _____ Contract Number: _____
 Delivery Order Number: 7206.002 Location: CAMP CROFT OOU 6
 Personnel Involved: BILL PURSINO - JIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)
GRID # 299 SE

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

[Signature]
QCI Team Leader

[Signature]
Sr. UXO Supervisor/Project Manager

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

300



Quality Conformance Inspection (QCI) Record

LXB International, Inc.

Date: 3 FEB 97 Time: _____ Contract Number: _____

Delivery Order Number: 7206.002 Location: CAMP CRAFT OOU 6

Personnel Involved: BILL PURSINO - SIM TOMIKO

I. Work Plan Reference: SECTION 4

II. Activity Inspected/Reinspected: (List by task; grid number and assigned team; coordinates or description)

GRID # 300 SW

III. QCI Results: SAT

IV. Corrective Actions Recommended (to include controls to prevent recurrence):

V. Signatures:

Bill Pursino

QCI Team Leader

I acknowledge that I have been briefed on the results of this inspection and will take corrective actions (if necessary).

Tomiko

Sr. UXO Supervisor/Project Manager

**FINAL
OE ENGINEERING DESIGN REPORT
FOR
ORDNANCE OPERABLE UNIT (OOU) 6
FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG, SOUTH CAROLINA**

VOLUME II

DACA87-95-D-0018

DELIVERY ORDER 0009

**PREPARED FOR
U.S. ARMY ENGINEERING AND SUPPORT CENTER
HUNTSVILLE, ALABAMA**

**PREPARED BY
PARSONS ENGINEERING SCIENCE
57 EXECUTIVE PARK SOUTH, NE, SUITE 500
ATLANTA, GEORGIA 30329**

DECEMBER 1997

**APPENDIX G
COST ESTIMATE**

APPENDIX G COST ESTIMATE

G.1 INTRODUCTION

G.1.1 Detailed cost estimates are provided in this section. These cost estimates were prepared based on evaluation of cost for certain tasks that will be performed by a UXO contractor to implement the OE removal alternatives evaluated for each of the Ordnance Operable Unit 6 (OOU6) areas/sectors. These tasks are:

- Site Visit
- Preparation of Work plan (including SSHP)
- Site Management
- Land Survey
- Brush Clearance
- Surface OE Removal
- Scrap Turn-In
- Quality Control
- Preparation of Final Report
- Site Restoration

G.1.2 A summary of the cost estimate for each of the alternatives that were selected after initial screening of alternatives based on effectiveness and implementability in Section 2 (Volume I of the OE Engineering Design Report) is provided in Tables G-1 and G-2. Detailed cost estimates by task and other associated work elements are provided for each of the OOU6 Areas/Sectors in the following sections of this Appendix:

- Section G.2 - Pine Farm,
- Section G.3 - Landfill and Compost Areas
- Section G.4 - Pond Area
- Section G.5 - Natural Brush/Forest.

Each Section contains a summary of the estimated cost for all tasks and a detailed cost breakdown for each task identified above and as applicable to the removal alternative. The estimated cost for the selected removal alternative is provided at the beginning of each section.

**Table G.1
Cost Estimate Table**

Alternative	Roads/Ops Bldg.	Pine Farm	Landfill & Comp. Area	Pond Area	Natural Brush/ Forests A	Natural Brush/ Forest-B
Alt. One	X	80,611 ⁽¹⁾			101,480 ⁽¹⁾	X
Alt. Two						
Alt. Three		270,664		189,583	955,464	
Alt. Four						
Alt. Five						
Alt. Six			241,254			
Alt. Seven		292,565		204,972	1,082,229	
Alt. Eight				225,710		

Notes:

X Denotes no cost are associated

Alternative One - No Further Action

Alternative Two - Institutional Controls

Alternative Three - Surface Clearance of OE

Alternative Four - Surface Clearance of OE and Institutional Controls

Alternative Five - Surface Clearance of OE with Subsurface Clearance of Selected Areas to a Depth of One Foot

Alternative Six - Surface Clearance of OE with Subsurface Clearance of Selected Areas to a Depth of Four Feet

Alternative Seven - Surface Clearance of OE with Subsurface Clearance of Entire Area to a Depth of One Foot

Alternative Eight - Surface Clearance of OE with Subsurface Clearance of Entire Area to a Depth of Four Feet

(1) Alternative One - No Further Action Alternative with Limited Action

\$225,710 - Estimated Cost for the selected (per Corps of Engineers selection) removal alternative.

Table G.2

Cost by Task											
SECTORS	Site Visit	Work Plan	Site Management	Land Survey	Brush Clearance	OE Removal	Scrap Turn-in	Quality Control	Final Report	Site Remediation	Summary
Pine Farm - Alt 1 ⁽¹⁾	Not Req.	14,911	18,461	10,070	Not Req.	8,538	1,467	6,319	11,666	300	71,732
Pine Farm - Alt 1 ⁽²⁾	Not Req.	16,958	19,910	10,274	Not Req.	12,718	1,654	7,131	11,666	300	80,611
Pine Farm - Alt 3	9,208	18,522	85,109	25,134	51,181	50,168	2,533	13,466	14,843	500	270,664
Pine Farm - Alt 7	9,208	19,922	90,837	25,291	55,511	57,573	2,533	14,947	16,243	500	292,565
Landfill - Alt 6	Not Req.	14,911	27,672	10,574	17,008	16,206	1,484	12,009	11,666	Not Req.	111,530
Landfill ⁽³⁾	Not Req.	14,911	68,850	21,495	48,749	51,459	2,556	18,768	14,466	Not Req.	241,254
Pond Area - Alt 3	Not Req.	18,522	66,676	18,640	15,699	38,050	1,561	18,922	11,213	300	189,583
Pond Area - Alt 7	Not Req.	18,522	72,234	18,640	15,699	42,898	1,561	20,275	14,843	300	204,972
Pond Area - Alt 8	Not Req.	18,522	74,197	18,640	15,699	53,861	2,533	27,115	14,843	300	225,710
N Forests - Alt 1 ⁽⁴⁾	Not Req.	14,911	17,807	8,870	15,439	11,694	1,484	6,500	11,665	300	88,670
N Forests - Alt 1 ⁽⁵⁾	Not Req.	14,911	22,103	8,870	15,439	17,197	1,981	9,011	11,666	300	101,478
N Forests - Alt 3	9,208	18,522	120,717	111,654	373,237	272,997	2,533	31,253	14,843	500	955,464
N Forests - Alt 7	9,208	23,065	128,694	111,654	457,796	299,541	2,533	34,395	14,843	500	1,082,229

(1) No Further Action with Limited Action (Surface and Subsurface Clearance of OE Over a Selected Area to a Depth of One Foot).

(2) No Further Action with Limited Action (Surface and Subsurface Clearance of OE Over a Selected Area to a Depth of Four Feet). selected area is the future storage barn (<0.5 acres)

(3) Surface Clearance of OE and Subsurface Clearance of Selected Area to a Depth of Four Feet (includes Landfill 2).

(4) No Further Action with Limited Action (Surface clearance of OE).

(5) No Further Action with Limited Action (Surface clearance of OE and subsurface clearance to a depth of four feet) at Compost B.

* The selected removal alternatives are highlighted.

SECTION G-2
COST ESTIMATE FOR THE PINE FARM

SELECTED REMOVAL ALTERNATIVE

Pine Farm [Storage Barn Area]

Alternative 1 - No Further Action with Limited Action (Surface and Subsurface Clearance of OE Over a Selected Area to a Depth of Four Feet)

Alternative 1 provides for a complete OE surface and subsurface clearance of the 0.5 acre area (area designated for future construction of a storage barn within the Pine Farm) to a depth of four feet. Because the surface clearance will be performed concurrently with the subsurface clearance, the cost for the surface clearance is included in the subsurface costs. The work schedule is based on working four 10-hour days per work week. Where possible, local laborers are used to reduce per diem and labor cost. Per diem costs for labors is assumed to be one-half the JTR rate. It is assumed that no brush clearance is required in this area because available information indicates the area has recently been cleared of brush. During the Engineering Design effort, a number of production rates have been proportionally increased to account for this effort. The land survey effort was not adjusted, as grids established during the Engineering Design initiative add no value to the removal action. Typically, a survey team can survey twenty 100' X 100' grids per day. Given the erratic terrain and vegetation present in grids, the survey production rate was held to 14 grids per day. The work is to be performed on privately owned property. A site restoration line item has been included in this estimate to account for funds to return the site to near original condition. Due to limited field scope and duration, a site visit and site trailer/office will not be necessary and has therefore been eliminated from this cost estimate.

Total Acreage to Surface Clear:	0.5 acre/2 grids (100' x 100')
Total Acreage Previously Geophysically Investigated:	.20 acre
Adjusted acreage:	.30 acre
Adjusted number of grids	2
Grids Requiring Brush Clearance	0 grids
Search Grid Size: 100' X 100'	0.22 acres per grid
Number of Grids requiring brush clearance:	0

Production Rates:

Brush Clearance	(no brush clearance required)
Land Survey	14 grids per day per two person team (1 team)
Surface Clearance	5 grids per workday (.5 acres) per 5 person team (1 team).

Duration:

Project Management	5 working days/1.25 weeks
Brush Clearance	None
Land Survey	3 working days/.75 week (one team)
Surface Clearance	5 working days/1.25 weeks (one five-person team)
Disposal	Effort included in Surface Clearance
Quality Control	4 working days/1 week (2-person team)
Total Project Duration	5 working days/1.25 weeks

NFA with Limited OE Surface & Subsurface Clearance of Selected Area to Four Feet - Alt 1

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm - Clearance of OE
Future Storage Barn

Summary

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Summary	
						Estimated Hours	Amount
Program Management I		82.06				30.70	2,519.24
Project Manager III		76.92				50.40	3,876.77
Project Manager II		66.67				159.00	10,600.53
Certified Industrial Hygienist		74.81				14.00	1,047.34
Engineer II		76.92				51.70	3,976.76
Survey Manager		56.42				86.60	5,450.17
Surveyor V		46.16				31.50	1,454.04
<hr/>							
Quality Control Specialist	Regular	47.04				40.00	1,881.60
Site Safety Officer	Regular	47.04				48.00	2,257.92
UXO Supervisor/Tech VI	Regular	53.29				96.00	5,115.84
UXO Supervisor/Tech V	Regular	47.04				50.00	2,352.00
UXO Technician IV	Regular	40.49				212.00	8,583.88
UXO Technician III	Regular	34.10				76.00	2,591.60
Laborer II	Regular	28.65				-	-
Subtotal - Labor						955.90	51,707.69

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Summary	
				Estimated Hours	Amount
FM Radio, Handheld w/ charger	25.69				115.61
FM Radio Repeater/Base Station	44.97				1,169.22
Cellular Telephone and Service	64.24				417.56
Video Camera	32.12				208.78
Computer	96.36				794.97
Brushcutter, power	96.36				-
Chainsaw	64.24				-
EOD Demolition Kit	51.39				51.39
Foester Ferrex Ordnance Locator	385.43				-
Schonstedt Magnetic Locator	51.39				552.44
Explosive Storage magazine	44.97				876.92
Carrier Phase GPS	899.35				899.35
Surveyor's Kit	64.24				48.18
Total Station Survey Equipment	835.11				835.11
Ford Explorer	321.20				963.60
Pickup, 4x4, 3/4 Ton	449.67				112.42
Air Fare - Round Trip	1,220.54				9,764.32
Mileage	0.40				300.00
Fuel	1.74				318.42
Lodging	88.09				3,064.05
Meals and Incidentals	38.55				1,773.30
Project Consumables	192.72				2,457.18
Printing and Binding	205.56				1,438.92
Shipping	154.17				616.68
Site Trailer	963.59				-
Electrical Hook Up	1,927.17				-
Magazine Fencing	899.35				899.35
Magazine Mobilization	770.87				770.87
Donor Explosives	1,541.74				154.17
Site Remediation - Pine Farm	300.00				300.00
Subtotal - Other Direct Costs					28,902.81
Total Estimated Costs					80,610.50

NFA with Limited OE Surface & Subsurface CI

Corps of Engineers
 Camp Croft, Spartenburg, S.C.
 Engineering Design Cost Estimate
 Pine Farm - Clearance of OE
 Future Storage Barn

Task 1
 Site Visit

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	-	-	-	-	-
Project Manager III		76.92	-	-	-	-	-
Project Manager II		66.67	-	-	-	-	-
Certified Industrial Hygienist		74.81	-	-	-	-	-
Engineer II		78.92	-	-	-	-	-
Survey Manager		58.42	-	-	-	-	-
Surveyor V		46.16	-	-	-	-	-
Quality Control Specialist	Regular	47.04	-	-	-	-	-
Site Safety Officer	Regular	47.04	-	-	-	-	-
UXO Supervisor/Tech VI	Regular	53.29	-	-	-	-	-
UXO Supervisor/Tech V	Regular	47.04	-	-	-	-	-
UXO Technician IV	Regular	40.49	-	-	-	-	-
UXO Technician III	Regular	34.10	-	-	-	-	-
Laborer II	Regular	28.85	-	-	-	-	-
Subtotal - Labor							-
<hr/>							
Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69					-
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24		-	-		-
Video Camera		32.12		-	-		-
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrax Ordnance Locator		385.43		-	-		-
Schonstedt Magnetic Locator		51.39		-	-		-
Explosive Storage magazine		44.97		-	-		-
Carrier Phase GPS		899.35		-	-		-
Surveyor's Kit		64.24		-	-		-
Total Station Survey Equipment		835.11		-	-		-
Ford Explorer		321.20		-	-		-
Pickup, 4x4, 3/4 Ton		449.67		-	-		-
Air Fare - Round Trip		1,220.54		-	-		-
Mileage		0.40		-	-		-
Fuel		1.74		-	-		-
Lodging		68.09		-	-		-
Meals and Incidentals		38.55		-	-		-
Project Consumables		192.72		-	-		-
Printing and Binding		205.56		-	-		-
Shipping		154.17		-	-		-
Site Trailer		963.59		-	-		-
Electrical Hook Up		1,927.17		-	-		-
Magazine Fencing		899.35		-	-		-
Magazine Mobilization		770.87		-	-		-
Donor Explosives		1,541.74		-	-		-
Site Remediation - Pine Farm		300.00		-	-		-
Subtotal - Other Direct Costs							-
Total Estimated Costs							-

NFA with Limited OE Surface & Subsurface CI
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Pine Farm - Clearance of GE
 Future Storage Barn

Task 2
 Work Plan

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.50	1.00	20.20	1,657.61
Project Manager III		76.92				-	-
Project Manager II		68.67	42.00	2.00	1.00	75.00	5,000.25
Certified Industrial Hygienist		74.81	40.00	0.30	1.00	14.00	1,047.34
Engineer II		78.92	42.00	0.50	1.00	20.20	1,553.78
Survey Manager		58.42	42.00	0.60	1.00	25.20	1,421.78
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	1.00	1.00	38.00	1,918.44
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.85				-	-
Subtotal - Labor						180.60	12,599.20

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	98.36	1.00	1.00	98.36
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	1.00	1,220.54
Mileage	0.40	50.00	1.00	20.00
Fuel	1.74	1.00	40.00	69.60
Lodging	68.09	8.00	1.00	408.54
Meals and Incidentals	38.55	7.00	1.00	269.85
Project Consumables	192.72	8.00	1.00	1,541.76
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	983.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				4,358.97
Total Estimated Costs				18,958.17

NFA with Limited OE Surface & Subsurface CI
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Pine Farm - Clearance of OE
 Future Storage Barn

Task 3
 Site Management

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92	41.00	1.25	1.00	50.40	3,876.77
Project Manager II		68.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04	40.00	1.20	1.00	48.00	2,257.92
UXO Supervisor/Tech VI	Regular	53.29	40.00	1.20	1.00	48.00	2,557.92
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						146.40	8,692.61

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97	6.50	4.00	1,169.22
Cellular Telephone and Service	64.24	6.50	1.00	417.56
Video Camera	32.12	6.50	1.00	208.78
Computer	96.36	6.50	1.00	626.34
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97	6.50	3.00	876.92
Carrier Phase GPS	699.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	3.00	3,661.62
Mileage	0.40	500.00	1.00	200.00
Fuel	1.74	35.00	1.00	60.90
Lodging	68.09	5.00	2.00	680.90
Meals and Incidentals	38.55	5.00	2.00	385.50
Project Consumables	192.72	2.00	1.00	385.44
Printing and Binding	205.56	2.00	1.00	411.12
Shipping	154.17	1.00	3.00	462.51
Site Trailer	963.59	-	1.00	-
Electrical Hook Up	1,927.17	-	1.00	-
Magazine Fencing	699.35	1.00	1.00	699.35
Magazine Mobilization	770.87	1.00	1.00	770.87
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				11,217.03
Total Estimated Costs				19,909.64

NFA with Limited OE Surface & Subsurface CI
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Pine Farm - Clearance of OE
 Future Storage Barn

Task 4

Land Survey

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42	42.00	0.70	1.00	29.40	1,658.75
Surveyor V		46.18	42.00	0.75	1.00	31.50	1,454.04
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	0.85	1.00	36.00	1,227.60
Laborer II	Regular	28.65				-	-
Subtotal - Labor						96.80	4,340.39
Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69		0.75	2.00		38.54
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36		0.75	1.00		72.27
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39		0.75	1.00		38.54
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35		0.50	2.00		899.35
Surveyor's Kit		64.24		0.75	1.00		48.18
Total Station Survey Equipment		835.11		1.00	1.00		835.11
Ford Explorer		321.20		1.00	1.00		321.20
Pickup, 4x4, 3/4 Ton		449.67					-
Air Fare - Round Trip		1,220.54		1.00	2.00		2,441.08
Mileage		0.40		50.00	2.00		40.00
Fuel		1.74		32.00	1.00		55.68
Lodging		68.09		3.00	2.00		408.54
Meals and Incidentals		38.55		3.00	2.00		231.30
Project Consumables		192.72		0.75	1.00		144.54
Printing and Binding		205.56		1.00	1.00		205.56
Shipping		154.17		1.00	1.00		154.17
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs						5,934.06	
Total Estimated Costs							10,274.45

NFA with Limited OE Surface & Subsurface CI

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Task 5
 Brush Clearance

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	-	-	-	-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65	-	-	-	-	-
Subtotal - Labor							-
<hr/>							
Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69		-	-		-
FM Radio Repeater/Base Station		44.97		-	-		-
Cellular Telephone and Service		64.24		-	-		-
Video Camera		32.12		-	-		-
Computer		96.36		-	-		-
Brushcutter, power		96.36		-	-		-
Chainsaw		64.24		-	-		-
EOD Demolition Kit		51.39		-	-		-
Foester Ferrex Ordnance Locator		385.43		-	-		-
Schonstedt Magnetic Locator		51.39		-	-		-
Explosive Storage magazine		44.97		-	-		-
Carrier Phase GPS		899.35		-	-		-
Surveyor's Kit		64.24		-	-		-
Total Station Survey Equipment		835.11		-	-		-
Ford Explorer		321.20		-	-		-
Pickup, 4x4, 3/4 Ton		449.67		-	-		-
Air Fare - Round Trip		1,220.54		-	-		-
Mileage		0.40		-	-		-
Fuel		1.74		-	-		-
Lodging		68.09		-	-		-
Meals and Incidentals		36.55		-	-		-
Project Consumables		192.72		-	-		-
Printing and Binding		205.58		-	-		-
Shipping		154.17		-	-		-
Site Trailer		963.59		-	-		-
Electrical Hook Up		1,927.17		-	-		-
Magazine Fencing		899.35		-	-		-
Magazine Mobilization		770.87		-	-		-
Donor Explosives		1,541.74		-	-		-
Site Remediation - Pine Farm		300.00		-	-		-
Subtotal - Other Direct Costs							-
Total Estimated Costs							-

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Task 6
 Surface OE Removal

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.87				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04	40.00	1.25	1.00	50.00	2,352.00
UXO Technician IV	Regular	40.49	40.00	1.25	4.00	200.00	8,098.00
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.85				-	-
Subtotal - Labor						250.00	10,450.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.89	1.00	2.00	51.38
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39	1.00	1.00	51.39
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	1.00	8.00	411.12
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09	3.00	5.00	1,021.35
Meals and Incidentals	38.55	3.00	5.00	578.25
Project Consumables	182.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74	0.50	0.20	154.17
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				2,267.86
Total Estimated Costs				12,717.66

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Task 7
 Scrap Turn-In

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.25	1.00	12.00	639.48
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	0.25	1.00	12.00	485.88
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						24.00	1,125.36

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	1.00	0.25	112.42
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74	6.00	1.00	10.44
Lodging	68.09	1.00	2.00	136.18
Meals and Incidentals	38.55	1.00	2.00	77.10
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,827.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.67			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				528.66
Total Estimated Costs				1,654.22

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Task 8
 Quality Control

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.08				-	-
Project Manager III		78.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		78.92				-	-
Survey Manager		58.42				-	-
Surveyor V		48.18				-	-
Quality Control Specialist	Regular	47.04	40.00	1.00	1.00	40.00	1,881.60
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	1.00	1.00	40.00	1,364.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						80.00	3,245.60
Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69		1.00	1.00		25.69
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		84.24					-
Video Camera		32.12					-
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39		1.00	2.00		102.78
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20		1.00	1.00		321.20
Pickup, 4x4, 3/4 Ton		449.67					-
Air Fare - Round Trip		1,220.54		1.00	2.00		2,441.08
Mileage		0.40		50.00	2.00		40.00
Fuel		1.74		35.00	2.00		121.80
Lodging		68.09		3.00	2.00		408.54
Meals and Incidentals		38.55		3.00	2.00		231.30
Project Consumables		192.72		1.00	1.00		192.72
Printing and Binding		205.56					-
Shipping		154.17					-
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs							3,885.11
Total Estimated Costs							7,130.71

NFA with Limited OE Surface & Subsurface CI

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Task 9
Final Report

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.25	1.00	10.50	861.63
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	2.00	1.00	84.00	5,600.28
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92	42.00	0.75	1.00	31.50	2,422.98
Survey Manager		58.42	42.00	1.00	1.00	42.00	2,369.64
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.85				-	-
Subtotal - Labor						168.00	11,254.53
Other Direct Costs		Loaded Rate	Number Weeks	Number Units		Amount	
FM Radio, Handheld w/ charger		25.69				-	
FM Radio Repeater/Base Station		44.97				-	
Cellular Telephone and Service		64.24				-	
Video Camera		32.12				-	
Computer		96.36				-	
Brushcutter, power		96.36				-	
Chainsaw		64.24				-	
EOD Demolition Kit		51.39				-	
Foester Ferrex Ordnance Locator		385.43				-	
Schonstedt Magnetic Locator		51.39				-	
Explosive Storage magazine		44.97				-	
Garmin Phase GPS		899.35				-	
Surveyor's Kit		64.24				-	
Total Station Survey Equipment		835.11				-	
Ford Explorer		321.20				-	
Pickup, 4x4, 3/4 Ton		449.67				-	
Air Fare - Round Trip		1,220.54				-	
Mileage		0.40				-	
Fuel		1.74				-	
Lodging		68.09				-	
Meals and Incidentals		38.55				-	
Project Consumables		192.72				-	
Printing and Binding		205.56	1.00	2.00		411.12	
Shipping		154.17				-	
Site Trailer		963.59				-	
Electrical Hook Up		1,927.17				-	
Magazine Fencing		899.35				-	
Magazine Mobilization		770.87				-	
Donor Explosives		1,541.74				-	
Site Remediation - Pine Farm		300.00				-	
Subtotal - Other Direct Costs						411.12	
Total Estimated Costs						11,665.65	

NFA with Limited OE Surface & Subsurface CI
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Task 10
 Site Restoration

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		48.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor							-

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00	1.00	1.00	300.00
Subtotal - Other Direct Costs				300.00
Total Estimated Costs				300.00

EVALUATED REMOVAL ALTERNATIVES

Pine Farm [Storage Barn Area]

Alternative 1 - No Further Action with Limited Action (Surface and Subsurface Clearance of OE Over a Selected Area to a Depth of One Foot)

Alternative 1 provides for a complete OE surface and subsurface clearance of the 0.5 acre area (area designated for future construction of a storage barn within the Pine Farm) to a depth of one foot. Because the surface clearance will be performed concurrently with the subsurface clearance, the cost for the surface clearance is included in the subsurface costs. The work schedule is based on working four 10-hour days per work week. Where possible, local laborers are used to reduce per diem and labor cost. Per diem costs for labors is assumed to be one-half the JTR rate. It is assumed that no brush clearance is required in this area because available information indicates the area has recently been cleared of brush. During the Engineering Design effort, a number of production rates have been proportionally increased to account for this effort. The land survey effort was not adjusted, as grids established during the Engineering Design initiative add no value to the removal action. Typically, a survey team can survey twenty 100' X 100' grids per day. Given the erratic terrain and vegetation present in grids, the survey production rate was held to 14 grids per day. The work is to be performed on privately owned property. A site restoration line item has been included in this estimate to account for funds to return the site to near original condition. Due to limited field scope and duration, a site visit and site trailer/office will not be necessary and has therefore been eliminated from this cost estimate.

Total Acreage to Surface Clear:	0.5 acre/2 grids (100' x 100')
Total Acreage Previously Geophysically Investigated:	.20 acre
Adjusted acreage:	.30 acre
Adjusted number of grids	2
Grids Requiring Brush Clearance	0 grids
Search Grid Size: 100' X 100'	0.22 acres per grid
Number of Grids requiring brush clearance:	0

Production Rates:

Brush Clearance	(no brush clearance required)
Land Survey	14 grids per day per two person team (1 team)
Surface Clearance	5 grids per workday (.5 acres) per 5 person team (1 team).

Duration:

Project Management	4 working days/1 weeks
Brush Clearance	None
Land Survey	3 working days/.75 weeks (one team)
Surface Clearance	3 working days/.75 weeks (one five-person team)
Disposal	Effort included in Surface Clearance
Quality Control	3 working days/.75 week (2-person team)
Total Project Duration	4 working days/1 weeks

NFA with Limited OE Surface & Subsurface Clearance of Selected Area to 1 foot - Alt 1

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Summary

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Summary	
					Estimated Hours	Amount
Program Management I	82.06				27.30	2,240.24
Project Manager III	76.92				42.00	3,230.64
Project Manager II	66.67				147.00	9,800.49
Certified Industrial Hygienist	74.81				12.00	897.72
Engineer II	76.92				48.30	3,715.24
Survey Manager	56.42				92.40	5,213.21
Surveyor V	46.16				31.50	1,454.04
Quality Control Specialist	Regular 47.04				30.00	1,411.20
Site Safety Officer	Regular 47.04				40.00	1,881.60
UXO Supervisor/Tech VI	Regular 53.29				80.00	4,263.20
UXO Supervisor/Tech V	Regular 47.04				30.00	1,411.20
UXO Technician IV	Regular 40.49				130.00	5,263.70
UXO Technician III	Regular 34.10				60.00	2,046.00
Laborer II	Regular 28.65				-	-
Subtotal - Labor					770.50	42,828.48

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			115.61
FM Radio Repeater/Base Station	44.97			1,169.22
Cellular Telephone and Service	64.24			417.56
Video Camera	32.12			208.78
Computer	96.36			794.97
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			51.39
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			552.44
Explosive Storage magazine	44.97			876.92
Carrier Phase GPS	899.35			899.35
Surveyor's Kit	64.24			48.18
Total Station Survey Equipment	835.11			835.11
Ford Explorer	321.20			963.60
Pickup, 4x4, 3/4 Ton	449.67			112.42
Air Fare - Round Trip	1,220.54			9,764.32
Mileage	0.40			300.00
Fuel	1.74			318.42
Lodging	68.09			3,064.05
Meals and Incidentals	38.55			1,773.30
Project Consumables	192.72			2,457.18
Printing and Binding	205.56			1,438.92
Shipping	154.17			616.68
Site Trailer	983.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			899.35
Magazine Mobilization	770.87			770.87
Donor Explosives	1,541.74			154.17
Site Remediation - Pine Farm	300.00			300.00
Subtotal - Other Direct Costs				28,902.81
Total Estimated Costs				71,731.29

NFA with Limited OE Surface & Subsurface

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 Future Storage Barn

Task 1
 Site Visit

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	-	-	-	-	-
Project Manager III		76.92	-	-	-	-	-
Project Manager II		66.67	-	-	-	-	-
Certified Industrial Hygienist		74.81	-	-	-	-	-
Engineer II		76.92	-	-	-	-	-
Survey Manager		56.42	-	-	-	-	-
Surveyor V		46.16	-	-	-	-	-
Quality Control Specialist	Regular	47.04	-	-	-	-	-
Site Safety Officer	Regular	47.04	-	-	-	-	-
UXO Supervisor/Tech VI	Regular	53.29	-	-	-	-	-
UXO Supervisor/Tech V	Regular	47.04	-	-	-	-	-
UXO Technician IV	Regular	40.49	-	-	-	-	-
UXO Technician III	Regular	34.10	-	-	-	-	-
Laborer II	Regular	28.65	-	-	-	-	-
Subtotal - Labor							-

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	-	-	-
FM Radio Repeater/Base Station	44.97	-	-	-
Cellular Telephone and Service	64.24	-	-	-
Video Camera	32.12	-	-	-
Computer	96.36	-	-	-
Brushcutter, power	96.36	-	-	-
Chainsaw	64.24	-	-	-
EOD Demolition Kit	51.39	-	-	-
Foester Ferrex Ordnance Locator	385.43	-	-	-
Schonstedt Magnetic Locator	51.39	-	-	-
Explosive Storage magazine	44.97	-	-	-
Carrier Phase GPS	899.35	-	-	-
Surveyor's Kit	64.24	-	-	-
Total Station Survey Equipment	635.11	-	-	-
Ford Explorer	321.20	-	-	-
Pickup, 4x4, 3/4 Ton	449.67	-	-	-
Air Fare - Round Trip	1,220.54	-	-	-
Mileage	0.40	-	-	-
Fuel	1.74	-	-	-
Lodging	68.09	-	-	-
Meals and Incidentals	38.55	-	-	-
Project Consumables	192.72	-	-	-
Printing and Binding	205.56	-	-	-
Shipping	154.17	-	-	-
Site Trailer	963.59	-	-	-
Electrical Hook Up	1,927.17	-	-	-
Magazine Fencing	899.35	-	-	-
Magazine Mobilization	770.87	-	-	-
Donor Explosives	1,541.74	-	-	-
Site Remediation - Pine Farm	300.00	-	-	-
Subtotal - Other Direct Costs				-
Total Estimated Costs				-

NFA with Limited OE Surface & Subsurface
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Task 2
Work Plan

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.40	1.00	16.80	1,378.61
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	1.50	1.00	63.00	4,200.21
Certified Industrial Hygienist		74.81	40.00	0.30	1.00	12.00	897.72
Engineer II		78.92	42.00	0.40	1.00	16.80	1,292.26
Survey Manager		56.42	42.00	0.50	1.00	21.00	1,184.82
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.75	1.00	30.00	1,598.70
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						159.60	10,552.32

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	1.00	1.00	96.36
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	1.00	1,220.54
Mileage	0.40	50.00	1.00	20.00
Fuel	1.74	1.00	40.00	69.60
Lodging	68.09	6.00	1.00	408.54
Meals and Incidentals	38.55	7.00	1.00	269.85
Project Consumables	192.72	8.00	1.00	1,541.76
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,827.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				4,358.97
Total Estimated Costs				14,911.29

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**Task 3
Site Management**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		78.92	42.00	1.00	1.00	42.00	3,230.64
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		58.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04	40.00	1.00	1.00	40.00	1,881.60
UXO Supervisor/Tech VI	Regular	53.29	40.00	1.00	1.00	40.00	2,131.60
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						122.00	7,243.84

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97	8.50	4.00	1,169.22
Cellular Telephone and Service	64.24	8.50	1.00	417.56
Video Camera	32.12	8.50	1.00	208.78
Computer	96.36	8.50	1.00	826.34
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foster Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97	8.50	3.00	876.92
Comer Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	3.00	3,661.62
Mileage	0.40	500.00	1.00	200.00
Fuel	1.74	35.00	1.00	60.90
Lodging	88.09	5.00	2.00	680.90
Meals and Incidentals	38.55	5.00	2.00	385.50
Project Consumables	192.72	2.00	1.00	385.44
Printing and Binding	205.58	2.00	1.00	411.12
Shipping	154.17	1.00	3.00	462.51
Site Trailer	963.59	-	1.00	-
Electrical Hook Up	1,927.17	-	1.00	-
Magazine Fencing	899.35	1.00	1.00	899.35
Magazine Mobilization	770.87	1.00	1.00	770.87
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				11,217.03
Total Estimated Costs				18,460.87

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Task 4

Land Survey

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		78.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42	42.00	0.70	1.00	29.40	1,658.75
Surveyor V		46.16	42.00	0.75	1.00	31.50	1,454.04
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	0.75	1.00	30.00	1,023.00
Laborer II	Regular	28.85				-	-
Subtotal - Labor						90.90	4,135.79

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	0.75	2.00	38.54
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	0.75	1.00	72.27
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	0.75	1.00	38.54
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35	0.50	2.00	899.35
Surveyor's Kit	64.24	0.75	1.00	48.18
Total Station Survey Equipment	835.11	1.00	1.00	835.11
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	32.00	1.00	55.68
Lodging	68.09	3.00	2.00	408.54
Meals and Incidentals	38.55	3.00	2.00	231.30
Project Consumables	192.72	0.75	1.00	144.54
Printing and Binding	205.56	1.00	1.00	205.56
Shipping	154.17	1.00	1.00	154.17
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				5,934.06
Total Estimated Costs				10,069.85

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Task 5
 Brush Clearance

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	-	-	-	-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor							-

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	-	-	-
FM Radio Repeater/Base Station	44.97	-	-	-
Cellular Telephone and Service	64.24	-	-	-
Video Camera	32.12	-	-	-
Computer	96.36	-	-	-
Brushcutter, power	96.36	-	-	-
Chainsaw	64.24	-	-	-
EOO Demolition Kit	51.39	-	-	-
Foester Ferrex Ordnance Locator	385.43	-	-	-
Schonstedt Magnetic Locator	51.39	-	-	-
Explosive Storage magazine	44.97	-	-	-
Carrier Phase GPS	889.35	-	-	-
Surveyor's Kit	64.24	-	-	-
Total Station Survey Equipment	835.11	-	-	-
Ford Explorer	321.20	-	-	-
Pickup, 4x4, 3/4 Ton	449.67	-	-	-
Air Fare - Round Trip	1,220.54	-	-	-
Mileage	0.40	-	-	-
Fuel	1.74	-	-	-
Lodging	68.09	-	-	-
Meals and Incidentals	38.55	-	-	-
Project Consumables	192.72	-	-	-
Printing and Binding	205.56	-	-	-
Shipping	154.17	-	-	-
Site Trailer	963.59	-	-	-
Electrical Hook Up	1,927.17	-	-	-
Magazine Fencing	889.35	-	-	-
Magazine Mobilization	770.87	-	-	-
Donor Explosives	1,541.74	-	-	-
Site Remediation - Pine Farm	300.00	-	-	-
Subtotal - Other Direct Costs				-
Total Estimated Costs				-

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Task 6
Surface OE Removal

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04	40.00	0.75	1.00	30.00	1,411.20
UXO Technician IV	Regular	40.49	40.00	0.75	4.00	120.00	4,858.80
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						150.00	6,270.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	1.00	2.00	51.38
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39	1.00	1.00	51.39
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	1.00	8.00	411.12
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09	3.00	5.00	1,021.35
Meals and Incidentals	38.55	3.00	5.00	578.25
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74	0.50	0.20	154.17
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				2,287.66
Total Estimated Costs				8,537.66

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Task 7
 Scrap Turn-In

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		86.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.25	1.00	10.00	532.90
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	0.25	1.00	10.00	404.90
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						20.00	937.80

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	1.00	0.25	112.42
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74	6.00	1.00	10.44
Lodging	68.09	1.00	2.00	136.18
Meals and Incidentals	38.55	1.00	2.00	77.10
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				528.66
Total Estimated Costs				1,466.66

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**Task 6
Quality Control**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		78.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		48.16				-	-
Quality Control Specialist	Regular	47.04	40.00	0.75	1.00	30.00	1,411.20
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	0.75	1.00	30.00	1,023.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						60.00	2,434.20

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	1.00	1.00	25.69
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	1.00	2.00	102.78
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	35.00	2.00	121.80
Lodging	88.09	3.00	2.00	408.54
Meals and Incidentals	38.55	3.00	2.00	231.30
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				3,885.11
Total Estimated Costs				6,319.31

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**Task 9
Final Report**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.25	1.00	10.50	861.63
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	2.00	1.00	84.00	5,600.28
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92	42.00	0.75	1.00	31.50	2,422.98
Survey Manager		56.42	42.00	1.00	1.00	42.00	2,369.64
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.85				-	-
Subtotal - Labor						168.00	11,254.53

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	98.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				411.12
Total Estimated Costs				11,665.65

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Task 10
 Site Restoration

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount	
Program Management I		82.06				-	-	
Project Manager III		76.92				-	-	
Project Manager II		66.67				-	-	
Certified Industrial Hygienist		74.81				-	-	
Engineer II		76.92				-	-	
Survey Manager		56.42				-	-	
Surveyor V		46.16				-	-	
Quality Control Specialist	Regular	47.04				-	-	
Site Safety Officer	Regular	47.04				-	-	
UXO Supervisor/Tech VI	Regular	53.29				-	-	
UXO Supervisor/Tech V	Regular	47.04				-	-	
UXO Technician IV	Regular	40.49				-	-	
UXO Technician III	Regular	34.10				-	-	
Laborer II	Regular	28.65				-	-	
Subtotal - Labor							-	-

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonsted Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.87			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meats and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00	1.00	1.00	300.00
Subtotal - Other Direct Costs				300.00
Total Estimated Costs				300.00

Pine Farm

Alternative 3 - Surface Clearance of OE

Alternative 3 requires a complete OE surface clearance of 38.94 acres. Electronic detection instruments are necessary to detect OE hidden from view by high grasses and terrain. The work schedule is based on working four 10-hour days per work week. Where possible, local laborers are used to reduce per diem and labor cost. Per diem costs for labors is assumed to be one-half the JTR rate. Brush clearing efforts are extensive and based solely on the production achieved during the Engineering Design effort. It is assumed that 80% of the total grids will require brush clearance. During the Engineering Design effort, 2.47 acres were geophysically investigated to a depth of 4 feet. Brush clearance and surface clearance production rates have been proportionally increased to account for the effort previously completed. The land survey effort was not adjusted, as grids established during the Engineering Design initiative add no value to the removal action. Typically, a survey team can survey twenty 100' X 100' grids per day. Given the erratic terrain and vegetation at Camp Croft, this estimate was held to 14 grids per day. A site restoration line item has been included in this estimate to account for funds to re-seed and return the site to near original condition.

Total Acreage/grids to Surface Clear:	38.94 acres/170 (100' X100') search grids
Total Acreage Previously Geophysically Investigated:	2.47
Adjusted acreage:	36.47 acres
Adjusted number of grids	136
Grids Requiring Brush Clearance	108 grids/24.79 acres
Search Grid Size: 100' X 100'	.22 acres per grid

Production Rates:

Brush Clearance	3 grids per day per four man team (6 grids per day)
Land Survey	14 grids per day per two person team (1 team)
Surface Clearance	8.71 grids per day (2 acres) per 5 person team (2 teams@17.42 grids per workday)

Duration:

Project Management	26 working days/6.5 weeks
Land Survey	13 working days/3.25 weeks (one team)
Brush Clearance	14 working days/3.5 weeks -- 4 grids per work day per four-person team (two teams @ 8 grids per workday)
Surface Clearance	7.81 (8) working days/2 weeks (two five-person teams)
Disposal	Effort included in Surface Clearance
Quality Control	8 working days/2 weeks (2 person team)
Total Duration	26 Working Days/6.5 weeks

Surface Clearance of OE - Alternative 3

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm - Surface Clearance of OE

Labor Category		Summary					
		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				39.90	3,274.19
Project Manager III		78.92				273.00	20,999.16
Project Manager II		66.67				201.60	13,440.67
Certified Industrial Hygienist		74.81				16.00	1,198.96
Engineer II		76.92				63.00	4,845.96
Survey Manager		56.42				159.60	9,004.63
Surveyor V		46.16				136.50	6,300.84
Quality Control Specialist	Regular	47.04				80.00	3,763.20
Site Safety Officer	Regular	47.04				260.00	12,230.40
UXO Supervisor/Tech VI	Regular	53.29				352.00	18,758.08
UXO Supervisor/Tech V	Regular	47.04				180.00	7,528.40
UXO Technician IV	Regular	40.49				940.00	38,060.60
UXO Technician III	Regular	34.10				210.00	7,161.00
Laborer II	Regular	28.65				840.00	24,066.00
Subtotal - Labor						3,731.60	170,628.09

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			500.96
FM Radio Repeater/Base Station	44.97			1,169.22
Cellular Telephone and Service	64.24			468.95
Video Camera	32.12			234.48
Computer	96.36			1,035.87
Brushcutter, power	96.36			1,349.04
Chainsaw	64.24			449.68
EOD Demolition Kit	51.39			102.78
Foester Ferrex Ordnance Locator	365.43			308.34
Schonstedt Magnetic Locator	51.39			1,554.55
Explosive Storage magazine	44.97			876.92
Carrier Phase GPS	899.35			899.35
Surveyor's Kit	64.24			208.78
Total Station Survey Equipment	835.11			626.33
Ford Explorer	321.20			8,784.82
Pickup, 4x4, 3/4 Ton	449.67			3,260.11
Air Fare - Round Trip	1,220.54			12,205.40
Mileage	0.40			980.00
Fuel	1.74			2,385.54
Lodging	68.09			29,585.11
Meals and Incidentals	38.55			17,019.63
Project Consumables	192.72			7,535.35
Printing and Binding	205.56			1,438.92
Shipping	154.17			616.68
Site Trailer	963.59			1,570.65
Electrical Hook Up	1,927.17			1,927.17
Magazine Fencing	899.35			899.35
Magazine Mobilization	770.87			770.87
Donor Explosives	1,541.74			770.87
Site Remediation - Pine Farm	500.00			500.00
Subtotal - Other Direct Costs				100,035.92
Total Estimated Costs				270,664.01

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm - Surface Clearance of OE

**Task 1
Site Visit**

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per				
		Rate	Week	Weeks	People	Hours	
Program Management I		82.06	42.00	0.20	1.00	8.40	689.30
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	0.80	1.00	33.60	2,240.11
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist Regular							
	Regular	47.04				-	-
Site Safety Officer Regular							
	Regular	47.04				-	-
UXO Supervisor/Tech VI Regular							
	Regular	53.29	40.00	0.80	1.00	32.00	1,705.28
UXO Supervisor/Tech V Regular							
	Regular	47.04				-	-
UXO Technician IV Regular							
	Regular	40.49				-	-
UXO Technician III Regular							
	Regular	34.10				-	-
Laborer II Regular							
	Regular	28.65				-	-
Subtotal - Labor						74.00	4,634.69

Other Direct Costs	Loaded	Number	Number	Amount
	Rate	Weeks	Units	
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24	0.80	1.00	51.39
Video Camera	32.12	0.80	1.00	25.70
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43	0.80	1.00	308.34
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	2.00	0.80	513.92
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	5.00	8.00	69.60
Lodging	68.09	4.00	2.00	544.72
Meals and Incidentals	38.55	5.00	2.00	385.50
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	500.00			-
Subtotal - Other Direct Costs				4,572.97
Total Estimated Costs				9,207.66

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm - Surface Clearance of OE

**Task 3
Work Plan**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.08	42.00	0.50	1.00	21.00	1,723.28
Project Manager III		78.92				-	-
Project Manager II		68.67	42.00	2.00	1.00	84.00	5,600.28
Certified Industrial Hygienist Engineer II		74.81	40.00	0.40	1.00	16.00	1,196.98
Survey Manager		78.92	42.00	0.50	1.00	21.00	1,615.32
Surveyor V		56.42	42.00	0.80	1.00	33.60	1,895.71
Surveyor V		46.18				-	-
Quality Control Specialist		Regular	47.04			-	-
Site Safety Officer		Regular	47.04			-	-
UXO Supervisor/Tech VI		Regular	53.29	40.00	1.00	40.00	2,131.60
UXO Supervisor/Tech V		Regular	47.04			-	-
UXO Technician IV		Regular	40.49			-	-
UXO Technician III		Regular	34.10			-	-
Laborer II		Regular	28.65			-	-
Subtotal - Labor						215.60	14,163.13
Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.89					-
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36		1.00	1.00		96.36
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39					-
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20		1.00	1.00		321.20
Pickup, 4x4, 3/4 Ton		449.87					-
Air Fare - Round Trip		1,220.54		1.00	1.00		1,220.54
Mileage		0.40		50.00	1.00		20.00
Fuel		1.74		1.00	40.00		69.60
Lodging		68.09		8.00	1.00		408.54
Meals and Incidentals		38.55		7.00	1.00		269.85
Project Consumables		192.72		8.00	1.00		1,541.78
Printing and Binding		205.56		1.00	2.00		411.12
Shipping		154.17					-
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		500.00					-
Subtotal - Other Direct Costs							4,358.97
Total Estimated Costs							18,522.10

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm - Surface Clearance of OE

**Task 3
Site Management**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92	42.00	6.50	1.00	273.00	20,999.16
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04	40.00	6.50	1.00	260.00	12,230.40
UXO Supervisor/Tech VI	Regular	53.29	40.00	6.50	1.00	260.00	13,855.40
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						793.00	47,084.96

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.89			-
FM Radio Repeater/Base Station	44.97	6.50	4.00	1,169.22
Cellular Telephone and Service	64.24	6.50	1.00	417.56
Video Camera	32.12	6.50	1.00	208.78
Computer	96.36	6.50	1.00	626.34
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97	6.50	3.00	876.92
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	6.50	3.00	6,263.40
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	3.00	3,661.62
Mileage	0.40	2,000.00	1.00	800.00
Fuel	1.74	820.00	1.00	1,426.80
Lodging	68.09	21.00	6.50	9,294.29
Meals and Incidentals	38.55	21.00	6.50	5,262.08
Project Consumables	192.72	10.25	1.00	1,975.38
Printing and Binding	205.56	2.00	1.00	411.12
Shipping	154.17	1.00	3.00	462.51
Site Trailer	963.59	1.83	1.00	1,570.65
Electrical Hook Up	1,927.17	1.00	1.00	1,927.17
Magazine Fencing	899.35	1.00	1.00	899.35
Magazine Mobilization	770.87	1.00	1.00	770.87
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	500.00			-
Subtotal - Other Direct Costs				38,024.06
Total Estimated Costs				85,109.02

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm - Surface Clearance of OE

Task 4

Land Survey

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42	42.00	1.00	1.00	42.00	2,369.64
Surveyor V		46.16	42.00	3.25	1.00	136.50	6,300.84
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	3.25	1.00	130.00	4,433.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						308.50	13,103.48

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	3.25	2.00	166.99
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	3.25	1.00	313.17
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	3.25	1.00	167.02
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35	0.50	2.00	899.35
Surveyor's Kit	64.24	3.25	1.00	208.78
Total Station Survey Equipment	835.11	0.75	1.00	626.33
Ford Explorer	321.20	3.25	1.00	1,043.90
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	45.00	1.00	78.30
Lodging	68.09	23.00	2.00	3,132.14
Meals and Incidentals	38.55	25.00	2.00	1,927.50
Project Consumables	192.72	3.25	1.00	626.34
Printing and Binding	205.56	1.00	1.00	205.56
Shipping	154.17	1.00	1.00	154.17
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	500.00			-
Subtotal - Other Direct Costs				12,030.63
Total Estimated Costs				25,134.11

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm - Surface Clearance of OE

**Task 5
Brush Clearance**

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per				
		Rate	Week				
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	3.50	2.00	280.00	11,337.20
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.85	40.00	3.50	6.00	840.00	24,066.00
Subtotal - Labor						1,120.00	35,403.20

Other Direct Costs	Loaded	Number	Number	Amount
	Rate	Weeks	Units	
FM Radio, Handheld w/ charger	25.69	3.50	2.00	179.83
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36	3.50	4.00	1,349.04
Chainsaw	64.24	3.50	2.00	449.68
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnelic Locator	51.39	3.50	2.00	359.73
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	3.50	2.00	3,147.69
Air Fare - Round Trip	1,220.54			-
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	109.00	2.00	379.32
Lodging	68.09	13.60	5.00	4,630.12
Meals and Incidentals	36.55	13.60	5.00	2,621.40
Project Consumables	192.72	13.60	1.00	2,620.99
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	500.00			-
Subtotal - Other Direct Costs				15,777.80
Total Estimated Costs				51,181.00

Surface Clearance of
Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm - Surface Clearance of OE

Task 6
Surface OE Removal

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist Regular 47.04 - -							
Site Safety Officer Regular 47.04 - -							
UXO Supervisor/Tech VI Regular 53.29 - -							
UXO Supervisor/Tech V Regular 47.04 40.00 2.00 2.00 160.00 7,526.40							
UXO Technician IV Regular 40.49 40.00 2.00 8.00 640.00 25,913.60							
UXO Technician III Regular 34.10 - -							
Laborer II Regular 28.65 - -							
Subtotal - Labor						800.00	33,440.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	2.00	2.00	102.76
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39	2.00	1.00	102.78
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	2.00	8.00	822.24
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09	14.00	10.00	9,532.80
Meals and Incidentals	38.55	14.00	10.00	5,397.00
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	993.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74	1.00	0.50	770.87
Site Remediation - Pine Farm	500.00			-
Subtotal - Other Direct Costs				16,728.25
Total Estimated Costs				50,168.25

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm - Surface Clearance of OE

**Task 7
Scrap Turn-In**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		58.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.50	1.00	20.00	1,065.80
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	0.50	1.00	20.00	809.80
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.85				-	-
Subtotal - Labor						40.00	1,875.60

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	635.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	1.00	0.25	112.42
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74	80.00	1.00	139.20
Lodging	68.09	1.00	2.00	136.18
Meals and Incidentals	38.55	1.00	2.00	77.10
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.58			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	500.00			-
Subtotal - Other Direct Costs				657.62
Total Estimated Costs				2,533.22

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm - Surface Clearance of OE

**Task 5
Quality Control**

Labor Category		Loaded	Hours	Number Weeks	Number People	Estimated Hours	Amount
		Hourly Rate	per Week				
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist							
Quality Control Specialist	Regular	47.04	40.00	2.00	1.00	80.00	3,763.20
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	2.00	1.00	80.00	2,728.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						160.00	6,491.20

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	2.00	1.00	51.38
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	2.00	2.00	205.56
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	2.00	1.00	642.40
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	1.00	128.00	222.72
Lodging	68.09	14.00	2.00	1,906.52
Meals and Incidentals	38.55	14.00	2.00	1,079.40
Project Consumables	192.72	2.00	1.00	385.44
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	500.00			-
Subtotal - Other Direct Costs				6,974.50
Total Estimated Costs				13,465.70

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm - Surface Clearance of OE

**Task 9
Final Report**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.25	1.00	10.50	861.63
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	2.00	1.00	84.00	5,600.28
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92	42.00	1.00	1.00	42.00	3,230.64
Survey Manager		56.42	42.00	2.00	1.00	84.00	4,739.28
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						220.50	14,431.83

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.67			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	500.00			-
Subtotal - Other Direct Costs				411.12
Total Estimated Costs				14,842.95

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm - Surface Clearance of OE

**Task 10
Site Restoration**

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per				
		Rate	Week				
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
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Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
<hr/>							
Subtotal - Labor						-	-

Other Direct Costs	Loaded	Number	Number	Amount
	Rate	Weeks	Units	
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	500.00	1.00	1.00	500.00
Subtotal - Other Direct Costs				500.00
Total Estimated Costs				500.00

Pine Farm

Alternative 7 - Surface and Subsurface Clearance of OE Over Entire Area to a Depth of One Foot

Alternative 7 provides for a complete OE surface and subsurface clearance of the entire area (38.94 acres) to a depth of one foot. Because the surface clearance will be performed concurrently with the subsurface clearance, the cost for the surface clearance is included in the subsurface costs. The work schedule is based on working four 10-hour days per work week. Where possible, local laborers are used to reduce per diem and labor cost. Per diem costs for labors is assumed to be one-half the JTR rate. Brush clearing efforts are extensive and based solely on the production achieved during the Engineering Design effort. It is assumed that 80% of the total grids will require brush clearance. During the Engineering Design effort, a number of production rates have been proportionally increased to account for this effort. The land survey effort was not adjusted, as grids established during the Engineering Design initiative add no value to the removal action. Typically, a survey team can survey twenty 100' X 100' grids per day. Given the erratic terrain and vegetation present in grids, the survey production rate was held to 14 grids per day. The work is to be performed on privately owned property. A site restoration line item has been included in this estimate to account for funds to re-seed and return the site to near original condition.

Total Acreage to Surface Clear:	38.94 acres/170 (100' X 100') search grids
Total Acreage Previously Geophysically Investigated:	2.47
Adjusted acreage:	36.47 acres
Adjusted number of grids	136
Grids Requiring Brush Clearance	108
Search Grid Size: 100' X 100'	0.22 acres per grid
Number of Grids requiring brush clearance:	108.8

Production Rates:

Brush Clearance	4 grids per day per four man team (8 grids per day)
Land Survey	14 grids per day per two person team (1 team)
Surface Clearance	7.62 grids per workday (1.75 acres) per 5 person team (2 teams @ 15.24 (3.5 acres) per workday .

Duration:

Project Management	27 working days/6.75 weeks
Brush Clearance	14 working days/3.5 weeks (2 teams)
Land Survey	13 working days/3.25 weeks (one team)
Surface Clearance	8.93 (9) working days/2.25 weeks (two teams)
Disposal	Effort included in Surface Clearance
Quality Control	9 working days/2.25 weeks (2-person team)
Total Project Duration	27 working days/6.75 weeks

Surface Clearance of OE - Alternative 7

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm

Labor Category					Summary	
	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I	82.06				39.90	3,274.19
Project Manager III	76.92				283.50	21,806.82
Project Manager II	66.67				243.60	16,240.81
Certified Industrial Hygienist	74.81				16.00	1,196.96
Engineer II	76.92				63.00	4,845.96
Survey Manager	56.42				159.60	9,004.63
Surveyor V	46.16				136.50	6,300.84
Quality Control Specialist Regular 47.04 90.00 4,233.60						
Site Safety Officer Regular 47.04 270.00 12,700.80						
UXO Supervisor/Tech VI Regular 53.29 362.00 19,290.98						
UXO Supervisor/Tech V Regular 47.04 180.00 8,467.20						
UXO Technician IV Regular 40.49 1,020.00 41,299.80						
UXO Technician III Regular 34.10 220.00 7,502.00						
Laborer II Regular 28.65 640.00 24,066.00						
Subtotal - Labor					3,924.10	180,230.59

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			520.23
FM Radio Repeater/Base Station	44.97			1,214.19
Cellular Telephone and Service	64.24			485.01
Video Camera	32.12			242.51
Computer	96.36			1,059.96
Brushcutter, power	96.36			1,349.04
Chainsaw	64.24			449.68
EOD Demolition Kit	51.39			115.63
Foerster Ferrex Ordnance Locator	385.43			308.34
Schonstedt Magnetic Locator	51.39			1,683.03
Explosive Storage magazine	44.97			910.64
Carrier Phase GPS	899.35			899.35
Surveyor's Kit	64.24			208.78
Total Station Survey Equipment	835.11			835.11
Ford Explorer	321.20			9,106.02
Pickup, 4x4, 3/4 Ton	449.67			3,260.11
Air Fare - Round Trip	1,220.54			12,205.40
Mileage	0.40			960.00
Fuel	1.74			5,600.19
Lodging	68.09			35,267.65
Meals and Incidentals	38.55			20,354.41
Project Consumables	192.72			5,444.34
Printing and Binding	205.56			1,438.92
Shipping	154.17			618.68
Site Trailer	963.59			1,927.18
Electrical Hook Up	1,927.17			1,927.17
Magazine Fencing	899.35			899.35
Magazine Mobilization	770.87			770.87
Donor Explosives	1,541.74			1,734.46
Site Remediation - Pine Farm	500.00			500.00
Subtotal - Other Direct Costs				112,334.25
Total Estimated Costs				292,564.84

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm

**Task 1
Site Visit**

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly Rate	per Week				
Program Management I		82.08	42.00	0.20	1.00	8.40	689.30
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	0.80	1.00	33.60	2,240.11
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.80	1.00	32.00	1,705.28
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						74.00	4,634.69
Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69					-
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24		0.80	1.00		51.39
Video Camera		32.12		0.80	1.00		25.70
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		395.43		0.80	1.00		308.34
Schonstedt Magnetic Locator		51.39					-
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20		2.00	0.80		513.92
Pickup, 4x4, 3/4 Ton		449.67					-
Air Fare - Round Trip		1,220.54		1.00	2.00		2,441.08
Mileage		0.40		50.00	2.00		40.00
Fuel		1.74		5.00	8.00		69.60
Lodging		68.09		4.00	2.00		544.72
Meals and Incidentals		38.55		5.00	2.00		385.50
Project Consumables		192.72		1.00	1.00		192.72
Printing and Binding		205.56					-
Shipping		154.17					-
Site Trailer		963.59					-
Electrical Hook Up		1,827.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		500.00					-
Subtotal - Other Direct Costs						4,572.97	4,572.97
Total Estimated Costs						9,207.66	9,207.66

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm

**Task 2
Work Plan**

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per				
		Rate	Week				
Program Management I		82.06	42.00	0.50	1.00	21.00	1,723.26
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	2.50	1.00	105.00	7,000.35
Certified Industrial Hygienist		74.81	40.00	0.40	1.00	16.00	1,196.96
Engineer II		76.92	42.00	0.50	1.00	21.00	1,615.32
Survey Manager		56.42	42.00	0.80	1.00	33.60	1,895.71
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	1.00	1.00	40.00	2,131.60
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						236.60	15,563.20
Other Direct Costs							
		Loaded		Number	Number		Amount
		Rate		Weeks	Units		
FM Radio, Handheld w/ charger		25.69					-
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36		1.00	1.00		96.36
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39					-
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20		1.00	1.00		321.20
Pickup, 4x4, 3/4 Ton		449.67					-
Air Fare - Round Trip		1,220.54		1.00	1.00		1,220.54
Mileage		0.40		50.00	1.00		20.00
Fuel		1.74		1.00	40.00		69.60
Lodging		68.09		8.00	1.00		408.54
Meals and Incidentals		38.55		7.00	1.00		269.85
Project Consumables		192.72		8.00	1.00		1,541.76
Printing and Binding		205.56		1.00	2.00		411.12
Shipping		154.17					-
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		500.00					-
Subtotal - Other Direct Costs						4,358.97	
Total Estimated Costs						19,922.17	

Surface Clearance of
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Engineering Design Cost Estimate
Pine Farm

Task 3
Site Management

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92	42.00	6.75	1.00	283.50	21,806.82
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
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Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04	40.00	6.75	1.00	270.00	12,700.80
UXO Supervisor/Tech VI	Regular	53.29	40.00	6.75	1.00	270.00	14,388.30
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
<hr/>							
Subtotal - Labor						823.50	46,895.92
<hr/>							
Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69					-
FM Radio Repeater/Base Station		44.97		6.75	4.00		1,214.19
Cellular Telephone and Service		64.24		6.75	1.00		433.62
Video Camera		32.12		6.75	1.00		216.81
Computer		96.36		6.75	1.00		650.43
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39					-
Explosive Storage magazine		44.97		6.75	3.00		910.64
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20		6.75	3.00		6,504.30
Pickup, 4x4, 3/4 Ton		449.67					-
Air Fare - Round Trip		1,220.54		1.00	3.00		3,661.62
Mileage		0.40		2,000.00	1.00		800.00
Fuel		1.74		857.00	3.00		4,473.54
Lodging		88.09		21.00	6.75		9,651.76
Meals and Incidentals		38.55		22.00	6.75		5,724.68
Project Consumables		192.72		1.00	6.75		1,300.86
Printing and Binding		205.56		2.00	1.00		411.12
Shipping		154.17		1.00	3.00		462.51
Site Trailer		963.59		2.00	1.00		1,927.18
Electrical Hook Up		1,927.17		1.00	1.00		1,927.17
Magazine Fencing		899.35		1.00	1.00		899.35
Magazine Mobilization		770.87		1.00	1.00		770.87
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		500.00					-
Subtotal - Other Direct Costs						41,940.65	
Total Estimated Costs						90,836.57	

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm

Task 4
Land Survey

Labor Category		Loaded	Hours		Estimated	Amount
		Hourly Rate	per Week	Number Weeks		
Program Management I		82.06			-	-
Project Manager III		76.92			-	-
Project Manager II		66.67			-	-
Certified Industrial Hygienist		74.81			-	-
Engineer II		76.92			-	-
Survey Manager		56.42	42.00	1.00	42.00	2,369.64
Surveyor V		46.18	42.00	3.25	136.50	6,300.84
Quality Control Specialist	Regular	47.04			-	-
Site Safety Officer	Regular	47.04			-	-
UXO Supervisor/Tech VI	Regular	53.29			-	-
UXO Supervisor/Tech V	Regular	47.04			-	-
UXO Technician IV	Regular	40.49			-	-
UXO Technician III	Regular	34.10	40.00	3.25	130.00	4,433.00
Laborer II	Regular	28.65			-	-
Subtotal - Labor					308.50	13,103.48

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	3.25	2.00	166.99
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	3.25	1.00	313.17
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	3.25	1.00	167.02
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35	0.50	2.00	899.35
Surveyor's Kit	64.24	3.25	1.00	208.78
Total Station Survey Equipment	835.11	1.00	1.00	835.11
Ford Explorer	321.20	3.25	1.00	1,043.90
Pickup, 4x4, 3/4 Ton	449.87			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	3.25	32.00	180.96
Lodging	68.09	23.00	2.00	3,132.14
Meals and Incidentals	38.55	23.00	2.00	1,773.30
Project Consumables	192.72	3.25	1.00	626.34
Printing and Binding	205.56	1.00	1.00	205.56
Shipping	154.17	1.00	1.00	154.17
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	500.00			-
Subtotal - Other Direct Costs				12,187.87
Total Estimated Costs				25,291.35

Surface Clearance of
Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm

Task 5
Brush Clearance

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
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Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	3.50	2.00	280.00	11,337.20
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.85	40.00	3.50	6.00	840.00	24,066.00
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Subtotal - Labor						1,120.00	35,403.20

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	3.50	2.00	179.83
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36	3.50	4.00	1,349.04
Chainsaw	64.24	3.50	2.00	448.68
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	3.50	2.00	359.73
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	3.50	2.00	3,147.69
Air Fare - Round Trip	1,220.54			-
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	3.25	64.00	361.92
Lodging	68.09	35.00	3.50	8,341.03
Meals and Incidentals	38.55	35.00	3.50	4,722.38
Project Consumables	192.72	6.00	1.00	1,156.32
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	983.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	500.00			-
Subtotal - Other Direct Costs				20,107.62
Total Estimated Costs				55,510.82

Surface Clearance of

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Engineering Design Cost Estimate
Pine Farm

**Task 6
Subsurface Clearance**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		78.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		78.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04	40.00	2.25	2.00	180.00	8,467.20
UXO Technician IV	Regular	40.49	40.00	2.25	8.00	720.00	29,152.80
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						900.00	37,620.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	2.25	2.00	115.61
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39	2.25	1.00	115.63
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	2.25	8.00	925.02
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09	16.00	10.00	10,894.40
Meals and Incidentals	38.55	16.00	10.00	6,168.00
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74	1.50	0.75	1,734.46
Site Remediation - Pine Farm	500.00			-
Subtotal - Other Direct Costs				19,953.12
Total Estimated Costs				57,573.12

Surface Clearance of

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Engineering Design Cost Estimate
Pine Farm

**Task 7
Scrap Turn-In**

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I	82.06				-	-
Project Manager III	76.92				-	-
Project Manager II	66.67				-	-
Certified Industrial Hygienist	74.81				-	-
Engineer II	76.92				-	-
Survey Manager	56.42				-	-
Surveyor V	46.16				-	-
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Quality Control Specialist	Regular 47.04				-	-
Site Safety Officer	Regular 47.04				-	-
UXO Supervisor/Tech VI	Regular 53.29	40.00	0.50	1.00	20.00	1,065.80
UXO Supervisor/Tech V	Regular 47.04				-	-
UXO Technician IV	Regular 40.49	40.00	0.50	1.00	20.00	809.80
UXO Technician III	Regular 34.10				-	-
Laborer II	Regular 28.65				-	-
Subtotal - Labor						40.00 1,875.60
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Other Direct Costs	Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger	25.69					-
FM Radio Repeater/Base Station	44.97					-
Cellular Telephone and Service	64.24					-
Video Camera	32.12					-
Computer	96.36					-
Brushcutter, power	96.36					-
Chainsaw	64.24					-
EOD Demolition Kit	51.39					-
Foester Ferrex Ordnance Locator	385.43					-
Schonstedt Magnetic Locator	51.39					-
Explosive Storage magazine	44.97					-
Carrier Phase GPS	899.35					-
Surveyor's Kit	64.24					-
Total Station Survey Equipment	835.11					-
Ford Explorer	321.20					-
Pickup, 4x4, 3/4 Ton	449.67		1.00	0.25		112.42
Air Fare - Round Trip	1,220.54					-
Mileage	0.40					-
Fuel	1.74		80.00	1.00		139.20
Lodging	66.09		1.00	2.00		136.18
Meals and Incidentals	38.55		1.00	2.00		77.10
Project Consumables	192.72		1.00	1.00		192.72
Printing and Binding	205.56					-
Shipping	154.17					-
Site Trailer	963.59					-
Electrical Hook Up	1,927.17					-
Magazine Fencing	899.35					-
Magazine Mobilization	770.87					-
Donor Explosives	1,541.74					-
Site Remediation - Pine Farm	500.00					-
Subtotal - Other Direct Costs						657.62
Total Estimated Costs						2,533.22

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm

**Task 8
Quality Control**

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly Rate	per Week	Weeks	People	Hours	
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04	40.00	2.25	1.00	90.00	4,233.60
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	2.25	1.00	90.00	3,069.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						180.00	7,302.60
Other Direct Costs							
		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69		2.25	1.00		57.80
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.99					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.99		2.25	2.00		231.26
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20		2.25	1.00		722.70
Pickup, 4x4, 3/4 Ton		449.67					-
Air Fare - Round Trip		1,220.54		1.00	2.00		2,441.08
Mileage		0.40		50.00	2.00		40.00
Fuel		1.74		2.25	78.00		305.37
Lodging		68.09		16.00	2.00		2,178.88
Meals and Incidentals		38.55		16.00	2.00		1,233.60
Project Consumables		192.72		2.25	1.00		433.62
Printing and Binding		205.56					-
Shipping		154.17					-
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		500.00					-
Subtotal - Other Direct Costs						7,644.31	
Total Estimated Costs							14,946.91

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm

**Task 9
Final Report**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.25	1.00	10.50	861.63
Project Manager III		76.92				-	-
Project Manager II		66.87	42.00	2.50	1.00	105.00	7,000.35
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92	42.00	1.00	1.00	42.00	3,230.64
Survey Manager		56.42	42.00	2.00	1.00	84.00	4,739.28
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.85				-	-
Subtotal - Labor						241.50	15,831.90
Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69					-
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39					-
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20					-
Pickup, 4x4, 3/4 Ton		449.87					-
Air Fare - Round Trip		1,220.54					-
Mileage		0.40					-
Fuel		1.74					-
Lodging		66.09					-
Meals and Incidentals		38.55					-
Project Consumables		192.72					-
Printing and Binding		205.56		1.00	2.00		411.12
Shipping		154.17					-
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		500.00					-
Subtotal - Other Direct Costs						411.12	
Total Estimated Costs							16,243.02

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pine Farm

**Task 10
Site Remediation**

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly Rate	per Week				
Program Management I		82.08				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
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Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
<hr/>							
Subtotal - Labor						-	-
<hr/>							
Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69				-	-
FM Radio Repeater/Base Station		44.97				-	-
Cellular Telephone and Service		64.24				-	-
Video Camera		32.12				-	-
Computer		96.36				-	-
Brushcutter, power		96.36				-	-
Chainsaw		64.24				-	-
EOD Demolition Kit		51.39				-	-
Foester Ferrex Ordnance Locator		385.43				-	-
Schonstedt Magnetic Locator		51.39				-	-
Explosive Storage magazine		44.97				-	-
Carrier Phase GPS		899.35				-	-
Surveyor's Kit		64.24				-	-
Total Station Survey Equipment		835.11				-	-
Ford Explorer		321.20				-	-
Pickup, 4x4, 3/4 Ton		449.67				-	-
Air Fare - Round Trip		1,220.54				-	-
Mileage		0.40				-	-
Fuel		1.74				-	-
Lodging		68.09				-	-
Meals and Incidentals		38.55				-	-
Project Consumables		192.72				-	-
Printing and Binding		205.56				-	-
Shipping		154.17				-	-
Site Trailer		963.59				-	-
Electrical Hook Up		1,927.17				-	-
Magazine Fencing		899.35				-	-
Magazine Mobilization		770.87				-	-
Donor Explosives		1,541.74				-	-
Site Remediation - Pine Farm		500.00		1.00	1.00		500.00
Subtotal - Other Direct Costs							500.00
Total Estimated Costs							500.00

SECTION G-3
COST ESTIMATE FOR THE LANDFILL AND
COMPOST A AREAS

SELECTED REMOVAL ALTERNATIVE

Landfill and Compost A Areas

Alternative 6 - Surface and Subsurface Clearance of OE Over Selected Areas to a Depth of Four Feet (Compost A and Landfill 2 Areas)

Alternative 6 provides for OE surface and subsurface clearance over 15 acres of the area to a depth of 4 feet. The landfill and composting areas consist of 21.31 acres. Approximately 6.31 acres were previously cleared. Electronic detection instruments are necessary to detect OE hidden from view by high grasses, brush, and terrain. The work schedule is based on working four 10-hour days per work week. Where possible, local laborers are used to reduce per diem and labor cost. Per diem costs for labors is assumed to be one-half the JTR rate. Brush clearing efforts are moderate in the Compost A area but heavy at Landfill 2. Production effort is established at 4 grids per day per team. It is assumed that approximately 60% of the total grids will require moderate brush clearance efforts. Brush clearance and surface clearance production rates have been proportionally increased to account for the effort previously completed. The land survey effort was not adjusted, as grids established during the Engineering Design initiative add no value to the removal action. The production rate for OE removal was reduced to one acre per workday due to its proximity to the landfill. Site restoration line item has been deleted given the end use of this area as a landfill. Due to the limited scope and duration of this clearance effort, a site visit and site trailer/office will not be necessary and have been excluded from this cost estimate.

Total Acreage/grids to Surface Clear:	21.31 acres
Total Acreage Previously Cleared of UXO	6.31 acres
Adjusted acreage:	15 acres
Adjusted number of grids	68 grids
Grids Requiring Brush Clearance	42 grids
Search Grid Size: 100' X 100'	.22 acres per grid

Production Rates:

Brush Clearance	4 grids per day per four man team (one team)
Land Survey	10 grids per day per two person team (one team)
Surface Clearance	4.36 grids per workday (1 acres) per 5 person team (1 team);

Duration:

Project Management	20 working days/5 weeks
Land Survey	11 working days/2.75 weeks (one team)
Brush Clearance	7 working days/1.75 weeks (one team)
Surface Clearance	16 working days/4 weeks (one five-person teams)
Disposal	Effort included in Surface Clearance
Quality Control	10 working days/2.5 weeks (2 person team)
Total Duration	20 Working Days/5 weeks

Surface and Subsurface Clearance of OE in Selected Areas to a depth of 4 ft - Alt 6

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Landfill and Compost A Areas
Clearance of Compost Area - B & Landfill 2

Summary

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I	82.06				27.30	2,240.24
Project Manager III	76.92				210.00	16,153.20
Project Manager II	66.67				168.00	11,200.56
Certified Industrial Hygienist	74.81				12.00	897.72
Engineer II	76.92				58.80	4,522.80
Survey Manager	56.42				147.00	8,293.74
Surveyor V	46.16				73.50	3,392.76
Quality Control Specialist	Regular 47.04				120.00	5,644.80
Site Safety Officer	Regular 47.04				200.00	9,408.00
UXO Supervisor/Tech VI	Regular 53.29				250.00	13,322.50
UXO Supervisor/Tech V	Regular 47.04				160.00	7,526.40
UXO Technician IV	Regular 40.49				880.00	35,631.20
UXO Technician III	Regular 34.10				190.00	6,479.00
Laborer II	Regular 28.85				660.00	18,909.00
Subtotal - Labor					3,156.60	143,622.02

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			513.81
FM Radio Repeater/Base Station	44.97			899.40
Cellular Telephone and Service	64.24			321.20
Video Camera	32.12			160.60
Computer	96.36			746.79
Brushcutter, power	96.36			1,059.96
Chainsaw	64.24			353.32
EOD Demolition Kit	51.39			205.56
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			2,325.40
Explosive Storage magazine	44.97			449.70
Carrier Phase GPS	899.35			2,248.38
Surveyor's Kit	64.24			112.42
Total Station Survey Equipment	835.11			1,670.22
Ford Explorer	321.20			1,927.20
Pickup, 4x4, 3/4 Ton	449.67			2,585.61
Air Fare - Round Trip	1,220.54			9,764.32
Mileage	0.40			2,420.00
Fuel	1.74			1,186.68
Lodging	68.09			34,589.72
Meals and Incidentals	38.55			20,739.90
Project Consumables	192.72			3,420.78
Printing and Binding	205.56			2,055.60
Shipping	154.17			1,079.19
Site Trailer	963.59			4,817.95
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			899.35
Magazine Mobilization	770.87			770.87
Donor Explosives	1,541.74			308.35
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				97,632.28
Total Estimated Costs				241,254.30

Surface and Subsurface Clearance of OE in
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Landfill and Compost A Areas
 Clearance of Compost Area - B & Landfill 2

**Task 1
 Site Visit**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	-	-	-	-	-
Project Manager III		76.92	-	-	-	-	-
Project Manager II		66.67	-	-	-	-	-
Certified Industrial Hygienist		74.81	-	-	-	-	-
Engineer II		76.92	-	-	-	-	-
Survey Manager		56.42	-	-	-	-	-
Surveyor V		46.16	-	-	-	-	-
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Quality Control Specialist	Regular	47.04	-	-	-	-	-
Site Safety Officer	Regular	47.04	-	-	-	-	-
UXO Supervisor/Tech VI	Regular	53.29	-	-	-	-	-
UXO Supervisor/Tech V	Regular	47.04	-	-	-	-	-
UXO Technician IV	Regular	40.49	-	-	-	-	-
UXO Technician III	Regular	34.10	-	-	-	-	-
Laborer II	Regular	28.85	-	-	-	-	-
<hr/>							
Subtotal - Labor							-

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.60	-	-	-
FM Radio Repeater/Base Station	44.97	-	-	-
Cellular Telephone and Service	64.24	-	-	-
Video Camera	32.12	-	-	-
Computer	96.36	-	-	-
Brushcutter, power	96.36	-	-	-
Chainsaw	64.24	-	-	-
EOD Demolition Kit	51.39	-	-	-
Foester Ferrex Ordnance Locator	365.43	-	-	-
Schonstedt Magnetic Locator	51.39	-	-	-
Explosive Storage magazine	44.97	-	-	-
Carrier Phase GPS	899.35	-	-	-
Surveyor's Kit	64.24	-	-	-
Total Station Survey Equipment	835.11	-	-	-
Ford Explorer	321.20	-	-	-
Pickup, 4x4, 3/4 Ton	449.87	-	-	-
Air Fare - Round Trip	1,220.54	-	-	-
Mileage	0.40	-	-	-
Fuel	1.74	-	-	-
Lodging	68.09	-	-	-
Meals and Incidentals	38.55	-	-	-
Project Consumables	192.72	-	-	-
Printing and Binding	205.56	-	-	-
Shipping	154.17	-	-	-
Site Trailer	963.59	-	-	-
Electrical Hook Up	1,927.17	-	-	-
Magazine Fencing	899.35	-	-	-
Magazine Mobilization	770.87	-	-	-
Donor Explosives	1,541.74	-	-	-
Site Remediation - Pine Farm	300.00	-	-	-
Subtotal - Other Direct Costs				-
Total Estimated Costs				-

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Task 2
Work Plan

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I	82.06	42.00	0.40	1.00	16.80	1,378.61
Project Manager III	76.92				-	-
Project Manager II	66.67	42.00	1.50	1.00	63.00	4,200.21
Certified Industrial Hygienist	74.81	40.00	0.30	1.00	12.00	897.72
Engineer II	76.92	42.00	0.40	1.00	16.80	1,292.26
Survey Manager	56.42	42.00	0.50	1.00	21.00	1,184.82
Surveyor V	46.16				-	-
Quality Control Specialist	Regular 47.04				-	-
Site Safety Officer	Regular 47.04				-	-
UXO Supervisor/Tech VI	Regular 53.29	40.00	0.75	1.00	30.00	1,598.70
UXO Supervisor/Tech V	Regular 47.04				-	-
UXO Technician IV	Regular 40.49				-	-
UXO Technician III	Regular 34.10				-	-
Laborer II	Regular 28.65				-	-
Subtotal - Labor					159.60	10,552.32

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.87			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	1.00	1.00	96.36
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	1.00	1,220.54
Mileage	0.40	50.00	1.00	20.00
Fuel	1.74	1.00	40.00	69.60
Lodging	68.09	6.00	1.00	408.54
Meals and Incidentals	38.55	7.00	1.00	269.85
Project Consumables	192.72	8.00	1.00	1,541.76
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,827.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				4,358.97
Total Estimated Costs				14,911.29

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Task 3
Site Management

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per				
		Rate	Week				
Program Management I		82.06				-	-
Project Manager III		76.92	42.00	5.00	1.00	210.00	16,153.20
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		48.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04	40.00	5.00	1.00	200.00	9,408.00
UXO Supervisor/Tech VI	Regular	53.29	40.00	5.00	1.00	200.00	10,658.00
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						610.00	36,219.20
Other Direct Costs		Loaded		Number	Number		Amount
		Rate		Weeks	Units		
FM Radio, Handheld w/ charger		25.69					-
FM Radio Repeater/Base Station		44.97		5.00	4.00		899.40
Cellular Telephone and Service		64.24		5.00	1.00		321.20
Video Camera		32.12		5.00	1.00		160.60
Computer		96.36		5.00	1.00		481.80
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39					-
Explosive Storage magazine		44.97		5.00	2.00		449.70
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20					-
Pickup, 4x4, 3/4 Ton		449.87					-
Air Fare - Round Trip		1,220.54		1.00	3.00		3,661.62
Mileage		0.40		5,000.00	1.00		2,000.00
Fuel		1.74		185.00	1.00		321.90
Lodging		68.09		70.00	2.00		9,532.60
Meals and Incidentals		38.55		70.00	2.00		5,397.00
Project Consumables		182.72		5.00	1.00		963.60
Printing and Binding		205.56		5.00	1.00		1,027.80
Shipping		154.17		2.00	3.00		925.02
Site Trailer		963.59		5.00	1.00		4,817.95
Electrical Hook Up		1,927.17		-	1.00		-
Magazine Fencing		899.35		1.00	1.00		899.35
Magazine Mobilization		770.87		1.00	1.00		770.87
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs						32,630.41	
Total Estimated Costs						68,849.61	

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Task 4
Land Survey

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42	42.00	1.75	1.00	73.50	4,146.87
Surveyor V		46.16	42.00	1.75	1.00	73.50	3,392.76
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	1.75	1.00	70.00	2,387.00
Laborer II	Regular	26.65				-	-
Subtotal - Labor						217.00	9,926.63

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	1.75	2.00	89.92
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	1.75	1.00	168.63
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	1.75	1.00	89.93
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35	1.25	2.00	2,248.38
Surveyor's Kit	64.24	1.75	1.00	112.42
Total Station Survey Equipment	835.11	2.00	1.00	1,670.22
Ford Explorer	321.20	2.00	1.00	642.40
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	150.00	2.00	120.00
Fuel	1.74	85.00	1.00	147.90
Lodging	68.09	14.00	2.00	1,906.52
Meals and Incidentals	38.55	16.00	2.00	1,233.60
Project Consumables	192.72	1.75	1.00	337.26
Printing and Binding	205.56	1.00	1.00	205.56
Shipping	154.17	1.00	1.00	154.17
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				11,567.99
Total Estimated Costs				21,494.62

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Task 5
Brush Clearance

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	2.75	2.00	220.00	8,907.80
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65	40.00	2.75	8.00	680.00	18,909.00
Subtotal - Labor						880.00	27,816.80

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	2.75	2.00	141.30
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36	2.75	4.00	1,059.96
Chainsaw	64.24	2.75	2.00	353.32
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	2.75	2.00	282.65
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	2.75	2.00	2,473.19
Air Fare - Round Trip	1,220.54			-
Mileage	0.40	200.00	2.00	160.00
Fuel	1.74	85.00	2.00	295.80
Lodging	68.09	18.00	8.00	9,804.96
Meals and Incidentals	38.55	20.00	8.00	6,168.00
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				20,931.90
Total Estimated Costs				48,748.70

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Task 6
Subsurface OE Removal

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		78.92				-	-
Project Manager II		86.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04	40.00	4.00	1.00	160.00	7,526.40
UXO Technician IV	Regular	40.49	40.00	4.00	4.00	640.00	25,913.60
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	26.65				-	-
Subtotal - Labor						800.00	33,440.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	4.00	2.00	205.52
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39	4.00	1.00	205.56
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	4.00	8.00	1,644.48
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09	29.00	5.00	8,873.05
Meals and Incidentals	38.55	30.00	5.00	5,782.50
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74	1.00	0.20	308.35
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				18,019.46
Total Estimated Costs				51,459.46

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Task 7
Scrap Turn-In

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
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Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.50	1.00	20.00	1,065.80
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	0.50	1.00	20.00	809.80
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
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Subtotal - Labor						40.00	1,875.60
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Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69					-
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39					-
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20					-
Pickup, 4x4, 3/4 Ton		449.67		1.00	0.25		112.42
Air Fare - Round Trip		1,220.54					-
Mileage		0.40					-
Fuel		1.74		32.00	1.00		55.68
Lodging		68.09		1.50	2.00		204.27
Meals and Incidentals		38.55		1.50	2.00		115.65
Project Consumables		192.72		1.00	1.00		192.72
Printing and Binding		205.56					-
Shipping		154.17					-
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs							680.74
Total Estimated Costs							2,556.34

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Task 8
Quality Control

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
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Quality Control Specialist	Regular	47.04	40.00	3.00	1.00	120.00	5,644.80
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	3.00	1.00	120.00	4,092.00
Laborer II	Regular	28.65				-	-
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Subtotal - Labor						240.00	9,736.80
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Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69		3.00	1.00		77.07
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Farrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39		3.00	2.00		309.34
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20		3.00	1.00		963.60
Pickup, 4x4, 3/4 Ton		449.67					-
Air Fare - Round Trip		1,220.54		1.00	2.00		2,441.08
Mileage		0.40		150.00	2.00		120.00
Fuel		1.74		85.00	2.00		295.80
Lodging		68.09		21.00	2.00		2,859.78
Meals and Incidentals		38.55		23.00	2.00		1,773.30
Project Consumables		192.72		1.00	1.00		192.72
Printing and Binding		205.56					-
Shipping		154.17					-
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		699.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs							9,031.69
Total Estimated Costs							18,768.49

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**Task B
Final Report**

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I	82.06	42.00	0.25	1.00	10.50	861.63
Project Manager III	76.92				-	-
Project Manager II	66.67	42.00	2.50	1.00	105.00	7,000.35
Certified Industrial Hygienist	74.81				-	-
Engineer II	76.92	42.00	1.00	1.00	42.00	3,230.64
Survey Manager	56.42	42.00	1.25	1.00	52.50	2,962.05
Surveyor V	46.16				-	-
Quality Control Specialist	Regular 47.04				-	-
Site Safety Officer	Regular 47.04				-	-
UXO Supervisor/Tech VI	Regular 53.29				-	-
UXO Supervisor/Tech V	Regular 47.04				-	-
UXO Technician IV	Regular 40.49				-	-
UXO Technician III	Regular 34.10				-	-
Laborer II	Regular 28.65				-	-
Subtotal - Labor					210.00	14,054.67
Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount		
FM Radio, Handheld w/ charger	25.89			-		
FM Radio Repeater/Base Station	44.97			-		
Cellular Telephone and Service	64.24			-		
Video Camera	32.12			-		
Computer	96.36			-		
Brushcutter, power	96.36			-		
Chainsaw	64.24			-		
EDD Demolition Kit	51.39			-		
Foester Ferrex Ordnance Locator	385.43			-		
Schonstedt Magnetic Locator	51.39			-		
Explosive Storage magazine	44.97			-		
Carrier Phase GPS	699.35			-		
Surveyor's Kit	64.24			-		
Total Station Survey Equipment	835.11			-		
Ford Explorer	321.20			-		
Pickup, 4x4, 3/4 Ton	449.67			-		
Air Fare - Round Trip	1,220.54			-		
Mileage	0.40			-		
Fuel	1.74			-		
Lodging	68.09			-		
Meals and Incidentals	38.55			-		
Project Consumables	192.72			-		
Printing and Binding	205.56	1.00	2.00	411.12		
Shipping	154.17			-		
Site Trailer	963.59			-		
Electrical Hook Up	1,927.17			-		
Magazine Fencing	699.35			-		
Magazine Mobilization	770.87			-		
Donor Explosives	1,541.74			-		
Site Remediation - Pine Farm	300.00			-		
Subtotal - Other Direct Costs				411.12		
Total Estimated Costs				14,465.79		

Surface and Subsurface Clearance of OE in
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Landfill and Compost A Areas
 Clearance of Compost Area - B & Landfill 2

Task 10
Site Restoration

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
<hr/>							
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
<hr/>							
Subtotal - Labor						-	-
<hr/>							
Other Direct Costs		Loaded Rate	Number Weeks	Number Units		Amount	
FM Radio, Handheld w/ charger		25.89				-	
FM Radio Repeater/Base Station		44.97				-	
Cellular Telephone and Service		64.24				-	
Video Camera		32.12				-	
Computer		96.36				-	
Brushcutter, power		96.36				-	
Chainsaw		64.24				-	
EOD Demolition Kit		51.39				-	
Foester Ferrax Ordnance Locator		385.43				-	
Schonstedt Magnetic Locator		51.39				-	
Explosive Storage magazine		44.97				-	
Carrier Phase GPS		899.35				-	
Surveyor's Kit		64.24				-	
Total Station Survey Equipment		835.11				-	
Ford Explorer		321.20				-	
Pickup, 4x4, 3/4 Ton		449.87				-	
Air Fare - Round Trip		1,220.54				-	
Mileage		0.40				-	
Fuel		1.74				-	
Lodging		68.09				-	
Meals and Incidentals		38.55				-	
Project Consumables		192.72				-	
Printing and Binding		205.56				-	
Shipping		154.17				-	
Site Trailer		963.59				-	
Electrical Hook Up		1,927.17				-	
Magazine Fencing		899.35				-	
Magazine Mobilization		770.87				-	
Donor Explosives		1,541.74				-	
Site Remediation - Pine Farm		300.00				-	
Subtotal - Other Direct Costs						-	
Total Estimated Costs						-	

EVALUATED REMOVAL ALTERNATIVES

Landfill and Composting Areas

Alternative 6 - Surface and Subsurface Clearance of OE Over Selected Areas to a Depth of Four Feet

Alternative 6 provides for OE surface and subsurface clearance over 5 acres of the area to a depth of four feet. The landfill and composting area consist of 21.31 acres; however, 16.31 acres were previously cleared through other COE OE actions, leaving 5 acres remaining to be cleared. Because the surface clearance will be performed concurrently with the subsurface clearance, the cost for the surface clearance is included in the subsurface costs. The work schedule is based on working four 10-hour days per work week. Where possible, local laborers are used to reduce per diem and labor cost. Per diem costs for laborers is assumed to be one-half the JTR rate. Brush clearing efforts are moderate in the landfill area and the production rate for this effort has been adjusted accordingly. It is assumed that 60% of the total grids will require moderate brush clearance. The land survey effort was not adjusted, as grids established during the Engineering Design initiative add no value to the removal action. The production rate for OE removal was reduced to one acre per workday due to its proximity to the landfill. Though work is to be performed on privately owned property site restoration will not be necessary given the end use of the property as a landfill. Due to the limited scope and duration, a site visit and site trailer/office will not be necessary and has been eliminated from the cost estimate.

Total Acreage involved:	21.31 acres
Total Acreage Previously Cleared of UXO:	16.31 of the 21.31 acres
Adjusted acreage to be cleared of UXO:	5 acres
Adjusted number of search grids	22 grids
Grids Requiring Brush Clearance	14 grids
Search Grid Size: 100' X 100'	0.22 acres per grid

Production Rates:

Brush Clearance	5 grids per day per four man team (1 team)
Land Survey	14 grids per day per two person team (1 team)
Surface Clearance	4.36 grids per workday (1 acre) per 5 person team (1 team)

Duration:

Project Management	8 working days/2 weeks
Brush Clearance	3 working days/.75 weeks (1 team)
Land Survey	3 working days/.75 week (one team)
Subsurface Clearance	5 working days/ 1.25 weeks (1 team)
Disposal	Effort included in Surface Clearance
Quality Control	3 working days/.75 week (2-person team)
Total Project Duration	8 working days/2 weeks

OE Surface Clearance/Four Foot in Selected Areas - Alternative 6

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Landfill and Composting Area

Summary

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per	Weeks	People	Hours	
		Rate	Week				
Program Management I		82.06				27.30	2,240.24
Project Manager III		76.92				84.00	6,461.28
Project Manager II		66.67				147.00	9,800.49
Certified Industrial Hygienist		74.81				12.00	897.72
Engineer II		76.92				48.30	3,715.24
Survey Manager		56.42				92.40	5,213.21
Surveyor V		46.16				31.50	1,454.04
Quality Control Specialist	Regular	47.04				80.00	3,763.20
Site Safety Officer	Regular	47.04				80.00	3,763.20
UXO Supervisor/Tech VI	Regular	53.29				120.00	6,394.80
UXO Supervisor/Tech V	Regular	47.04				50.00	2,352.00
UXO Technician IV	Regular	40.49				270.00	10,932.30
UXO Technician III	Regular	34.10				110.00	3,751.00
Laborer II	Regular	28.65				180.00	5,157.00
Subtotal - Labor						1,332.50	65,895.72

Other Direct Costs	Loaded	Number	Number	Amount
	Rate	Weeks	Units	
FM Radio, Handheld w/ charger	25.69			160.57
FM Radio Repeater/Base Station	44.97			359.76
Cellular Telephone and Service	64.24			128.48
Video Camera	32.12			64.24
Computer	96.36			361.35
Brushcutter, power	96.36			289.08
Chainsaw	64.24			96.36
EOD Demolition Kit	51.39			64.24
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			835.09
Explosive Storage magazine	44.87			289.62
Carrier Phase GPS	899.35			899.35
Surveyor's Kit	64.24			48.18
Total Station Survey Equipment	835.11			835.11
Ford Explorer	321.20			963.60
Pickup, 4x4, 3/4 Ton	449.67			786.93
Air Fare - Round Trip	1,220.54			9,784.32
Mileage	0.40			940.00
Fuel	1.74			542.88
Lodging	68.09			8,511.25
Meals and Incidentals	38.55			6,630.60
Project Consumables	192.72			9,202.38
Printing and Binding	205.56			1,438.92
Shipping	154.17			616.88
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			899.35
Magazine Mobilization	770.87			770.87
Donor Explosives	1,541.74			154.17
Subtotal - Other Direct Costs				45,833.58
Total Estimated Costs				111,529.30

OE Surface Clearance/Four Foot
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Landfill and Composting Area

Task 1
Site Visit

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per				
		Rate	Week				
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
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Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
<hr/>							
Subtotal - Labor							

Other Direct Costs	Loaded	Number	Number	Amount
	Rate	Weeks	Units	
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	635.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
<hr/>				
Subtotal - Other Direct Costs				
<hr/>				
Total Estimated Costs				

OE Surface Clearance/Four Foot
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Landfill and Composting Area

Task 3
Work Plan

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.40	1.00	16.80	1,378.61
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	1.50	1.00	63.00	4,200.21
Certified Industrial Hygienist		74.81	40.00	0.30	1.00	12.00	897.72
Engineer II		76.92	42.00	0.40	1.00	16.80	1,292.26
Survey Manager		56.42	42.00	0.50	1.00	21.00	1,184.82
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.75	1.00	30.00	1,598.70
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						159.60	10,552.32

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	1.00	1.00	96.36
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	1.00	1,220.54
Mileage	0.40	50.00	1.00	20.00
Fuel	1.74	1.00	40.00	69.60
Lodging	66.09	8.00	1.00	408.54
Meals and Incidentals	38.55	7.00	1.00	269.85
Project Consumables	192.72	8.00	1.00	1,541.76
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	983.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Subtotal - Other Direct Costs				4,358.97
Total Estimated Costs				14,911.29

OE Surface Clearance/Four Foot
Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Landfill and Composting Area

Task 3
Site Management

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I	82.06				-	-
Project Manager III	76.92	42.00	2.00	1.00	84.00	6,461.28
Project Manager II	66.67				-	-
Certified Industrial Hygienist	74.81				-	-
Engineer II	76.92				-	-
Survey Manager	56.42				-	-
Surveyor V	46.16				-	-
Quality Control Specialist	Regular 47.04				-	-
Site Safety Officer	Regular 47.04	40.00	2.00	1.00	80.00	3,763.20
UXO Supervisor/Tech VI	Regular 53.29	40.00	2.00	1.00	80.00	4,263.20
UXO Supervisor/Tech V	Regular 47.04				-	-
UXO Technician IV	Regular 40.49				-	-
UXO Technician III	Regular 34.10				-	-
Laborer II	Regular 28.65				-	-
Subtotal - Labor					244.00	14,487.68

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97	2.00	4.00	359.76
Cellular Telephone and Service	64.24	2.00	1.00	128.48
Video Camera	32.12	2.00	1.00	64.24
Computer	96.36	2.00	1.00	192.72
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Farrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97	2.00	3.00	269.82
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	3.00	3,661.62
Mileage	0.40	2,000.00	1.00	800.00
Fuel	1.74	64.00	2.00	222.72
Lodging	68.09	21.00	2.00	2,859.78
Meals and Incidentals	38.55	22.00	2.00	1,896.20
Project Consumables	192.72	2.00	1.00	385.44
Printing and Binding	205.56	2.00	1.00	411.12
Shipping	154.17	1.00	3.00	462.51
Site Trailer	963.59		1.00	-
Electrical Hook Up	1,927.17		1.00	-
Magazine Fencing	899.35	1.00	1.00	899.35
Magazine Mobilization	770.87	1.00	1.00	770.87
Donor Explosives	1,541.74			-
Subtotal - Other Direct Costs				13,184.63
Total Estimated Costs				27,672.31

OE Surface Clearance/Four Foot
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Landfill and Composting Area

Task 4
 Land Survey

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per				
		Rate	Week				
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42	42.00	0.70	1.00	29.40	1,658.75
Surveyor V		46.16	42.00	0.75	1.00	31.50	1,454.04
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	0.75	1.00	30.00	1,023.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						90.90	4,135.79

Other Direct Costs	Loaded	Number	Number	Amount
	Rate	Weeks	Units	
FM Radio, Handheld w/ charger	25.69	0.75	2.00	38.54
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	0.75	1.00	72.27
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	0.75	1.00	38.54
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35	0.50	2.00	899.35
Surveyor's Kit	64.24	0.75	1.00	48.18
Total Station Survey Equipment	835.11	1.00	1.00	835.11
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	32.00	1.00	55.68
Lodging	68.09	5.00	2.00	680.90
Meals and Incidentals	38.55	6.00	2.00	462.60
Project Consumables	192.72	0.75	1.00	144.54
Printing and Binding	205.56	1.00	1.00	205.56
Shipping	154.17	1.00	1.00	154.17
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Subtotal - Other Direct Costs				6,437.72
Total Estimated Costs				10,573.51

OE Surface Clearance/Four Foot

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Landfill and Composting Area

**Task 5
Brush Clearance**

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per				
		Rate	Week				
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	0.75	2.00	60.00	2,429.40
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65	40.00	0.75	6.00	180.00	5,157.00
Subtotal - Labor						240.00	7,586.40

Other Direct Costs	Loaded	Number	Number	Amount
	Rate	Weeks	Units	
FM Radio, Handheld w/ charger	25.69	0.75	2.00	38.54
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36	0.75	4.00	289.08
Chainsaw	64.24	0.75	2.00	96.36
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	0.75	2.00	77.09
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	0.75	2.00	674.51
Air Fare - Round Trip	1,220.54			-
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	32.00	2.00	111.36
Lodging	68.09		1.00	-
Meals and Incidentals	38.55	35.00	1.00	1,349.25
Project Consumables	192.72	35.00	1.00	6,745.20
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Subtotal - Other Direct Costs				9,421.39
Total Estimated Costs				17,007.79

OE Surface Clearance/Four Foot
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Landfill and Composting Area

Task 6
Subsurface OE Removal

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.08				-	-
Project Manager III		78.92				-	-
Project Manager II		68.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		78.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.18				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04	40.00	1.25	1.00	50.00	2,352.00
UXO Technician IV	Regular	40.49	40.00	1.25	4.00	200.00	8,098.00
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						250.00	10,450.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	1.25	1.00	32.11
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	84.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39	1.25	1.00	64.24
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	1.25	8.00	513.90
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.87			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09	9.00	5.00	3,064.05
Meals and Incidentals	38.55	10.00	5.00	1,927.50
Project Consumables	192.72	1.25		-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74	0.50	0.20	154.17
Subtotal - Other Direct Costs				5,755.97
Total Estimated Costs				16,205.97

OE Surface Clearance/Four Foot
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Landfill and Composting Area

Task 7
Scrap Turn-In

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per				
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.25	1.00	10.00	532.90
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	0.25	1.00	10.00	404.90
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						20.00	937.80

Other Direct Costs	Loaded	Number	Number	Amount
	Rate	Weeks	Units	
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	84.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	1.00	0.25	112.42
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74	16.00	1.00	27.84
Lodging	68.09	1.00	2.00	136.18
Meals and Incidentals	38.55	1.00	2.00	77.10
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Subtotal - Other Direct Costs				546.26
Total Estimated Costs				1,484.06

OE Surface Clearance/Four Foot

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Landfill and Composting Area

**Task 8
Quality Control**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.08				-	-
Project Manager III		78.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04	40.00	2.00	1.00	80.00	3,763.20
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	2.00	1.00	80.00	2,728.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						160.00	6,491.20

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	2.00	1.00	51.38
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	2.00	2.00	205.56
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	1.00	32.00	55.68
Lodging	68.09	10.00	2.00	1,361.80
Meals and Incidentals	38.55	11.00	2.00	848.10
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Subtotal - Other Direct Costs				5,517.52
Total Estimated Costs				12,008.72

OE Surface Clearance/Four Foot
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 Landfill and Composting Area

Task 9
 Final Report

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.25	1.00	10.50	861.63
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	2.00	1.00	84.00	5,600.28
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92	42.00	0.75	1.00	31.50	2,422.98
Survey Manager		56.42	42.00	1.00	1.00	42.00	2,369.64
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						168.00	11,254.53

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Subtotal - Other Direct Costs				411.12
Total Estimated Costs				11,665.65

OE Surface Clearance/Four Foot
 Corps of Engineers
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 Engineering Design Cost Estimate
 Landfill and Composting Area

Task 10

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per				
		Rate	Week				
Program Management I		82.08					
Project Manager III		76.92					
Project Manager II		66.67					
Certified Industrial Hygienist		74.81					
Engineer II		78.92					
Survey Manager		58.42					
Surveyor V		46.16					
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Quality Control Specialist	Regular	47.04					
Site Safety Officer	Regular	47.04					
UXO Supervisor/Tech VI	Regular	53.29					
UXO Supervisor/Tech V	Regular	47.04					
UXO Technician IV	Regular	40.49					
UXO Technician III	Regular	34.10					
Laborer II	Regular	28.65					
<hr/>							
Subtotal - Labor							

Other Direct Costs	Loaded	Number	Number	Amount
	Rate	Weeks	Units	
FM Radio, Handheld w/ charger	25.69			
FM Radio Repeater/Base Station	44.97			
Cellular Telephone and Service	64.24			
Video Camera	32.12			
Computer	96.36			
Brushcutter, power	96.36			
Chainsaw	64.24			
EOD Demolition Kit	51.39			
Foester Ferrax Ordnance Locator	385.43			
Schonstedt Magnetic Locator	51.39			
Explosive Storage magazine	44.97			
Carrier Phase GPS	899.35			
Surveyor's Kit	64.24			
Total Station Survey Equipment	835.11			
Ford Explorer	321.20			
Pickup, 4x4, 3/4 Ton	449.67			
Air Fare - Round Trip	1,220.54			
Mileage	0.40			
Fuel	1.74			
Lodging	68.09			
Meals and Incidentals	38.55			
Project Consumables	192.72			
Printing and Binding	205.56			
Shipping	154.17			
Site Trailer	963.59			
Electrical Hook Up	1,927.17			
Magazine Fencing	899.35			
Magazine Mobilization	770.67			
Donor Explosives	1,541.74			
<hr/>				
Subtotal - Other Direct Costs				
<hr/>				
Total Estimated Costs				

SECTION G-4
COST ESTIMATE FOR THE POND AREA

SELECTED REMOVAL ALTERNATIVE

Pond Area

Alternative 8 - Surface and Subsurface OE Clearance of Entire Area to a Depth of Four Feet

Alternative 8 requires a complete OE surface and subsurface clearance of 25.23 acres to a depth of four feet. The work schedule is based on working four 10-hour days per work week. Because the surface clearance will be performed concurrently with the subsurface clearance, the cost for the surface clearance is included in the subsurface costs. Where possible, local laborers are used to reduce per diem and labor cost. Per diem costs for labors is assumed to be one-half the JTR rate. Brush clearing efforts are considered moderate in the pond area. It is assumed that 40% of the total grids will require brush clearance. During the Engineering Design effort, 2.47 acres of the pond area were geophysically investigated to a depth of 4 feet. Brush clearance and surface clearance production rates have been proportionally increased to account for this effort previously completed. The land survey effort was not adjusted, as grids established during the Engineering Design initiative add no value to the removal action. Typically, a survey team can survey twenty 100' X 100' grids per day. Given the erratic terrain and vegetation at Camp Croft, this estimate was held to 14 grids per day. Because of the limited effort required to conduct OE removal at this site, a site visit has been determined unnecessary and is omitted from this cost estimate. A site restoration line item has been included in this estimate to account for funds to re-seed and return the site to near original condition.

Total Acreage/grids to Surface Clear:	25.23 acres/110 (100' X100') search grids
Total Acreage Previously Geophysically Investigated:	2.47/11 grids
Adjusted acreage:	22.76 acres
Adjusted number of grids	99 grids
Grids Requiring Brush Clearance	40 grids/9.18 acres
Search Grid Size: 100' X 100'	.22 acres per grid

Production Rates:

Brush Clearance	5 grids per day per four man team (one team)
Land Survey	14 grids per day per two person team (1 team)
Surface Clearance	5.45 grids per day (1.25 acres) per 5 person team (two teams @ 10.9 grids per workday)

Duration:

Project Management	20 working days/4.5 weeks
Land Survey	8 working days/2 weeks (one team)
Brush Clearance	8 working days/2 weeks -- 5 grids per work day per four-person team (one team)
Subsurface Clearance	10 working days/2.5 weeks (two teams)
Disposal	Effort included in Surface Clearance
Quality Control	10 working days/2.5 weeks (2 person team)
Total Duration	20 Working Days/ 4.5 weeks

OE Surface Clearance/Subsurface Clearance To A Depth of Four Feet - Alternative 8
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Pond Area

Labor Category		Summary					
		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				31.50	2,584.89
Project Manager III		76.92				189.00	14,537.88
Project Manager II		66.67				168.00	11,200.56
Certified Industrial Hygienist		74.81				16.00	1,196.96
Engineer II		76.92				63.00	4,845.96
Survey Manager		56.42				151.20	8,530.70
Surveyor V		46.16				84.00	3,877.44
Quality Control Specialist	Regular	47.04				180.00	8,467.20
Site Safety Officer	Regular	47.04				180.00	8,467.20
UXO Supervisor/Tech VI	Regular	53.29				240.00	12,789.60
UXO Supervisor/Tech V	Regular	47.04				200.00	9,408.00
UXO Technician IV	Regular	40.49				900.00	36,441.00
UXO Technician III	Regular	34.10				260.00	8,866.00
Laborer II	Regular	28.65				240.00	6,876.00
Subtotal - Labor						2,902.70	136,089.39

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			398.20
FM Radio Repeater/Base Station	44.97			809.46
Cellular Telephone and Service	64.24			289.08
Video Camera	32.12			144.54
Computer	96.36			722.70
Brushcutter, power	96.36			385.44
Chainsaw	64.24			256.96
EOD Demolition Kit	51.39			128.48
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			2,004.21
Explosive Storage magazine	44.97			607.10
Carrier Phase GPS	899.35			899.35
Surveyor's Kit	64.24			128.48
Total Station Survey Equipment	835.11			1,670.22
Ford Explorer	321.20			6,745.20
Pickup, 4x4, 3/4 Ton	449.67			1,011.76
Air Fare - Round Trip	1,220.54			22,579.99
Mileage	0.40			943.00
Fuel	1.74			1,322.40
Lodging	68.09			21,039.82
Meals and Incidentals	38.55			12,548.03
Project Consumables	192.72			4,239.84
Printing and Binding	205.56			1,438.92
Shipping	154.17			616.68
Site Trailer	963.59			1,445.39
Electrical Hook Up	1,927.17			1,927.17
Magazine Fencing	899.35			899.35
Magazine Mobilization	770.87			770.87
Donor Explosives	1,541.74			1,349.02
Site Remediation	300.00			300.00
Subtotal - Other Direct Costs				87,621.66
Total Estimated Costs				225,711.05

OE Surface Clearance/Subsurface Clearance
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Pond Area

**Task 1
 Site Visit**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		78.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		78.92				-	-
Survey Manager		58.42				-	-
Surveyor V		46.16				-	-
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Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
<hr/>							
Subtotal - Labor						-	-
<hr/>							
Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69					-
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrax Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39					-
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20					-
Pickup, 4x4, 3/4 Ton		449.67					-
Air Fare - Round Trip		1,220.54					-
Mileage		0.40					-
Fuel		1.74					-
Lodging		68.09					-
Meals and Incidentals		36.55					-
Project Consumables		192.72					-
Printing and Binding		205.56					-
Shipping		154.17					-
Site Trailer		983.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.67					-
Donor Explosives		1,541.74					-
Site Remediation		300.00					-
<hr/>							
Subtotal - Other Direct Costs							-
<hr/>							
Total Estimated Costs							-

OE Surface Clearance/Subsurface Clearance
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Pond Area

**Task 3
 Work Plan**

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly Rate	per Week	Weeks	People	Hours	
Program Management I		82.06	42.00	0.50	1.00	21.00	1,723.26
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	2.00	1.00	84.00	5,600.28
Certified Industrial Hygienist		74.81	40.00	0.40	1.00	16.00	1,196.96
Engineer II		76.92	42.00	0.50	1.00	21.00	1,615.32
Survey Manager		56.42	42.00	0.80	1.00	33.60	1,895.71
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	1.00	1.00	40.00	2,131.60
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						215.60	14,163.13

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	1.00	1.00	96.36
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	1.00	1,220.54
Mileage	0.40	50.00	1.00	20.00
Fuel	1.74	1.00	40.00	69.60
Lodging	68.09	6.00	1.00	408.54
Meals and Incidentals	38.55	7.00	1.00	269.85
Project Consumables	192.72	8.00	1.00	1,541.76
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				4,358.97
Total Estimated Costs				18,522.10

OE Surface Clearance/Subsurface Clearance
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Pond Area

Task 3
Site Management

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92	42.00	4.50	1.00	189.00	14,537.88
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04	40.00	4.50	1.00	180.00	8,467.20
UXO Supervisor/Tech VI	Regular	53.29	40.00	4.50	1.00	180.00	9,592.20
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						549.00	32,597.28

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97	4.50	4.00	809.46
Cellular Telephone and Service	64.24	4.50	1.00	289.08
Video Camera	32.12	4.50	1.00	144.54
Computer	96.36	4.50	1.00	433.62
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97	4.50	3.00	607.10
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	4.50	3.00	4,336.20
Pickup, 4x4, 3/4 Ton	449.87			-
Air Fare - Round Trip	1,220.54	4.50	3.00	16,477.29
Mileage	0.40	2,000.00	1.00	800.00
Fuel	1.74	384.00	1.00	888.16
Lodging	68.09	21.00	4.50	6,434.51
Meals and Incidentals	38.55	22.00	4.50	3,816.45
Project Consumables	192.72	4.50	1.00	867.24
Printing and Binding	205.56	2.00	1.00	411.12
Shipping	154.17	1.00	3.00	462.51
Site Trailer	963.59	1.50	1.00	1,445.39
Electrical Hook Up	1,927.17	1.00	1.00	1,927.17
Magazine Fencing	899.35	1.00	1.00	899.35
Magazine Mobilization	770.87	1.00	1.00	770.87
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				41,600.06
Total Estimated Costs				74,197.34

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Task 4
Lead Survey

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly Rate	per Week	Weeks	People	Hours	
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42	42.00	0.80	1.00	33.60	1,895.71
Surveyor V		46.16	42.00	2.00	1.00	84.00	3,877.44
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Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	2.00	1.00	80.00	2,728.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						197.60	8,501.15

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	2.00	2.00	102.76
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	2.00	1.00	192.72
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	2.00	1.00	102.78
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35	0.50	2.00	899.35
Surveyor's Kit	64.24	2.00	1.00	128.48
Total Station Survey Equipment	835.11	2.00	1.00	1,670.22
Ford Explorer	321.20	2.00	1.00	642.40
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	32.00	2.00	111.36
Lodging	68.09	14.00	2.00	1,906.52
Meals and Incidentals	38.55	15.00	2.00	1,156.50
Project Consumables	192.72	2.00	1.00	385.44
Printing and Binding	205.56	1.00	1.00	205.56
Shipping	154.17	1.00	1.00	154.17
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				10,139.34
Total Estimated Costs				18,640.49

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**Task 5
 Brush Clearance**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
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Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	2.00	1.00	80.00	3,239.20
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65	40.00	2.00	3.00	240.00	6,876.00
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Subtotal - Labor						320.00	10,115.20

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.89	2.00	1.00	51.38
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36	2.00	2.00	385.44
Chainsaw	64.24	2.00	2.00	256.96
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	2.00	4.00	411.12
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	2.00	1.00	899.34
Air Fare - Round Trip	1,220.54			-
Mileage	0.40	50.00	1.00	20.00
Fuel	1.74	32.00	2.00	111.36
Lodging	68.09	14.00	2.00	1,906.52
Meals and Incidentals	38.55	15.00	2.00	1,156.50
Project Consumables	192.72	2.00	1.00	385.44
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				5,584.06
Total Estimated Costs				15,699.26

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Task 6
Surface/Subsurface OE Removal - 4 Feet

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		58.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04	40.00	2.50	2.00	200.00	9,408.00
UXO Technician IV	Regular	40.49	40.00	2.50	8.00	800.00	32,392.00
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						1,000.00	41,800.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	2.50	2.00	128.45
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	98.36			-
Brushcutter, power	98.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39	2.50	1.00	128.48
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	2.50	8.00	1,027.80
Explosive Storage magazine	44.97			-
Carrier Phase GPS	699.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09	35.00	2.50	5,957.88
Meals and Incidentals	38.55	36.00	2.50	3,469.50
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74	1.25	0.70	1,349.02
Site Remediation	300.00			-
Subtotal - Other Direct Costs				12,061.13
Total Estimated Costs				53,861.13

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Task 7
Scrap Turn-In

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per				
		Rate	Week				
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.50	1.00	20.00	1,065.80
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	0.50	1.00	20.00	809.80
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						40.00	1,875.80

Other Direct Costs	Loaded	Number	Number	Amount
	Rate	Weeks	Units	
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	1.00	0.25	112.42
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74	80.00	1.00	139.20
Lodging	68.09	1.00	2.00	136.16
Meals and Incidentals	38.55	1.00	2.00	77.10
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				657.62
Total Estimated Costs				2,533.22

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Task 8
Quality Control

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per				
		Rate	Week				
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04	40.00	4.50	1.00	180.00	8,467.20
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	4.50	1.00	180.00	8,138.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						360.00	14,605.20

Other Direct Costs	Loaded	Number	Number	Amount
	Rate	Weeks	Units	
FM Radio, Handheld w/ charger	25.69	4.50	1.00	115.81
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	4.50	2.00	462.51
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	4.50	1.00	1,445.40
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	35.00	4.50	63.00
Fuel	1.74	1.00	128.00	222.72
Lodging	88.09	14.00	4.50	4,289.67
Meals and Incidentals	38.55	15.00	4.50	2,602.13
Project Consumables	192.72	1.00	4.50	867.24
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	983.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				12,509.36
Total Estimated Costs				27,114.56

OE Surface Clearance/Subsurface Clearance
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Task 9
Final Report

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.08	42.00	0.25	1.00	10.50	861.63
Project Manager III		76.92				-	-
Project Manager II		86.67	42.00	2.00	1.00	84.00	5,600.28
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92	42.00	1.00	1.00	42.00	3,230.64
Survey Manager		56.42	42.00	2.00	1.00	84.00	4,739.28
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						220.50	14,431.83

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				411.12
Total Estimated Costs				14,842.95

OE Surface Clearance/Subsurface Clearance
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Task 10
Site Remediation

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly Rate	per Week	Weeks	People	Hours	
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
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Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
<hr/>							
Subtotal - Labor						-	-

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00	1.00	1.00	300.00
Subtotal - Other Direct Costs				300.00
Total Estimated Costs				300.00

EVALUATED REMOVAL ALTERNATIVES

Pond Area

Alternative 3 - Surface Clearance of OE

Alternative 3 requires a complete OE surface clearance of 25.23 acres. Electronic detection instruments are necessary to detect OE hidden from view by high grasses and terrain. The work schedule is based on working four 10-hour days per work week. Where possible, local laborers are used to reduce per diem and labor cost. Per diem costs for labors is assumed to be one-half the JTR rate. Brush clearing efforts are considered moderate in the pond area. It is assumed that 40% of the total grids will require brush clearance. During the Engineering Design effort, 2.47 acres of the pond area were geophysically investigated to a depth of 4 feet. Brush clearance and surface clearance production rates have been proportionally increased to account for this effort previously completed. The land survey effort was not adjusted, as grids established during the Engineering Design initiative add no value to the removal action. Typically, a survey team can survey twenty 100' X 100' grids per day. Given the erratic terrain and vegetation at Camp Croft, this estimate was held to 14 grids per day. Because of the limited effort required to conduct OE removal at this site, a site visit has been determined unnecessary and had been omitted from this cost estimate. A site restoration line item has been included in this estimate to account for funds to re-seed and return the site to near original condition.

Total Acreage/grids to Surface Clear:	25.23 acres/110 (100' X100') search grids
Total Acreage Previously Geophysically Investigated:	2.47/11 grids
Adjusted acreage:	22.76 acres
Adjusted number of grids	99 grids
Grids Requiring Brush Clearance	40 grids/9.18 acres
Search Grid Size: 100' X 100'	.22 acres per grid

Production Rates:

Brush Clearance	5 grids per day per four man team (one team)
Land Survey	14 grids per day per two person team (1 team)
Surface Clearance	8.71 grids per day (2 acres) per 5 person team (one team)

Duration:

Project Management	20 working days/5 weeks
Land Survey	8 working days/2 weeks (one team)
Brush Clearance	8 working days/2 weeks -- 5 grids per work day per four-person team (one team)
Surface Clearance	12 working days/3 weeks (one team)
Disposal	Effort included in Surface Clearance
Quality Control	12 working days/3 weeks (2 person team)
Total Duration	20 Working Days/5 weeks

Surface Clearance of OE - Alternative 3

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Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Summary	
					Estimated Hours	Amount
Program Management I	82.06				31.50	2,584.89
Project Manager III	78.92				210.00	18,153.20
Project Manager II	68.67				147.00	9,800.49
Certified Industrial Hygienist	74.81				18.00	1,198.96
Engineer II	76.92				52.50	4,038.30
Survey Manager	58.42				128.00	7,108.92
Surveyor V	46.16				84.00	3,877.44
Quality Control Specialist	Regular 47.04				120.00	5,644.80
Site Safety Officer	Regular 47.04				200.00	9,408.00
UXO Supervisor/Tech VI	Regular 53.29				250.00	13,322.50
UXO Supervisor/Tech V	Regular 47.04				120.00	5,644.80
UXO Technician IV	Regular 40.49				570.00	23,079.30
UXO Technician III	Regular 34.10				200.00	6,820.00
Laborer II	Regular 28.65				240.00	6,876.00
Subtotal - Labor					2,387.00	115,555.80

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.89			308.28
FM Radio Repeater/Base Station	44.97			674.55
Cellular Telephone and Service	64.24			321.20
Video Camera	32.12			160.60
Computer	96.36			770.88
Brushcutter, power	96.36			385.44
Chainsaw	64.24			258.96
EOD Demolition Kit	51.39			154.17
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			1,593.09
Explosive Storage magazine	44.97			674.55
Carrier Phase GPS	899.35			899.35
Surveyor's Kit	64.24			128.48
Total Station Survey Equipment	835.11			1,870.22
Ford Explorer	321.20			6,745.20
Pickup, 4x4, 3/4 Ton	449.67			1,011.76
Air Fare - Round Trip	1,220.54			9,764.32
Mileage	0.40			920.00
Fuel	1.74			1,338.06
Lodging	88.09			21,516.44
Meals and Incidentals	38.55			12,760.05
Project Consumables	192.72			4,047.12
Printing and Binding	205.56			1,438.92
Shipping	154.17			616.68
Site Trailer	963.59			1,204.49
Electrical Hook Up	1,927.17			1,827.17
Magazine Mobilization	770.87			770.87
Donor Explosives	1,541.74			770.87
Site Remediation	300.00			300.00
Subtotal - Other Direct Costs				74,028.07
Total Estimated Costs				189,584.87

Surface Clearance of
Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pond Area

Task 1
Site Visit

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I	82.06				-	-
Project Manager III	76.92				-	-
Project Manager II	66.67				-	-
Certified Industrial Hygienist	74.81				-	-
Engineer II	76.92				-	-
Survey Manager	58.42				-	-
Surveyor V	46.16				-	-
Quality Control Specialist	Regular 47.04				-	-
Site Safety Officer	Regular 47.04				-	-
UXO Supervisor/Tech VI	Regular 53.29				-	-
UXO Supervisor/Tech V	Regular 47.04				-	-
UXO Technician IV	Regular 40.49				-	-
UXO Technician III	Regular 34.10				-	-
Laborer II	Regular 28.65				-	-
Subtotal - Labor						-
Other Direct Costs	Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger	25.69					-
FM Radio Repeater/Base Station	44.97					-
Cellular Telephone and Service	64.24					-
Video Camera	32.12					-
Computer	96.36					-
Brushcutter, power	96.36					-
Chainsaw	64.24					-
EOD Demolition Kit	51.39					-
Foester Ferrex Ordnance Locator	385.43					-
Schonstedt Magnetic Locator	51.39					-
Explosive Storage magazine	44.97					-
Carrier Phase GPS	899.35					-
Surveyor's Kit	64.24					-
Total Station Survey Equipment	835.11					-
Ford Explorer	321.20					-
Pickup, 4x4, 3/4 Ton	449.87					-
Air Fare - Round Trip	1,220.54					-
Mileage	0.40					-
Fuel	1.74					-
Lodging	68.09					-
Meats and Incidentals	38.55					-
Project Consumables	192.72					-
Printing and Binding	205.56					-
Shipping	154.17					-
Site Trailer	963.59					-
Electrical Hook Up	1,927.17					-
Magazine Mobilization	770.87					-
Donor Explosives	1,541.74					-
Site Remediation	300.00					-
Subtotal - Other Direct Costs						-
Total Estimated Costs						-

Surface Clearance of
Corps of Engineers
Camp Croft, Spartanburg, S.C.
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Task 3
Work Plan

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I	82.06	42.00	0.50	1.00	21.00	1,723.26
Project Manager III	76.92				-	-
Project Manager II	66.67	42.00	2.00	1.00	84.00	5,600.28
Certified Industrial Hygienist	74.81	40.00	0.40	1.00	16.00	1,198.96
Engineer II	76.92	42.00	0.50	1.00	21.00	1,615.32
Survey Manager	56.42	42.00	0.80	1.00	33.60	1,895.71
Surveyor V	48.16				-	-
Quality Control Specialist	Regular 47.04				-	-
Site Safety Officer	Regular 47.04				-	-
UXO Supervisor/Tech VI	Regular 53.29	40.00	1.00	1.00	40.00	2,131.60
UXO Supervisor/Tech V	Regular 47.04				-	-
UXO Technician IV	Regular 40.49				-	-
UXO Technician III	Regular 34.10				-	-
Laborer II	Regular 28.65				-	-
Subtotal - Labor					215.60	14,163.13

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	1.00	1.00	96.36
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.87			-
Air Fare - Round Trip	1,220.54	1.00	1.00	1,220.54
Mileage	0.40	50.00	1.00	20.00
Fuel	1.74	1.00	40.00	69.80
Lodging	68.09	6.00	1.00	408.54
Meals and Incidentals	38.55	7.00	1.00	269.85
Project Consumables	192.72	8.00	1.00	1,541.76
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				4,358.97
Total Estimated Costs				18,522.10

Surface Clearance of

Corps of Engineers
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Engineering Design Cost Estimate
Pond Area

Task 3
Site Management

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I	82.06				-	-
Project Manager III	76.92	42.00	5.00	1.00	210.00	16,153.20
Project Manager II	66.67				-	-
Certified Industrial Hygienist	74.81				-	-
Engineer II	76.92				-	-
Survey Manager	56.42				-	-
Surveyor V	46.16				-	-
Quality Control Specialist Regular	47.04				-	-
Site Safety Officer Regular	47.04	40.00	5.00	1.00	200.00	9,408.00
UXO Supervisor/Tech VI Regular	53.29	40.00	5.00	1.00	200.00	10,658.00
UXO Supervisor/Tech V Regular	47.04				-	-
UXO Technician IV Regular	40.49				-	-
UXO Technician III Regular	34.10				-	-
Laborer II Regular	28.65				-	-
Subtotal - Labor					610.00	36,219.20

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97	5.00	3.00	674.55
Cellular Telephone and Service	64.24	5.00	1.00	321.20
Video Camera	32.12	5.00	1.00	160.60
Computer	96.36	5.00	1.00	481.80
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97	5.00	3.00	674.55
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	5.00	3.00	4,818.00
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	3.00	3,661.62
Mileage	0.40	2,000.00	1.00	800.00
Fuel	1.74	96.00	5.00	835.20
Lodging	68.09	21.00	5.00	7,149.45
Meals and Incidentals	38.55	22.00	5.00	4,240.50
Project Consumables	192.72	5.00	1.00	963.60
Printing and Binding	205.56	2.00	1.00	411.12
Shipping	154.17	1.00	3.00	462.51
Site Trailer	963.59	1.25	1.00	1,204.49
Electrical Hook Up	1,927.17	1.00	1.00	1,927.17
Magazine Mobilization	770.87	1.00	1.00	770.87
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				30,456.58
Total Estimated Costs				66,675.78

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pond Area

Task 4
Land Survey

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42	42.00	0.60	1.00	33.60	1,895.71
Surveyor V		46.16	42.00	2.00	1.00	84.00	3,877.44
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	2.00	1.00	80.00	2,728.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						197.60	8,501.15

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	2.00	2.00	102.76
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	2.00	1.00	192.72
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	2.00	1.00	102.78
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35	0.50	2.00	899.35
Surveyor's Kit	64.24	2.00	1.00	128.48
Total Station Survey Equipment	835.11	2.00	1.00	1,670.22
Ford Explorer	321.20	2.00	1.00	642.40
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	32.00	2.00	111.36
Lodging	68.09	14.00	2.00	1,906.52
Meals and Incidentals	38.55	15.00	2.00	1,156.50
Project Consumables	192.72	2.00	1.00	385.44
Printing and Binding	205.56	1.00	1.00	205.56
Shipping	154.17	1.00	1.00	154.17
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				10,139.34
Total Estimated Costs				18,640.49

Surface Clearance of
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Pond Area

Task 6
Surface OE Removal

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I	82.06				-	-
Project Manager III	76.92				-	-
Project Manager II	66.67				-	-
Certified Industrial Hygienist	74.81				-	-
Engineer II	76.92				-	-
Survey Manager	56.42				-	-
Surveyor V	46.16				-	-
Quality Control Specialist	Regular 47.04				-	-
Site Safety Officer	Regular 47.04				-	-
UXO Supervisor/Tech VI	Regular 53.29				-	-
UXO Supervisor/Tech V	Regular 47.04	40.00	3.00	1.00	120.00	5,644.80
UXO Technician IV	Regular 40.49	40.00	3.00	4.00	480.00	19,435.20
UXO Technician III	Regular 34.10				-	-
Laborer II	Regular 28.65				-	-
Subtotal - Labor					600.00	25,080.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	3.00	1.00	77.07
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39	3.00	1.00	154.17
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	3.00	5.00	770.85
Explosive Storage magazine	44.97			-
Carrier Phase GPS	699.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09	35.00	3.00	7,149.45
Meals and Incidentals	38.55	35.00	3.00	4,047.75
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74	1.00	0.50	770.87
Site Remediation	300.00			-
Subtotal - Other Direct Costs				12,970.16
Total Estimated Costs				38,050.16

Surface Clearance of
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Pond Area

Task 7
Scrap Turn-In

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I	82.06				-	-
Project Manager III	76.92				-	-
Project Manager II	66.67				-	-
Certified Industrial Hygienist	74.81				-	-
Engineer II	76.92				-	-
Survey Manager	56.42				-	-
Surveyor V	46.16				-	-
Quality Control Specialist	Regular 47.04				-	-
Site Safety Officer	Regular 47.04				-	-
UXO Supervisor/Tech VI	Regular 53.29	40.00	0.25	1.00	10.00	532.90
UXO Supervisor/Tech V	Regular 47.04				-	-
UXO Technician IV	Regular 40.49	40.00	0.25	1.00	10.00	404.90
UXO Technician III	Regular 34.10				-	-
Laborer II	Regular 28.65				-	-
Subtotal - Labor					20.00	937.80
Other Direct Costs						
	Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger	25.69					-
FM Radio Repeater/Base Station	44.97					-
Cellular Telephone and Service	64.24					-
Video Camera	32.12					-
Computer	96.36					-
Brushcutter, power	96.36					-
Chainsaw	64.24					-
EOD Demolition Kit	51.39					-
Foester Ferrex Ordnance Locator	385.43					-
Schonstedt Magnetic Locator	51.39					-
Explosive Storage magazine	44.97					-
Carrier Phase GPS	899.35					-
Surveyor's Kit	64.24					-
Total Station Survey Equipment	635.11					-
Ford Explorer	321.20					-
Pickup, 4x4, 3/4 Ton	449.67		1.00	0.25		112.42
Air Fare - Round Trip	1,220.54					-
Mileage	0.40					-
Fuel	1.74		8.00	2.00		27.84
Lodging	68.09		1.00	2.00		136.18
Meals and Incidentals	38.55		2.00	2.00		154.20
Project Consumables	192.72		1.00	1.00		192.72
Printing and Binding	205.56					-
Shipping	154.17					-
Site Trailer	963.59					-
Electrical Hook Up	1,927.17					-
Magazine Mobilization	770.87					-
Donor Explosives	1,541.74					-
Site Remediation	300.00					-
Subtotal - Other Direct Costs						623.36
Total Estimated Costs						1,561.16

Surface Clearance of
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
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 Pond Area

Task 8
Quality Control

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I	82.06				-	-
Project Manager III	76.92				-	-
Project Manager II	66.67				-	-
Certified Industrial Hygienist	74.81				-	-
Engineer II	76.92				-	-
Survey Manager	56.42				-	-
Surveyor V	46.16				-	-
Quality Control Specialist	Regular 47.04	40.00	3.00	1.00	120.00	5,644.80
Site Safety Officer	Regular 47.04				-	-
UXO Supervisor/Tech VI	Regular 53.29				-	-
UXO Supervisor/Tech V	Regular 47.04				-	-
UXO Technician IV	Regular 40.49				-	-
UXO Technician III	Regular 34.10	40.00	3.00	1.00	120.00	4,092.00
Laborer II	Regular 28.65				-	-
Subtotal - Labor					240.00	9,736.80

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	3.00	1.00	77.07
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	3.00	2.00	308.34
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	3.00	1.00	963.60
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	35.00	3.00	182.70
Lodging	68.09	14.00	3.00	2,859.78
Meals and Incidentals	38.55	15.00	3.00	1,734.75
Project Consumables	192.72	3.00	1.00	578.16
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				9,185.48
Total Estimated Costs				18,922.28

Surface Clearance of

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Pond Area

**Task 9
Final Report**

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I	82.06	42.00	0.25	1.00	10.50	861.63
Project Manager III	78.92				-	-
Project Manager II	66.67	42.00	1.50	1.00	63.00	4,200.21
Certified Industrial Hygienist Engineer II	74.81				-	-
	76.92	42.00	0.75	1.00	31.50	2,422.98
Survey Manager	56.42	42.00	1.40	1.00	58.80	3,317.50
Surveyor V	46.16				-	-
Quality Control Specialist Regular	47.04				-	-
Site Safety Officer Regular	47.04				-	-
UXO Supervisor/Tech VI Regular	53.29				-	-
UXO Supervisor/Tech V Regular	47.04				-	-
UXO Technician IV Regular	40.49				-	-
UXO Technician III Regular	34.10				-	-
Laborer II Regular	28.65				-	-
Subtotal - Labor					163.80	10,802.32

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.38			-
Brushcutter, power	96.38			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	699.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				411.12
Total Estimated Costs				11,213.44

Surface Clearance of
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 Camp Croft, Spartanburg, S.C.
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Task 10
Site Remediation

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor							

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.89			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00	1.00	1.00	300.00
Subtotal - Other Direct Costs				300.00
Total Estimated Costs				300.00

Pond Area

Alternative 7 - Surface and Subsurface OE Clearance of Entire Area to a Depth of One Foot

Alternative 7 requires a complete OE surface and subsurface clearance of 25.23 acres to a depth of one foot. The work schedule is based on working four 10-hour days per work week. Where possible, local laborers are used to reduce per diem and labor cost. Per diem costs for labors is assumed to be one-half the JTR rate. Brush clearing efforts are considered moderate in the pond area. It is assumed that 40% of the total grids will require brush clearance. During the Engineering Design effort, 2.47 acres of the pond area were geophysically investigated to a depth of 4 feet. Brush clearance and surface clearance production rates have been proportionally increased to account for this effort previously completed. The land survey effort was not adjusted, as grids established during the Engineering Design initiative add no value to the removal action. Typically, a survey team can survey twenty 100' X 100' grids per day. Given the erratic terrain and vegetation at Camp Croft, this estimate was held to 14 grids per day. Because of the limited effort required to conduct OE removal at this site, a site visit has been determined unnecessary and is omitted from this cost estimate. A site restoration line item has been included in this estimate to account for funds to re-seed and return the site to near original condition.

Total Acreage/grids to Surface Clear:	25.23 acres/110 (100' X100') search grids
Total Acreage Previously Geophysically Investigated:	2.47/11 grids
Adjusted acreage:	22.76 acres
Adjusted number of grids	99 grids
Grids Requiring Brush Clearance	40 grids/9.18 acres
Search Grid Size: 100' X 100'	.22 acres per grid

Production Rates:

Brush Clearance	5 grids per day per four man team (one team)
Land Survey	14 grids per day per two person team (1 team)
Surface Clearance	7.62 grids per day (1.75 acres) per 5 person team (one team)

Duration:

Project Management	22 working days/5.5 weeks
Land Survey	8 working days/2 weeks (one team)
Brush Clearance	8 working days/2 weeks -- 5 grids per work day per four-person team (one team)
Subsurface Clearance	13 working days/3.25 weeks (one team)
Disposal	Effort included in Surface Clearance
Quality Control	13 working days/3.25 weeks (2 person team)
Total Duration	18 Working Days/ 4.5 weeks

OE Surface Clearance/Subsurface Clearance To A Depth of One Foot - Alternative 7
 Corps of Engineers
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Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Summary	
					Estimated Hours	Amount
Program Management I	82.06				31.50	2,584.89
Project Manager III	76.92				231.00	17,788.52
Project Manager II	66.67				188.00	11,200.56
Certified Industrial Hygienist	74.81				18.00	1,196.96
Engineer II	76.92				63.00	4,845.96
Survey Manager	58.42				151.20	8,530.70
Surveyor V	48.16				84.00	3,877.44
Quality Control Specialist	Regular 47.04				130.00	6,115.20
Site Safety Officer	Regular 47.04				220.00	10,348.80
UXO Supervisor/Tech VI	Regular 53.29				270.00	14,388.30
UXO Supervisor/Tech V	Regular 47.04				130.00	6,115.20
UXO Technician IV	Regular 40.49				610.00	24,698.90
UXO Technician III	Regular 34.10				210.00	7,181.00
Laborer II	Regular 28.65				240.00	6,876.00
Subtotal - Labor					2,554.70	125,708.43

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			321.12
FM Radio Repeater/Base Station	44.97			989.34
Cellular Telephone and Service	64.24			353.32
Video Camera	32.12			178.66
Computer	96.36			819.06
Brushcutter, power	96.36			385.44
Chainsaw	64.24			256.96
EOD Demolition Kit	51.39			167.02
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			1,683.03
Explosive Storage magazine	44.97			742.01
Carrier Phase GPS	899.35			899.35
Surveyor's Kit	64.24			128.48
Total Station Survey Equipment	835.11			1,670.22
Ford Explorer	321.20			7,307.30
Pickup, 4x4, 3/4 Ton	449.67			2,473.19
Air Fare - Round Trip	1,220.54			9,764.32
Mileage	0.40			920.00
Fuel	1.74			836.07
Lodging	68.09			23,065.50
Meals and Incidentals	38.55			13,791.26
Project Consumables	192.72			4,191.66
Printing and Binding	205.56			1,438.92
Shipping	154.17			616.68
Site Trailer	963.59			1,445.39
Electrical Hook Up	1,927.17			1,927.17
Magazine Fencing	899.35			899.35
Magazine Mobilization	770.87			770.87
Donor Explosives	1,541.74			925.04
Site Remediation	300.00			300.00
Subtotal - Other Direct Costs				79,264.73
Total Estimated Costs				204,973.16

OE Surface Clearance/Subsurface Clearance
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**Task 1
 Site Visit**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		48.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor							

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	66.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	983.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				
Total Estimated Costs				

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**Task 2
 Work Plan**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.50	1.00	21.00	1,723.26
Project Manager III		78.92				-	-
Project Manager II		66.87	42.00	2.00	1.00	84.00	5,800.28
Certified Industrial Hygienist		74.81	40.00	0.40	1.00	16.00	1,196.96
Engineer II		78.92	42.00	0.50	1.00	21.00	1,815.32
Survey Manager		56.42	42.00	0.80	1.00	33.60	1,895.71
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	1.00	1.00	40.00	2,131.60
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						215.60	14,163.13

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	1.00	1.00	96.36
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	1.00	1,220.54
Mileage	0.40	50.00	1.00	20.00
Fuel	1.74	1.00	40.00	69.60
Lodging	68.09	6.00	1.00	408.54
Meals and Incidentals	38.55	7.00	1.00	269.85
Project Consumables	192.72	8.00	1.00	1,541.76
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				4,358.97
Total Estimated Costs				18,522.10

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Task 3
Site Management

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92	42.00	5.50	1.00	231.00	17,768.52
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04	40.00	5.50	1.00	220.00	10,348.80
UXO Supervisor/Tech VI	Regular	53.29	40.00	5.50	1.00	220.00	11,723.80
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						671.00	39,841.12

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97	5.50	4.00	989.34
Cellular Telephone and Service	64.24	5.50	1.00	353.32
Video Camera	32.12	5.50	1.00	176.66
Computer	96.36	5.50	1.00	529.98
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97	5.50	3.00	742.01
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	5.50	3.00	5,299.80
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	3.00	3,861.62
Mileage	0.40	2,000.00	1.00	800.00
Fuel	1.74	35.00	5.50	334.95
Lodging	68.09	21.00	5.50	7,864.40
Meals and Incidentals	38.55	22.00	5.50	4,864.55
Project Consumables	192.72	5.50	1.00	1,059.96
Printing and Binding	205.58	2.00	1.00	411.12
Shipping	154.17	1.00	3.00	462.51
Site Trailer	963.59	1.50	1.00	1,445.39
Electrical Hook Up	1,927.17	1.00	1.00	1,927.17
Magazine Fencing	899.35	1.00	1.00	899.35
Magazine Mobilization	770.87	1.00	1.00	770.87
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				32,383.00
Total Estimated Costs				72,234.12

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Task A
Land Survey

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42	42.00	0.80	1.00	33.60	1,895.71
Surveyor V		46.16	42.00	2.00	1.00	84.00	3,877.44
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Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	2.00	1.00	80.00	2,728.00
Laborer II	Regular	28.65				-	-
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Subtotal - Labor						197.60	8,501.15

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	2.00	2.00	102.76
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	2.00	1.00	192.72
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	2.00	1.00	102.78
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35	0.50	2.00	899.35
Surveyor's Kit	64.24	2.00	1.00	128.48
Total Station Survey Equipment	835.11	2.00	1.00	1,670.22
Ford Explorer	321.20	2.00	1.00	642.40
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	32.00	2.00	111.36
Lodging	68.09	14.00	2.00	1,906.52
Meals and Incidentals	38.55	15.00	2.00	1,156.50
Project Consumables	192.72	2.00	1.00	385.44
Printing and Binding	205.56	1.00	1.00	205.56
Shipping	154.17	1.00	1.00	154.17
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.67			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				10,139.34
Total Estimated Costs				18,640.49

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**Task 5
 Brush Clearance**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		86.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	2.00	1.00	80.00	3,239.20
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.85	40.00	2.00	3.00	240.00	6,878.00
Subtotal - Labor						320.00	10,115.20

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.89	2.00	1.00	51.38
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36	2.00	2.00	385.44
Chainsaw	64.24	2.00	2.00	256.96
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	2.00	4.00	411.12
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	2.00	1.00	899.34
Air Fare - Round Trip	1,220.54			-
Mileage	0.40	50.00	1.00	20.00
Fuel	1.74	32.00	2.00	111.36
Lodging	68.09	14.00	2.00	1,906.52
Meals and Incidentals	38.55	15.00	2.00	1,156.50
Project Consumables	192.72	2.00	1.00	385.44
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				5,584.06
Total Estimated Costs				15,699.26

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Task 6
 Surface/Subsurface OE Removal - 1 Foot

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04	40.00	3.25	1.00	130.00	6,115.20
UXO Technician IV	Regular	40.49	40.00	3.25	4.00	520.00	21,054.80
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						650.00	27,170.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	3.25	1.00	83.49
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39	3.25	1.00	167.02
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	3.25	5.00	835.09
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	3.25	1.00	1,461.43
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09	35.00	3.25	7,745.24
Meals and Incidentals	38.55	36.00	3.25	4,510.35
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74	1.00	0.60	925.04
Site Remediation	300.00			-
Subtotal - Other Direct Costs				15,727.66
Total Estimated Costs				42,897.66

OE Surface Clearance/Subsurface Clearan-
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**Task 7
 Scrap Turn-In**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.25	1.00	10.00	532.90
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	0.25	1.00	10.00	404.90
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	26.65				-	-
Subtotal - Labor						20.00	937.80

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	98.36			-
Brushcutter, power	98.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	1.00	0.25	112.42
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74	16.00	1.00	27.84
Lodging	68.09	1.00	2.00	136.18
Meals and Incidentals	38.55	2.00	2.00	154.20
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,827.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				623.36
Total Estimated Costs				1,561.16

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**Task 8
 Quality Control**

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly Rate	per Week	Weeks	People	Hours	
Program Management I		82.06				-	-
Project Manager III		78.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04	40.00	3.25	1.00	130.00	6,115.20
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	3.25	1.00	130.00	4,433.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						260.00	10,548.20

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	3.25	1.00	83.49
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	3.25	2.00	334.04
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	3.25	1.00	1,043.90
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	32.00	3.25	180.96
Lodging	68.09	14.00	3.25	3,098.10
Meals and Incidentals	38.55	15.00	3.25	1,879.31
Project Consumables	192.72	3.25	1.00	626.34
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				9,727.22
Total Estimated Costs				20,275.42

OE Surface Clearance/Subsurface Clearance
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Pond Area

Task 9
 Final Report

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.25	1.00	10.50	861.83
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	2.00	1.00	84.00	5,600.28
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92	42.00	1.00	1.00	42.00	3,230.64
Survey Manager		56.42	42.00	2.00	1.00	84.00	4,739.28
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						220.50	14,431.83

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	635.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00			-
Subtotal - Other Direct Costs				411.12
Total Estimated Costs				14,842.95

OE Surface Clearance/Subsurface Clean-
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Pond Area

Task 10
Site Remediation

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly	per				
		Rate	Week				
Program Management I		82.06				-	-
Project Manager III		78.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		78.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
<hr/>							
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
<hr/>							
Subtotal - Labor						-	-

Other Direct Costs	Loaded	Number	Number	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Farrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	88.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.66			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	300.00	1.00	1.00	300.00
Subtotal - Other Direct Costs				300.00
Total Estimated Costs				300.00

**SECTION G-5
COST ESTIMATE FOR THE NATURAL BRUSH/
FOREST AREA**

SELECTED REMOVAL ALTERNATIVE

Natural Brush/Forests - A [Compost Area B]

Alternative 1 - No Further Action with Limited Action (Surface and Subsurface Clearance of OE over a Selected Area to a Depth of Four Feet)

Alternative 1 requires a complete OE surface clearance of a 5 acre area (area planned for future Compost Area B within the Natural Brush/Forest Area - A). Electronic detection instruments are necessary to detect OE hidden from view by high grasses, brush, and terrain. The work schedule is based on working four 10-hour days per work week. Where possible, local laborers are used to reduce per diem and labor cost. Per diem costs for labors is assumed to be one-half the JTR rate. Brush clearing efforts are less intensive than brush clearance for subsurface clearance; therefore, the production effort is established at 5 grids per day per team. It is assumed that approximately 50% of the total grids will require moderate brush clearance efforts. During the Engineering Design effort 0.23 acres were geophysically investigated to a depth of 4 feet. Brush clearance and surface clearance production rates have been proportionally increased to account for the effort previously completed. The land survey effort was not adjusted, as grids established during the Engineering Design initiative add no value to the removal action. Typically, a survey team can survey twenty 100' X 100' grids per day. Given the erratic terrain and vegetation at Camp Croft, this estimate was held to 14 grids per day. A site restoration line item has been included in this estimate to account for funds to re-seed and return the site to near original condition. Due to the limited scope and duration of this clearance effort, a site visit and site trailer/office will not be necessary and have been excluded from this cost estimate.

Total Acreage/grids to Surface Clear:	5 acres/22 (100' X100') search grids
Total Acreage Previously Geophysically Investigated:	0.23 acres
Adjusted acreage:	4.77 acres (approximately 5 acres)
Adjusted number of grids	21 grids
Grids Requiring Brush Clearance	10.5grids/2.3 acres
Search Grid Size: 100' X 100'	.22 acres per grid

Production Rates:

Brush Clearance	5 grids per day per four man team (one team @ 5 grids per day)
Land Survey	14 grids per day per two person team (one team @ 14 grids per day)
Surface Clearance	4.5 grids per day (1 acres) per 5 person team (1 team);

Duration:

Project Management	7 working days/1.75 weeks
Land Survey	2 working days/0.5 week (one team)
Brush Clearance	4 working days/1 week -- 5 grids per work day per four-person team (one team @ 5 grids per workday)
Surface Clearance	6 working days/ 1.5 week (one five-person teams)
Disposal	Effort included in Surface Clearance
Quality Control	5 working days/.1.25 weeks (2 person team)
Total Duration	7 Working Days/1.75 weeks

NFA with Limited Surface & Subsurface Clearance of OE to 4 ft - Alternative 1

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forest Area - A
Clearance of Compost Area - B

Labor Category	Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Summary	
					Estimated Hours	Amount
Program Management I	82.06				27.30	2,240.24
Project Manager III	76.92				73.50	5,663.62
Project Manager II	66.67				147.00	9,800.49
Certified Industrial Hygienist	74.81				12.00	897.72
Engineer II	76.92				48.30	3,715.24
Survey Manager	56.42				84.00	4,739.28
Surveyor V	46.16				21.00	969.36
Quality Control Specialist	Regular 47.04				50.00	2,352.00
Site Safety Officer	Regular 47.04				70.00	3,292.80
UXO Supervisor/Tech VI	Regular 53.29				114.00	6,075.06
UXO Supervisor/Tech V	Regular 47.04				60.00	2,822.40
UXO Technician IV	Regular 40.49				334.00	13,523.66
UXO Technician III	Regular 34.10				70.00	2,387.00
Laborer II	Regular 28.65				240.00	6,876.00
Subtotal - Labor					1,351.10	65,344.87
Other Direct Costs	Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger	25.89					186.25
FM Radio Repeater/Base Station	44.97					359.76
Cellular Telephone and Service	64.24					128.48
Video Camera	32.12					64.24
Computer	96.36					337.26
Brushcutter, power	96.36					385.44
Chainsaw	64.24					128.48
EOD Demolition Kit	51.39					77.09
Foester Ferrex Ordnance Locator	385.43					-
Schonstedt Magnetic Locator	51.39					873.64
Explosive Storage magazine	44.97					179.88
Carrier Phase GPS	899.35					899.35
Surveyor's Kit	64.24					32.12
Total Station Survey Equipment	835.11					835.11
Ford Explorer	321.20					1,043.90
Pickup, 4x4, 3/4 Ton	449.67					1,011.76
Air Fare - Round Trip	1,220.54					9,764.32
Mileage	0.40					552.00
Fuel	1.74					532.44
Lodging	68.09					7,489.90
Meals and Incidentals	38.55					4,279.05
Project Consumables	182.72					2,794.44
Printing and Binding	205.56					1,438.92
Shipping	154.17					616.68
Site Trailer	963.59					-
Electrical Hook Up	1,927.17					-
Magazine Fencing	899.35					899.35
Magazine Mobilization	770.87					770.87
Donor Explosives	1,541.74					154.17
Site Remediation - Pine Farm	300.00					300.00
Subtotal - Other Direct Costs						36,134.90
Total Estimated Costs						101,479.77

NFA with Limited Surface & Subsurface

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forest Area - A
Clearance of Compost Area - B

Task 1
Site Visit

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	-	-	-	-	-
Project Manager III		76.92	-	-	-	-	-
Project Manager II		68.87	-	-	-	-	-
Certified Industrial Hygienist		74.81	-	-	-	-	-
Engineer II		76.92	-	-	-	-	-
Survey Manager		56.42	-	-	-	-	-
Surveyor V		48.16	-	-	-	-	-
Quality Control Specialist	Regular	47.04	-	-	-	-	-
Site Safety Officer	Regular	47.04	-	-	-	-	-
UXO Supervisor/Tech VI	Regular	53.29	-	-	-	-	-
UXO Supervisor/Tech V	Regular	47.04	-	-	-	-	-
UXO Technician IV	Regular	40.49	-	-	-	-	-
UXO Technician III	Regular	34.10	-	-	-	-	-
Laborer II	Regular	28.65	-	-	-	-	-
Subtotal - Labor							-
Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.89					-
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24		-	-		-
Video Camera		32.12		-	-		-
Computer		96.36		-	-		-
Brushcutter, power		96.36		-	-		-
Chainsaw		64.24		-	-		-
EOD Demolition Kit		51.39		-	-		-
Foester Ferrex Ordnance Locator		385.43		-	-		-
Schornstedt Magnetic Locator		51.39		-	-		-
Explosive Storage magazine		44.97		-	-		-
Carrier Phase GPS		899.35		-	-		-
Surveyor's Kit		64.24		-	-		-
Total Station Survey Equipment		835.11		-	-		-
Ford Explorer		321.20		-	-		-
Pickup, 4x4, 3/4 Ton		449.67		-	-		-
Air Fare - Round Trip		1,220.54		-	-		-
Mileage		0.40		-	-		-
Fuel		1.74		-	-		-
Lodging		68.09		-	-		-
Meals and Incidentals		38.55		-	-		-
Project Consumables		192.72		-	-		-
Printing and Binding		205.56		-	-		-
Shipping		154.17		-	-		-
Site Trailer		963.59		-	-		-
Electrical Hook Up		1,927.17		-	-		-
Magazine Fencing		899.35		-	-		-
Magazine Mobilization		770.87		-	-		-
Donor Explosives		1,541.74		-	-		-
Site Remediation - Pine Farm		300.00		-	-		-
Subtotal - Other Direct Costs							-
Total Estimated Costs							-

NFA with Limited Surface & Subsurface

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forest Area - A
Clearance of Compost Area - B

Task 2
Work Plan

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.40	1.00	16.80	1,378.61
Project Manager III		78.92				-	-
Project Manager II		68.67	42.00	1.50	1.00	63.00	4,200.21
Certified Industrial Hygienist		74.81	40.00	0.30	1.00	12.00	897.72
Engineer II		78.92	42.00	0.40	1.00	16.80	1,292.26
Survey Manager		58.42	42.00	0.50	1.00	21.00	1,184.82
Surveyor V		46.18				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.75	1.00	30.00	1,588.70
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						159.60	10,552.32
Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69					-
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36		1.00	1.00		96.36
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39					-
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20		1.00	1.00		321.20
Pickup, 4x4, 3/4 Ton		449.67					-
Air Fare - Round Trip		1,220.54			1.00		1,220.54
Mileage		0.40		50.00	1.00		20.00
Fuel		1.74		1.00	40.00		69.60
Lodging		68.09		6.00	1.00		408.54
Meals and Incidentals		38.55		7.00	1.00		269.85
Project Consumables		192.72		8.00	1.00		1,541.76
Printing and Binding		205.66		1.00	2.00		411.12
Shipping		154.17					-
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs						4,358.97	
Total Estimated Costs						14,911.29	

NFA with Limited Surface & Subsurface

Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Natural Brush/Forest Area - A
 Clearance of Compost Area - B

Task 3
 Site Management

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92	42.00	1.75	1.00	73.50	5,653.62
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04	40.00	1.75	1.00	70.00	3,292.80
UXO Supervisor/Tech VI	Regular	53.29	40.00	1.75	1.00	70.00	3,730.30
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						213.50	12,676.72

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.89			-
FM Radio Repeater/Base Station	44.97	2.00	4.00	359.76
Cellular Telephone and Service	64.24	2.00	1.00	128.48
Video Camera	32.12	2.00	1.00	64.24
Computer	96.36	2.00	1.00	192.72
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97	2.00	2.00	179.88
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	3.00	3,661.62
Mileage	0.40	850.00	1.00	340.00
Fuel	1.74	45.00	1.00	78.30
Lodging	68.09	7.00	2.00	953.26
Meals and Incidentals	38.55	7.00	2.00	539.70
Project Consumables	192.72	2.00	1.00	385.44
Printing and Binding	205.56	2.00	1.00	411.12
Shipping	154.17	1.00	3.00	462.51
Site Trailer	963.59	-	1.00	-
Electrical Hook Up	1,927.17	-	1.00	-
Magazine Fencing	899.35	1.00	1.00	899.35
Magazine Mobilization	770.87	1.00	1.00	770.87
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				9,427.25
Total Estimated Costs				22,103.97

NFA with Limited Surface & Subsurface

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forest Area - A
Clearance of Compost Area - B

Task 4

Land Survey

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42	42.00	0.50	1.00	21.00	1,184.62
Surveyor V		46.16	42.00	0.50	1.00	21.00	969.36
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	0.50	1.00	20.00	682.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						62.00	2,836.18
Other Direct Costs							
		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69		0.50	2.00		25.69
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36		0.50	1.00		48.18
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39		0.50	1.00		25.70
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35		0.50	2.00		899.35
Surveyor's Kit		64.24		0.50	1.00		32.12
Total Station Survey Equipment		835.11		1.00	1.00		835.11
Ford Explorer		321.20		1.00	1.00		321.20
Pickup, 4x4, 3/4 Ton		449.87					-
Air Fare - Round Trip		1,220.54		1.00	2.00		2,441.08
Mileage		0.40		50.00	2.00		40.00
Fuel		1.74		32.00	1.00		55.68
Lodging		66.09		4.00	2.00		544.72
Meals and Incidentals		36.55		4.00	2.00		306.40
Project Consumables		192.72		0.50	1.00		96.36
Printing and Binding		205.56		1.00	1.00		205.56
Shipping		154.17		1.00	1.00		154.17
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs						6,033.32	
Total Estimated Costs						6,869.50	

NFA with Limited Surface & Subsurface

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forest Area - A
Clearance of Compost Area - B

Task 5
Brush Clearance

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		78.92				-	-
Project Manager II		68.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	1.00	2.00	80.00	3,239.20
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65	40.00	1.00	6.00	240.00	6,876.00
Subtotal - Labor						320.00	10,115.20

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	1.00	2.00	51.38
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36	1.00	4.00	385.44
Chainsaw	64.24	1.00	2.00	128.48
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	1.00	2.00	102.78
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	1.00	2.00	899.34
Air Fare - Round Trip	1,220.54			-
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	32.00	2.00	111.36
Lodging	68.09	4.00	8.00	2,178.88
Meals and Incidentals	38.55	4.00	8.00	1,233.60
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	983.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				5,323.98
Total Estimated Costs				15,439.18

NFA with Limited Surface & Subsurface

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forest Area - A
Clearance of Compost Area - B

Task 6
Surface OE Removal

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		78.82				-	-
Project Manager II		68.87				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04	40.00	1.50	1.00	60.00	2,822.40
UXO Technician IV	Regular	40.49	40.00	1.50	4.00	240.00	9,717.60
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.85				-	-
Subtotal - Labor						300.00	12,540.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.88	1.50	2.00	77.07
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39	1.50	1.00	77.09
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	1.50	8.00	616.68
Explosive Storage magazine	44.87			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	448.87			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09	7.00	5.00	2,383.15
Meals and Incidentals	38.55	7.00	5.00	1,349.25
Project Consumables	182.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74	0.50	0.20	154.17
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				4,657.41
Total Estimated Costs				17,197.41

NFA with Limited Surface & Subsurface

Corps of Engineers
Camp Croft, Spartanburg, S.C.
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**Task 7
Scrap Turn-In**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.08				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.28	40.00	0.35	1.00	14.00	746.06
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	0.35	1.00	14.00	566.86
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						28.00	1,312.92
Other Direct Costs							
		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69					-
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsew		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonsted Magnetic Locator		51.39					-
Explosive Storage magazine		44.97					-
Carrier Phase GPS		889.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20					-
Pickup, 4x4, 3/4 Ton		449.67		1.00	0.25		112.42
Air Fare - Round Trip		1,220.54					-
Mileage		0.40					-
Fuel		1.74		25.00	1.00		43.50
Lodging		68.09		1.50	2.00		204.27
Meals and Incidentals		38.55		1.50	2.00		115.65
Project Consumables		192.72		1.00	1.00		192.72
Printing and Binding		205.58					-
Shipping		154.17					-
Site Trailer		983.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs						668.56	
Total Estimated Costs						1,981.48	

NFA with Limited Surface & Subsurface

Corps of Engineers
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Task 8
Quality Control

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		78.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04	40.00	1.25	1.00	50.00	2,352.00
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	1.25	1.00	50.00	1,705.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						100.00	4,057.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	1.25	1.00	32.11
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	395.43			-
Schonstedt Magnetic Locator	51.39	1.25	2.00	128.48
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	1.25	1.00	401.50
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	140.00	2.00	112.00
Fuel	1.74	50.00	2.00	174.00
Lodging	68.09	6.00	2.00	817.08
Meats and Incidentals	38.55	6.00	2.00	462.60
Project Consumables	192.72	2.00	1.00	385.44
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				4,954.29
Total Estimated Costs				9,011.29

NFA with Limited Surface & Subsurface

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**Task 9
Final Report**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.25	1.00	10.50	861.63
Project Manager III		78.92				-	-
Project Manager II		68.67	42.00	2.00	1.00	84.00	5,600.28
Certified Industrial Hygienist		74.81				-	-
Engineer II		78.92	42.00	0.75	1.00	31.50	2,422.98
Survey Manager		58.42	42.00	1.00	1.00	42.00	2,369.64
Surveyor V		46.18				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						168.00	11,254.53
Other Direct Costs							
		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69					-
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrax Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39					-
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20					-
Pickup, 4x4, 3/4 Ton		449.87					-
Air Fare - Round Trip		1,220.54					-
Mileage		0.40					-
Fuel		1.74					-
Lodging		68.09					-
Meals and Incidentals		38.55					-
Project Consumables		192.72					-
Printing and Binding		205.56		1.00	2.00		411.12
Shipping		154.17					-
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs						411.12	
Total Estimated Costs						11,665.65	

NFA with Limited Surface & Subsurface
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 Clearance of Compost Area - B

Task 10
Site Restoration

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor							-

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	84.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	84.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,827.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00	1.00	1.00	300.00
Subtotal - Other Direct Costs				300.00
Total Estimated Costs				300.00

EVALUATED REMOVAL ALTERNATIVES

Natural Brush/Forests - A [Compost Area B]

Alternative 1 - No Further Action with Limited Action (Surface Clearance of OE)

Alternative 1 requires a complete OE surface clearance of a 5 acre area (area planned for future Compost Area B within the Natural Brush/Forest Area - A). Electronic detection instruments are necessary to detect OE hidden from view by high grasses, brush, and terrain. The work schedule is based on working four 10-hour days per work week. Where possible, local laborers are used to reduce per diem and labor cost. Per diem costs for labors is assumed to be one-half the JTR rate. Brush clearing efforts are less intensive than brush clearance for subsurface clearance; therefore, the production effort is established at 5 grids per day per team. It is assumed that approximately 50% of the total grids will require moderate brush clearance efforts. During the Engineering Design effort 0.23 acres were geophysically investigated to a depth of 4 feet. Brush clearance and surface clearance production rates have been proportionally increased to account for the effort previously completed. The land survey effort was not adjusted, as grids established during the Engineering Design initiative add no value to the removal action. Typically, a survey team can survey twenty 100' X 100' grids per day. Given the erratic terrain and vegetation at Camp Croft, this estimate was held to 14 grids per day. A site restoration line item has been included in this estimate to account for funds to re-seed and return the site to near original condition. Due to the limited scope and duration of this clearance effort, a site visit and site trailer/office will not be necessary and have been excluded from this cost estimate.

Total Acreage/grids to Surface Clear:	5 acres/22 (100' X100') search grids
Total Acreage Previously Geophysically Investigated:	0.23 acres
Adjusted acreage:	4.77 acres (approximately 5 acres)
Adjusted number of grids	22 grids
Grids Requiring Brush Clearance	10.5grids/2.3 acres
Search Grid Size: 100' X 100'	.22 acres per grid

Production Rates:

Brush Clearance	5 grids per day per four man team (one team @ 5 grids per day)
Land Survey	14 grids per day per two person team (one team @ 14 grids per day)
Surface Clearance	8.71 grids per day (2 acres) per 5 person team (1 team);

Duration:

Project Management	5 working days/1.25 weeks
Land Survey	2 working days/0.5 week (one team)
Brush Clearance	4 working days/1 week -- 5 grids per work day per four-person team (one team @ 5 grids per workday)
Surface Clearance	4 working days/1 week (one five-person teams)
Disposal	Effort included in Surface Clearance
Quality Control	3 working days/0.75 week (2 person team)
Total Duration	5 Working Days/1.25 weeks

Surface Clearance of OE

Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Natural Brush/Forest Area - A
 Clearance of Compost Area - B

Summary

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				27.30	2,240.24
Project Manager III		78.92				52.50	4,038.30
Project Manager II		68.67				147.00	9,800.49
Certified Industrial Hygienist		74.81				12.00	897.72
Engineer II		78.92				48.30	3,715.24
Survey Manager		56.42				84.00	4,739.28
Surveyor V		46.16				21.00	969.36
Quality Control Specialist	Regular	47.04				30.00	1,411.20
Site Safety Officer	Regular	47.04				50.00	2,352.00
UXO Supervisor/Tech VI	Regular	53.29				90.00	4,796.10
UXO Supervisor/Tech V	Regular	47.04				40.00	1,881.60
UXO Technician IV	Regular	40.49				250.00	10,122.50
UXO Technician III	Regular	34.10				50.00	1,705.00
Laborer II	Regular	28.65				240.00	6,876.00
Subtotal - Labor						1,142.10	55,545.03

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			147.72
FM Radio Repeater/Base Station	44.97			269.82
Cellular Telephone and Service	64.24			96.36
Video Camera	32.12			48.18
Computer	96.36			289.08
Brushcutter, power	96.36			385.44
Chainsaw	64.24			128.48
EOD Demolition Kit	51.39			51.39
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			616.69
Explosive Storage magazine	44.97			179.88
Carrier Phase GPS	899.35			899.35
Surveyor's Kit	64.24			32.12
Total Station Survey Equipment	835.11			835.11
Ford Explorer	321.20			963.60
Pickup, 4x4, 3/4 Ton	449.67			1,011.76
Air Fare - Round Trip	1,220.54			9,764.32
Mileage	0.40			440.00
Fuel	1.74			441.96
Lodging	68.09			6,196.19
Meals and Incidentals	38.55			3,546.60
Project Consumables	192.72			2,601.72
Printing and Binding	205.56			1,438.92
Shipping	154.17			616.68
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			899.35
Magazine Mobilization	770.87			770.87
Donor Explosives	1,541.74			154.17
Site Remediation - Pine Farm	300.00			300.00
Subtotal - Other Direct Costs				33,125.76
Total Estimated Costs				88,670.79

Surface Clear

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forest Area - A
Clearance of Compost Area - B

Task 1
Site Visit

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	-	-	-	-	-
Project Manager III		78.92	-	-	-	-	-
Project Manager II		68.87	-	-	-	-	-
Certified Industrial Hygienist		74.81	-	-	-	-	-
Engineer II		78.92	-	-	-	-	-
Survey Manager		56.42	-	-	-	-	-
Surveyor V		46.16	-	-	-	-	-
Quality Control Specialist	Regular	47.04	-	-	-	-	-
Site Safety Officer	Regular	47.04	-	-	-	-	-
UXO Supervisor/Tech VI	Regular	53.29	-	-	-	-	-
UXO Supervisor/Tech V	Regular	47.04	-	-	-	-	-
UXO Technician IV	Regular	40.49	-	-	-	-	-
UXO Technician III	Regular	34.10	-	-	-	-	-
Laborer II	Regular	28.85	-	-	-	-	-
Subtotal - Labor							-

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.80	-	-	-
FM Radio Repeater/Base Station	44.97	-	-	-
Cellular Telephone and Service	84.24	-	-	-
Video Camera	32.12	-	-	-
Computer	98.36	-	-	-
Brushcutter, power	86.36	-	-	-
Chainsaw	64.24	-	-	-
EOD Demolition Kit	51.39	-	-	-
Foester Ferrax Ordnance Locator	385.43	-	-	-
Schonstedt Magnetic Locator	51.39	-	-	-
Explosive Storage magazine	44.97	-	-	-
Carrier Phase GPS	889.35	-	-	-
Surveyor's Kit	64.24	-	-	-
Total Station Survey Equipment	835.11	-	-	-
Ford Explorer	321.20	-	-	-
Pickup, 4x4, 3/4 Ton	449.67	-	-	-
Air Fare - Round Trip	1,220.54	-	-	-
Mileage	0.40	-	-	-
Fuel	1.74	-	-	-
Lodging	68.09	-	-	-
Meals and Incidentals	38.55	-	-	-
Project Consumables	192.72	-	-	-
Printing and Binding	205.56	-	-	-
Shipping	154.17	-	-	-
Site Trailer	963.59	-	-	-
Electrical Hook Up	1,927.17	-	-	-
Magazine Fencing	889.35	-	-	-
Magazine Mobilization	770.87	-	-	-
Donor Explosives	1,541.74	-	-	-
Site Remediation - Pine Farm	300.00	-	-	-
Subtotal - Other Direct Costs				-
Total Estimated Costs				-

Surface Clear

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forest Area - A
Clearance of Compost Area - B

**Task 2
Work Plan**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.40	1.00	16.80	1,378.61
Project Manager III		78.92				-	-
Project Manager II		66.67	42.00	1.50	1.00	63.00	4,200.21
Certified Industrial Hygienist		74.81	40.00	0.30	1.00	12.00	897.72
Engineer II		76.92	42.00	0.40	1.00	16.80	1,292.26
Survey Manager		56.42	42.00	0.50	1.00	21.00	1,184.82
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.75	1.00	30.00	1,598.70
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						159.60	10,552.32

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	1.00	1.00	96.36
Brushcutter, power	96.36			-
Chainsaw	84.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	1.00	1,220.54
Mileage	0.40	50.00	1.00	20.00
Fuel	1.74	1.00	40.00	69.60
Lodging	68.09	8.00	1.00	408.54
Meals and Incidentals	36.55	7.00	1.00	269.85
Project Consumables	192.72	8.00	1.00	1,541.76
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				4,358.97
Total Estimated Costs				14,911.29

Surface Clear

Corps of Engineers
Camp Croft, Spartanburg, S.C.
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Natural Brush/Forest Area - A
Clearance of Compost Area - B

**Task 3
Site Management**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92	42.00	1.25	1.00	52.50	4,038.30
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.18				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04	40.00	1.25	1.00	50.00	2,352.00
UXO Supervisor/Tech VI	Regular	53.29	40.00	1.25	1.00	50.00	2,664.50
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						152.50	9,054.80

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97	1.50	4.00	269.82
Cellular Telephone and Service	64.24	1.50	1.00	96.36
Video Camera	32.12	1.50	1.00	48.18
Computer	96.36	1.50	1.00	144.54
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97	2.00	2.00	179.88
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	3.00	3,661.62
Mileage	0.40	750.00	1.00	300.00
Fuel	1.74	32.00	1.00	55.68
Lodging	68.09	5.00	2.00	680.90
Meals and Incidentals	38.55	5.00	2.00	385.50
Project Consumables	192.72	2.00	1.00	385.44
Printing and Binding	205.56	2.00	1.00	411.12
Shipping	154.17	1.00	3.00	462.51
Site Trailer	983.59	-	1.00	-
Electrical Hook Up	1,927.17	-	1.00	-
Magazine Fencing	899.35	1.00	1.00	899.35
Magazine Mobilization	770.87	1.00	1.00	770.87
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00			-
Subtotal - Other Direct Costs				8,751.77
Total Estimated Costs				17,806.57

Surface Clear

Corps of Engineers
Camp Croft, Spartanburg, S.C.
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Natural Brush/Forest Area - A
Clearance of Compost Area - B

**Task 4
Land Survey**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.08				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42	42.00	0.50	1.00	21.00	1,184.82
Surveyor V		46.18	42.00	0.50	1.00	21.00	969.36
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	0.50	1.00	20.00	682.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						62.00	2,836.18
Other Direct Costs							
		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.89		0.50	2.00		25.89
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36		0.50	1.00		48.18
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39		0.50	1.00		25.70
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35		0.50	2.00		899.35
Surveyor's Kit		64.24		0.50	1.00		32.12
Total Station Survey Equipment		835.11		1.00	1.00		835.11
Ford Explorer		321.20		1.00	1.00		321.20
Pickup, 4x4, 3/4 Ton		449.67					-
Air Fare - Round Trip		1,220.54		1.00	2.00		2,441.08
Mileage		0.40		50.00	2.00		40.00
Fuel		1.74		32.00	1.00		55.68
Lodging		68.09		4.00	2.00		544.72
Meals and Incidentals		38.55		4.00	2.00		308.40
Project Consumables		192.72		0.50	1.00		96.36
Printing and Binding		205.56		1.00	1.00		205.56
Shipping		154.17		1.00	1.00		154.17
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs						6,033.32	6,033.32
Total Estimated Costs						62.00	8,869.50

Surface Clear

Corps of Engineers
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Clearance of Compost Area - B

**Task 5
Brush Clearance**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist Regular		47.04				-	-
Site Safety Officer Regular		47.04				-	-
UXO Supervisor/Tech VI Regular		53.29				-	-
UXO Supervisor/Tech V Regular		47.04				-	-
UXO Technician IV Regular		40.49	40.00	1.00	2.00	80.00	3,238.20
UXO Technician III Regular		34.10				-	-
Laborer II Regular		26.65	40.00	1.00	6.00	240.00	6,076.00
Subtotal - Labor						320.00	10,115.20
Other Direct Costs		Loaded Rate	Number Weeks	Number Units	Amount		
FM Radio, Handheld w/ charger		25.69	1.00	2.00			51.38
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36					-
Brushcutter, power		96.36	1.00	4.00			385.44
Chainsaw		64.24	1.00	2.00			128.48
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39	1.00	2.00			102.78
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20					-
Pickup, 4x4, 3/4 Ton		449.67	1.00	2.00			899.34
Air Fare - Round Trip		1,220.54					-
Mileage		0.40	50.00	2.00			40.00
Fuel		1.74	32.00	2.00			111.36
Lodging		68.09	4.00	8.00			2,178.88
Meals and Incidentals		38.55	4.00	8.00			1,233.60
Project Consumables		192.72	1.00	1.00			192.72
Printing and Binding		205.56					-
Shipping		154.17					-
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs							5,323.98
Total Estimated Costs							15,439.18

Surface Clear

Corps of Engineers
Camp Croft, Spartanburg, S.C.
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Natural Brush/Forest Area - A
Clearance of Compost Area - B

**Task 6
Surface OE Removal**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		68.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		78.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04	40.00	1.00	1.00	40.00	1,881.60
UXO Technician IV	Regular	40.49	40.00	1.00	4.00	160.00	6,478.40
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						200.00	8,360.00
Other Direct Costs							
		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69		1.00	2.00		51.38
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39		1.00	1.00		51.39
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39		1.00	8.00		411.12
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20					-
Pickup, 4x4, 3/4 Ton		449.67					-
Air Fare - Round Trip		1,220.54					-
Mileage		0.40					-
Fuel		1.74					-
Lodging		68.09		5.00	5.00		1,702.25
Meals and Incidentals		38.55		5.00	5.00		963.75
Project Consumables		192.72					-
Printing and Binding		205.56					-
Shipping		154.17					-
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74		0.50	0.20		154.17
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs						3,334.06	
Total Estimated Costs							11,694.06

Surface Clear

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forest Area - A
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**Task 7
Scrap Turn-In**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
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Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.25	1.00	10.00	532.90
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	0.25	1.00	10.00	404.90
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.85				-	-
Subtotal - Labor						20.00	937.80
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Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69					-
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39					-
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20					-
Pickup, 4x4, 3/4 Ton		449.67		1.00	0.25		112.42
Air Fare - Round Trip		1,220.54					-
Mileage		0.40					-
Fuel		1.74		16.00	1.00		27.84
Lodging		68.09		1.00	2.00		136.18
Meals and Incidentals		38.55		1.00	2.00		77.10
Project Consumables		192.72		1.00	1.00		192.72
Printing and Binding		205.56					-
Shipping		154.17					-
Site Trailer		963.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs							546.26
Total Estimated Costs							1,484.06

Surface Clear

Corps of Engineers
Camp Croft, Spartanburg, S.C.
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**Task 8
Quality Control**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist							
Quality Control Specialist	Regular	47.04	40.00	0.75	1.00	30.00	1,411.20
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	0.75	1.00	30.00	1,023.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						60.00	2,434.20
Other Direct Costs							
		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.69		0.75	1.00		19.27
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsaw		64.24					-
EOD Demolition Kit		51.39					-
Foester Ferret Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39		0.75	2.00		77.09
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		64.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20		1.00	1.00		321.20
Pickup, 4x4, 3/4 Ton		449.67					-
Air Fare - Round Trip		1,220.54		1.00	2.00		2,441.08
Mileage		0.40		50.00	2.00		40.00
Fuel		1.74		35.00	2.00		121.80
Lodging		68.09		4.00	2.00		544.72
Meals and Incidentals		38.55		4.00	2.00		308.40
Project Consumables		192.72		1.00	1.00		192.72
Printing and Binding		205.56					-
Shipping		154.17					-
Site Trailer		993.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs						4,066.28	
Total Estimated Costs						6,500.48	

Surface Clear

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
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**Task 9
Final Report**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.08	42.00	0.25	1.00	10.50	861.63
Project Manager III		76.92				-	-
Project Manager II		88.67	42.00	2.00	1.00	84.00	5,600.28
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92	42.00	0.75	1.00	31.50	2,422.98
Survey Manager		58.42	42.00	1.00	1.00	42.00	2,368.64
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						188.00	11,254.53
Other Direct Costs		Loaded Rate		Number Weeks	Number Units		Amount
FM Radio, Handheld w/ charger		25.89					-
FM Radio Repeater/Base Station		44.97					-
Cellular Telephone and Service		64.24					-
Video Camera		32.12					-
Computer		96.36					-
Brushcutter, power		96.36					-
Chainsaw		84.24					-
EOD Demolition Kit		51.39					-
Foester Ferrex Ordnance Locator		385.43					-
Schonstedt Magnetic Locator		51.39					-
Explosive Storage magazine		44.97					-
Carrier Phase GPS		899.35					-
Surveyor's Kit		84.24					-
Total Station Survey Equipment		835.11					-
Ford Explorer		321.20					-
Pickup, 4x4, 3/4 Ton		449.67					-
Air Fare - Round Trip		1,220.54					-
Mileage		0.40					-
Fuel		1.74					-
Lodging		68.09					-
Meals and Incidentals		38.55					-
Project Consumables		182.72					-
Printing and Binding		205.56		1.00	2.00		411.12
Shipping		154.17					-
Site Trailer		983.59					-
Electrical Hook Up		1,927.17					-
Magazine Fencing		899.35					-
Magazine Mobilization		770.87					-
Donor Explosives		1,541.74					-
Site Remediation - Pine Farm		300.00					-
Subtotal - Other Direct Costs						411.12	
Total Estimated Costs							11,665.65

Surface Clear

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forest Area - A
Clearance of Compost Area - B

**Task 10
Site Restoration**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount	
Program Management I		82.06				-	-	
Project Manager III		76.92				-	-	
Project Manager II		66.67				-	-	
Certified Industrial Hygienist		74.81				-	-	
Engineer II		78.82				-	-	
Survey Manager		56.42				-	-	
Surveyor V		46.16				-	-	
Quality Control Specialist	Regular	47.04				-	-	
Site Safety Officer	Regular	47.04				-	-	
UXO Supervisor/Tech VI	Regular	53.29				-	-	
UXO Supervisor/Tech V	Regular	47.04				-	-	
UXO Technician IV	Regular	40.49				-	-	
UXO Technician III	Regular	34.10				-	-	
Laborer II	Regular	28.65				-	-	
Subtotal - Labor							-	-

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	84.24			-
Video Camera	32.12			-
Computer	96.38			-
Brushcutter, power	96.38			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	182.72			-
Printing and Binding	205.58			-
Shipping	154.17			-
Site Trailer	983.58			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation - Pine Farm	300.00	1.00	1.00	300.00
Subtotal - Other Direct Costs				300.00
Total Estimated Costs				300.00

Natural Brush/Forests - A

Alternative 3 - Surface Clearance of OE

Alternative 3 requires a complete OE surface clearance of 169.05 acres. Electronic detection instruments are necessary to detect OE hidden from view by high grasses and terrain. The work schedule is based on working four 10-hour days per work week. Where possible, local laborers are used to reduce per diem and labor cost. Per diem costs for laborers is assumed to be one-half the JTR rate. Brush clearing efforts are less intensive than brush clearance for subsurface clearance; therefore, the production effort is established at 5 grids per day per team. It is assumed that 80% of the total grids will require moderate brush clearance efforts. During the Engineering Design effort 8.61 acres were geophysically investigated to a depth of 4 feet. Brush clearance and surface clearance production rates have been proportionally increased to account for the effort previously completed. The land survey effort was not adjusted, as grids established during the Engineering Design initiative add no value to the removal action. Typically, a survey team can survey twenty 100' X 100' grids per day. Given the erratic terrain and vegetation at Camp Croft, this estimate was held to 14 grids per day. A site restoration line item has been included in this estimate to account for funds to re-seed and return the site to near original condition.

Total Acreage/grids to Surface Clear:	169.05 acres/736 (100' X100') search grids
Total Acreage Previously Geophysically Investigated:	8.61 acres
Adjusted acreage:	160.44 acres
Adjusted number of grids	698 grids
Grids Requiring Brush Clearance	588 grids/135.17 acres
Search Grid Size: 100' X 100'	.22 acres per grid

Production Rates:

Brush Clearance	5 grids per day per four man team (four teams @ 20 grids per day)
Land Survey	14 grids per day per two person team (three teams @ 42 grids per day)
Surface Clearance	8.71 grids per day (2 acres) per 5 person team (4 teams @ 34.84 grids per workday)

Duration:

Project Management	42 working days/10.5 weeks
Land Survey	20 working days/5 weeks (three teams)
Brush Clearance	30 working days/7.5 weeks -- 5 grids per work day per four-person team (four teams @ 20 grids per workday)
Surface Clearance	21 working days/5.25 weeks (four five-person teams)
Disposal	Effort included in Surface Clearance
Quality Control	21 working days/5.25 weeks (2 person team)
Total Duration	42 Working Days/10.5 weeks

Surface Clearance of OE - Alternative 3

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Summary	
						Estimated Hours	Amount
Program Management I		82.06				39.90	3,274.19
Project Manager III		76.92				441.00	33,921.72
Project Manager II		66.67				201.60	13,440.67
Certified Industrial Hygienist		74.81				16.00	1,196.96
Engineer II		76.92				63.00	4,845.96
Survey Manager		56.42				180.60	10,189.45
Surveyor V		46.16				630.00	29,060.80
Quality Control Specialist	Regular	47.04				210.00	9,878.40
Site Safety Officer	Regular	47.04				420.00	19,756.80
UXO Supervisor/Tech VI	Regular	53.29				512.00	27,284.48
UXO Supervisor/Tech V	Regular	47.04				640.00	39,513.60
UXO Technician IV	Regular	40.49				4,580.00	185,444.20
UXO Technician III	Regular	34.10				810.00	27,621.00
Laborer II	Regular	28.65				7,200.00	206,280.00
Subtotal - Labor						16,144.10	611,728.23

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			2,215.76
FM Radio Repeater/Base Station	44.97			1,888.74
Cellular Telephone and Service	64.24			725.91
Video Camera	32.12			362.96
Computer	96.36			2,553.54
Brushcutter, power	96.36			5,781.60
Chainsaw	64.24			3,854.40
EOD Demolition Kit	51.39			269.80
Foester Ferrex Ordnance Locator	385.43			308.34
Schonstedt Magnetic Locator	51.39			8,248.10
Explosive Storage magazine	44.87			1,416.56
Carrier Phase GPS	899.35			3,597.40
Surveyor's Kit	64.24			963.60
Total Station Survey Equipment	835.11			12,526.65
Ford Explorer	321.20			7,339.42
Pickup, 4x4, 3/4 Ton	449.87			23,045.59
Air Fare - Round Trip	1,220.54			17,087.56
Mileage	0.40			1,100.00
Fuel	1.74			6,457.58
Lodging	68.09			142,648.56
Meals and Incidentals	38.55			81,880.20
Project Consumables	192.72			8,335.14
Printing and Binding	205.56			1,844.48
Shipping	154.17			925.02
Site Trailer	963.59			2,534.24
Electrical Hook Up	1,927.17			1,927.17
Magazine Fencing	899.35			899.35
Magazine Mobilization	770.87			770.87
Donor Explosives	1,541.74			1,927.18
Site Remediation	500.00			500.00
Subtotal - Other Direct Costs				343,735.72
Total Estimated Costs				955,463.95

Surface Clearance

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

**Task 1
Site Visit**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.20	1.00	8.40	689.30
Project Manager III		78.92				-	-
Project Manager II		66.67	42.00	0.80	1.00	33.60	2,240.11
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.80	1.00	32.00	1,705.28
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						74.00	4,634.69

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24	0.80	1.00	51.39
Video Camera	32.12	0.80	1.00	25.70
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43	0.80	1.00	308.34
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	2.00	0.80	513.82
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	5.00	8.00	69.60
Lodging	68.09	4.00	2.00	544.72
Meals and Incidentals	38.55	5.00	2.00	385.50
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				4,572.97
Total Estimated Costs				8,207.66

Surface Clearance

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

**Task 2
Work Plan**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.50	1.00	21.00	1,723.26
Project Manager III		76.92				-	-
Project Manager II		86.67	42.00	2.00	1.00	84.00	5,600.28
Certified Industrial Hygienist		74.81	40.00	0.40	1.00	16.00	1,186.96
Engineer II		76.92	42.00	0.50	1.00	21.00	1,815.32
Survey Manager		56.42	42.00	0.80	1.00	33.60	1,895.71
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	1.00	1.00	40.00	2,131.60
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						215.60	14,163.13

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	1.00	1.00	96.36
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	1.00	1,220.54
Mileage	0.40	50.00	1.00	20.00
Fuel	1.74	1.00	40.00	69.60
Lodging	68.09	6.00	1.00	408.54
Meals and Incidentals	38.55	7.00	1.00	269.85
Project Consumables	192.72	8.00	1.00	1,541.76
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	983.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				4,358.97
Total Estimated Costs				18,522.10

Surface Clearance

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

**Task 3
Site Management**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92	42.00	10.50	1.00	441.00	33,921.72
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04	40.00	10.50	1.00	420.00	19,756.80
UXO Supervisor/Tech VI	Regular	53.29	40.00	10.50	1.00	420.00	22,381.80
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						1,281.00	76,060.32

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97	10.50	4.00	1,888.74
Cellular Telephone and Service	64.24	10.50	1.00	674.52
Video Camera	32.12	10.50	1.00	337.26
Computer	96.36	10.50	1.00	1,011.78
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97	10.50	3.00	1,416.56
Carrier Phase GPS	699.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	3.00	3,661.62
Mileage	0.40	2,000.00	1.00	800.00
Fuel	1.74	105.00	10.50	1,918.35
Lodging	68.09	21.00	10.50	15,013.85
Meals and Incidentals	38.55	22.00	10.50	8,905.05
Project Consumables	192.72	10.50	1.00	2,023.56
Printing and Binding	205.56	2.00	1.00	411.12
Shipping	154.17	1.00	3.00	462.51
Site Trailer	963.59	2.63	1.00	2,534.24
Electrical Hook Up	1,927.17	1.00	1.00	1,927.17
Magazine Fencing	899.35	1.00	1.00	899.35
Magazine Mobilization	770.87	1.00	1.00	770.87
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				44,656.55
Total Estimated Costs				120,716.87

Surface Clearance o

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

**Task 4
Land Survey**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42	42.00	1.50	1.00	63.00	3,554.46
Surveyor V		46.16	42.00	5.00	3.00	630.00	29,080.80
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	5.00	3.00	600.00	20,460.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						1,293.00	53,095.26

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	5.00	6.00	770.70
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	5.00	3.00	1,445.40
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	5.00	3.00	770.85
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35	2.00	2.00	3,597.40
Surveyor's Kit	64.24	5.00	3.00	963.60
Total Station Survey Equipment	835.11	5.00	3.00	12,526.65
Ford Explorer	321.20	5.00	3.00	4,818.00
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	6.00	7,323.24
Mileage	0.40	50.00	6.00	120.00
Fuel	1.74	96.00	5.00	835.20
Lodging	68.09	42.00	5.00	14,298.90
Meals and Incidentals	38.55	43.00	5.00	8,288.25
Project Consumables	192.72	5.00	2.00	1,927.20
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17	3.00	1.00	462.51
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				58,559.02
Total Estimated Costs				111,654.28

Surface Clearance

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

**Task 5
Brush Clearance**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	7.50	4.00	1,200.00	48,588.00
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65	40.00	7.50	24.00	7,200.00	206,280.00
Subtotal - Labor						8,400.00	254,868.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	7.50	4.00	770.70
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36	7.50	8.00	5,781.60
Chainsaw	64.24	7.50	8.00	3,854.40
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	7.50	4.00	1,541.70
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	7.50	4.00	13,490.10
Air Fare - Round Trip	1,220.54			-
Mileage	0.40	50.00	4.00	80.00
Fuel	1.74	140.00	7.50	1,827.00
Lodging	68.09	112.00	7.50	57,195.60
Meals and Incidentals	38.55	112.00	7.50	32,382.00
Project Consumables	192.72	7.50	1.00	1,445.40
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				118,368.50
Total Estimated Costs				373,236.50

Surface Clearance o

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

**Task 6
Surface OE Removal**

Labor Category		Loaded Hourly Rate	Hours per Week	Number		Estimated Hours	Amount
				Weeks	People		
Program Management I		82.08				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
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Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04	40.00	5.25	4.00	840.00	39,513.60
UXO Technician IV	Regular	40.49	40.00	5.25	16.00	3,360.00	136,046.40
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
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Subtotal - Labor						4,200.00	175,560.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	5.25	4.00	539.49
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39	5.25	1.00	269.80
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	5.25	20.00	5,395.95
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	5.25	4.00	9,443.07
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74	140.00	5.25	1,278.90
Lodging	68.09	140.00	5.25	50,046.15
Meals and Incidentals	38.55	141.00	5.25	28,536.64
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74	1.25	1.00	1,927.18
Site Remediation	500.00			-
Subtotal - Other Direct Costs				97,437.18
Total Estimated Costs				272,997.18

Surface Clearance

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

**Task 7
Scrap Turn-In**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.50	1.00	20.00	1,065.80
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	0.50	1.00	20.00	809.80
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						40.00	1,675.60

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	1.00	0.25	112.42
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74	80.00	1.00	139.20
Lodging	68.09	1.00	2.00	136.18
Meats and Incidentals	38.55	1.00	2.00	77.10
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				657.62
Total Estimated Costs				2,533.22

Surface Clearance o

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

**Task 8
Quality Control**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount	
Program Management I		82.06				-	-	
Project Manager III		76.92				-	-	
Project Manager II		66.67				-	-	
Certified Industrial Hygienist		74.81				-	-	
Engineer II		76.92				-	-	
Survey Manager		56.42				-	-	
Surveyor V		48.16				-	-	
Quality Control Specialist	Regular	47.04	40.00	5.25	1.00	210.00	9,878.40	
Site Safety Officer	Regular	47.04				-	-	
UXO Supervisor/Tech VI	Regular	53.29				-	-	
UXO Supervisor/Tech V	Regular	47.04				-	-	
UXO Technician IV	Regular	40.49				-	-	
UXO Technician III	Regular	34.10	40.00	5.25	1.00	210.00	7,161.00	
Laborer II	Regular	28.65				-	-	
Subtotal - Labor							420.00	17,039.40

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	5.25	1.00	134.87
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	5.25	2.00	539.60
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	5.25	1.00	1,686.30
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	35.00	5.25	319.73
Lodging	68.09	14.00	5.25	5,004.62
Meals and Incidentals	38.55	15.00	5.25	3,035.81
Project Consumables	192.72	1.00	5.25	1,011.78
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				14,213.79
Total Estimated Costs				31,253.19

Surface Clearance o

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

**Task 9
Final Report**

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.25	1.00	10.50	861.63
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	2.00	1.00	84.00	5,800.28
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92	42.00	1.00	1.00	42.00	3,230.64
Survey Manager		56.42	42.00	2.00	1.00	84.00	4,739.28
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						220.50	14,431.83

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	36.55			-
Project Consumables	192.72			-
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				411.12
Total Estimated Costs				14,842.95

Surface Clearance o

Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

**Task 10
Site Remediation**

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount	
		Hourly Rate	per Week	Weeks	People	Hours		
Program Management I		82.06				-	-	
Project Manager III		76.92				-	-	
Project Manager II		66.67				-	-	
Certified Industrial Hygienist		74.81				-	-	
Engineer II		76.92				-	-	
Survey Manager		56.42				-	-	
Surveyor V		46.16				-	-	
Quality Control Specialist	Regular	47.04				-	-	
Site Safety Officer	Regular	47.04				-	-	
UXO Supervisor/Tech VI	Regular	53.29				-	-	
UXO Supervisor/Tech V	Regular	47.04				-	-	
UXO Technician IV	Regular	40.49				-	-	
UXO Technician III	Regular	34.10				-	-	
Laborer II	Regular	28.65				-	-	
Subtotal - Labor							-	-

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00	1.00	1.00	500.00
Subtotal - Other Direct Costs				500.00
Total Estimated Costs				500.00

Natural Brush/Forests - A

Alternative 7 - Surface and Subsurface OE Clearance Over Entire Area to a Depth of One Foot

Alternative 7 requires a complete OE surface and subsurface OE clearance of 169.05 acres to a depth of one foot. The work schedule is based on working four 10-hour days per work week. Where possible, local laborers are used to reduce per diem and labor cost. Per diem costs for labor is assumed to be one-half the JTR rate. Because the surface clearance will be performed concurrently with the subsurface clearance, the cost for the surface clearance is included in the subsurface costs. Brush clearing efforts are intensive based on previous work performed at the site; therefore, the production effort is established at 4 grids per day per team. It is assumed that 80% of the total grids will require moderate brush clearance efforts. During the Engineering Design effort 8.61 acres were geophysically investigated to a depth of 4 feet. Brush clearance and surface clearance production rates have been proportionally increased to account for the effort previously completed. The land survey effort was not adjusted, as grids established during the Engineering Design initiative add no value to the removal action. Typically, a survey team can survey twenty 100' X 100' grids per day. Given the erratic terrain and vegetation at Camp Croft, this estimate was held to 14 grids per day. A site restoration line item has been included in this estimate to account for funds to re-seed and return the site to near original condition.

Total Acreage/grids to Surface Clear:	169.05 acres/736 (100' X100') search grids
Total Acreage Previously Geophysically Investigated:	8.61 acres
Adjusted acreage:	160.44 acres
Adjusted number of grids	698 grids
Grids Requiring Brush Clearance	588 grids/135.17 acres
Search Grid Size: 100' X 100'	.22 acres per grid

Production Rates:

Brush Clearance	4 grids per day per four man team (four teams @ 16 grids per day)
Land Survey	14 grids per day per two person team (three teams @ 42 grids per day)
Surface Clearance	7.62 grids per day (1.75 acres) per 5 person team (4 teams @ 30.48 grids per workday)

Duration:

Project Management	45 working days/11.25 weeks
Land Survey	20 working days/5 weeks (three teams)
Brush Clearance	37 working days/9.25 weeks -- 4 grids per work day per four-person team (four teams @ 16 grids per workday)
Subsurface Clearance	23 working days/5.75 weeks (four five-person teams)
Disposal	Effort included in Surface Clearance
Quality Control	23 working days/5.75 weeks (2 person team)
Total Duration	45 Working Days/11.25 weeks

OE Surface/Subsurface Clearance of Entire Area to 1 Foot - Alternative 7
 Corps of Engineers
 Camp Croft, Spartanburg, S.C.
 Engineering Design Cost Estimate
 Natural Brush/Forests--A

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Summary	
						Estimated Hours	Amount
Program Management I		82.06				39.90	3,274.19
Project Manager III		76.92				472.50	36,344.70
Project Manager II		68.67				222.60	14,840.74
Certified Industrial Hygienist		74.81				20.00	1,496.20
Engineer II		76.92				63.00	4,845.96
Survey Manager		56.42				231.00	13,033.02
Surveyor V		46.18				630.00	29,080.80
Quality Control Specialist	Regular	47.04				230.00	10,819.20
Site Safety Officer	Regular	47.04				450.00	21,168.00
UXO Supervisor/Tech VI	Regular	53.29				542.00	28,883.18
UXO Supervisor/Tech V	Regular	47.04				920.00	43,276.80
UXO Technician IV	Regular	40.49				5,180.00	209,738.20
UXO Technician III	Regular	34.10				830.00	28,303.00
Laborer II	Regular	28.85				8,880.00	254,412.00
Subtotal - Labor						18,711.00	699,515.99

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			2,459.82
FM Radio Repeater/Base Station	44.97			2,023.65
Cellular Telephone and Service	64.24			774.09
Video Camera	32.12			387.05
Computer	96.36			2,625.81
Brushcutter, power	96.36			4,456.65
Chainsaw	64.24			2,971.10
EOD Demolition Kit	51.39			295.49
Foester Ferrex Ordnance Locator	385.43			308.34
Schonstedt Magnetic Locator	51.39			9,173.12
Explosive Storage magazine	44.97			1,517.74
Carrier Phase GPS	899.35			3,597.40
Surveyor's Kit	64.24			963.80
Total Station Survey Equipment	835.11			12,526.65
Ford Explorer	321.20			7,500.02
Pickup, 4x4, 3/4 Ton	449.67			27,092.62
Air Fare - Round Trip	1,220.54			17,087.56
Mileage	0.40			1,100.00
Fuel	1.74			7,261.46
Lodging	68.09			162,309.54
Meals and Incidentals	38.55			93,435.57
Project Consumables	192.72			10,695.96
Printing and Binding	205.56			1,644.48
Shipping	154.17			925.02
Site Trailer	983.59			2,707.69
Electrical Hook Up	1,927.17			1,927.17
Magazine Fencing	899.35			899.35
Magazine Mobilization	770.87			770.87
Donor Explosives	1,541.74			2,775.13
Site Remediation	500.00			500.00
Subtotal - Other Direct Costs				382,712.95
Total Estimated Costs				1,082,228.94

OE Surface/Subsurface Clearance of
Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

Task 1
Site Visit

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06	42.00	0.20	1.00	8.40	689.30
Project Manager III		76.92				-	-
Project Manager II		86.87	42.00	0.80	1.00	33.60	2,240.11
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.80	1.00	32.00	1,705.28
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						74.00	4,634.69

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24	0.80	1.00	51.39
Video Camera	32.12	0.80	1.00	25.70
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43	0.80	1.00	308.34
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	2.00	0.80	513.92
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	5.00	8.00	89.60
Lodging	88.09	4.00	2.00	544.72
Meats and Incidentals	38.55	5.00	2.00	385.50
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.58			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				4,572.97
Total Estimated Costs				9,207.66

OE Surface/Subsurface Clearance of
Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

Task 2
Week Plan

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly Rate	per Week	Weeks	People	Hours	
Program Management I		82.06	42.00	0.50	1.00	21.00	1,723.26
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	2.50	1.00	105.00	7,000.35
Certified Industrial Hygienist		74.81	40.00	0.50	1.00	20.00	1,486.20
Engineer II		76.92	42.00	0.50	1.00	21.00	1,615.32
Survey Manager		56.42	42.00	2.00	1.00	84.00	4,739.28
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	1.00	1.00	40.00	2,131.60
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						291.00	18,706.01

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	1.00	1.00	96.36
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	635.11			-
Ford Explorer	321.20	1.00	1.00	321.20
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	1.00	1,220.54
Mileage	0.40	50.00	1.00	20.00
Fuel	1.74	1.00	40.00	69.60
Lodging	68.09	6.00	1.00	408.54
Meals and Incidentals	38.55	7.00	1.00	269.85
Project Consumables	192.72	8.00	1.00	1,541.76
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				4,358.97
Total Estimated Costs				23,064.98

OE Surface/Subsurface Clearance of
Corps of Engineers
Camp Croft, Spartanburg, S.C.
Engineering Design Cost Estimate
Natural Brush/Forests--A

Task 3
Site Management

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.06				-	-
Project Manager III		76.92	42.00	11.25	1.00	472.50	36,344.70
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04	40.00	11.25	1.00	450.00	21,168.00
UXO Supervisor/Tech VI	Regular	53.29	40.00	11.25	1.00	450.00	23,980.50
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						1,372.50	81,493.20

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97	11.25	4.00	2,023.65
Cellular Telephone and Service	64.24	11.25	1.00	722.70
Video Camera	32.12	11.25	1.00	361.35
Computer	96.36	11.25	1.00	1,084.05
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97	11.25	3.00	1,517.74
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	3.00	3,661.62
Mileage	0.40	2,000.00	1.00	800.00
Fuel	1.74	105.00	11.25	2,055.38
Lodging	68.09	21.00	11.25	16,086.26
Meals and Incidentals	38.55	22.00	11.25	9,541.13
Project Consumables	192.72	11.25	1.00	2,168.10
Printing and Binding	205.56	2.00	1.00	411.12
Shipping	154.17	1.00	3.00	462.51
Site Trailer	963.59	2.81	1.00	2,707.69
Electrical Hook Up	1,927.17	1.00	1.00	1,927.17
Magazine Fencing	899.35	1.00	1.00	899.35
Magazine Mobilization	770.87	1.00	1.00	770.87
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				47,200.69
Total Estimated Costs				128,693.89

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Task 4
Land Survey

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly Rate	per Week	Weeks	People	Hours	
Program Management I		62.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42	42.00	1.50	1.00	63.00	3,554.46
Surveyor V		46.16	42.00	5.00	3.00	630.00	29,080.80
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	5.00	3.00	600.00	20,460.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						1,293.00	53,085.26

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	5.00	6.00	770.70
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36	5.00	3.00	1,445.40
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	5.00	3.00	770.85
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35	2.00	2.00	3,597.40
Surveyor's Kit	64.24	5.00	3.00	963.60
Total Station Survey Equipment	835.11	5.00	3.00	12,526.65
Ford Explorer	321.20	5.00	3.00	4,818.00
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	6.00	7,323.24
Mileage	0.40	50.00	6.00	120.00
Fuel	1.74	96.00	5.00	835.20
Lodging	68.09	42.00	5.00	14,298.90
Meals and Incidentals	38.55	43.00	5.00	8,288.25
Project Consumables	192.72	5.00	2.00	1,927.20
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17	3.00	1.00	462.51
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				58,559.02
Total Estimated Costs				111,654.28

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Task 5
Brush Clearance

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount	
		Hourly Rate	per Week	Weeks	People	Hours		
Program Management I		82.06				-	-	
Project Manager III		78.92				-	-	
Project Manager II		68.67				-	-	
Certified Industrial Hygienist		74.81				-	-	
Engineer II		78.92				-	-	
Survey Manager		56.42				-	-	
Surveyor V		48.16				-	-	
Quality Control Specialist	Regular	47.04				-	-	
Site Safety Officer	Regular	47.04				-	-	
UXO Supervisor/Tech VI	Regular	53.29				-	-	
UXO Supervisor/Tech V	Regular	47.04				-	-	
UXO Technician IV	Regular	40.49	40.00	9.25	4.00	1,480.00	59,925.20	
UXO Technician III	Regular	34.10				-	-	
Laborer II	Regular	28.85	40.00	9.25	24.00	8,880.00	254,412.00	
Subtotal - Labor							10,360.00	314,337.20

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	9.25	4.00	950.53
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	98.36			-
Brushcutter, power	98.36	9.25	5.00	4,458.65
Chainsaw	64.24	9.25	5.00	2,971.10
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	9.25	4.00	1,901.43
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	9.25	4.00	16,837.79
Air Fare - Round Trip	1,220.54			-
Mileage	0.40	50.00	4.00	80.00
Fuel	1.74	128.00	9.25	2,080.16
Lodging	88.09	112.00	9.25	70,541.24
Meals and Incidentals	38.55	113.00	9.25	40,294.39
Project Consumables	192.72	9.25	2.00	3,565.32
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	983.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				143,458.81
Total Estimated Costs				457,795.81

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Task 6
Subsurface OE Removal

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount	
		Hourly Rate	per Week	Weeks	People	Hours		
Program Management I		82.06				-	-	
Project Manager III		76.92				-	-	
Project Manager II		66.67				-	-	
Certified Industrial Hygienist		74.81				-	-	
Engineer II		76.92				-	-	
Survey Manager		56.42				-	-	
Surveyor V		46.16				-	-	
Quality Control Specialist	Regular	47.04				-	-	
Site Safety Officer	Regular	47.04				-	-	
UXO Supervisor/Tech VI	Regular	53.29				-	-	
UXO Supervisor/Tech V	Regular	47.04	40.00	5.75	4.00	920.00	43,276.80	
UXO Technician IV	Regular	40.49	40.00	5.75	16.00	3,680.00	149,003.20	
UXO Technician III	Regular	34.10				-	-	
Laborer II	Regular	28.65				-	-	
Subtotal - Labor							4,600.00	192,260.00

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	5.75	4.00	590.87
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39	5.75	1.00	295.49
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	5.75	20.00	5,909.85
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	5.75	4.00	10,342.41
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74	128.00	5.75	1,260.64
Lodging	66.09	140.00	5.75	54,812.45
Meals and Incidentals	38.55	141.00	5.75	31,254.41
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,027.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74	1.80	1.00	2,775.13
Site Remediation	500.00			-
Subtotal - Other Direct Costs				107,261.25
Total Estimated Costs				299,541.25

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Task 7
Scrap Turn-In

Labor Category		Loaded Hourly Rate	Hours per Week	Number Weeks	Number People	Estimated Hours	Amount
Program Management I		82.08				-	-
Project Manager III		78.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29	40.00	0.50	1.00	20.00	1,065.60
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49	40.00	0.50	1.00	20.00	809.80
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.65				-	-
Subtotal - Labor						40.00	1,875.60

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67	1.00	0.25	112.42
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74	80.00	1.00	139.20
Lodging	68.09	1.00	2.00	136.18
Meals and Incidentals	38.55	1.00	2.00	77.10
Project Consumables	192.72	1.00	1.00	192.72
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				857.62
Total Estimated Costs				2,633.22

**OE Surface/Subsurface Clearance of
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**Task 8
Quality Control**

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly Rate	per Week	Weeks	People	Hours	
Program Management I		82.06				-	-
Project Manager III		76.92				-	-
Project Manager II		66.67				-	-
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92				-	-
Survey Manager		56.42				-	-
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04	40.00	5.75	1.00	230.00	10,818.20
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10	40.00	5.75	1.00	230.00	7,843.00
Laborer II	Regular	28.65				-	-
Subtotal - Labor						460.00	18,662.20

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69	5.75	1.00	147.72
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39	5.75	2.00	590.89
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20	5.75	1.00	1,846.90
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54	1.00	2.00	2,441.08
Mileage	0.40	50.00	2.00	40.00
Fuel	1.74	432.00	1.00	751.68
Lodging	68.09	14.00	5.75	5,481.25
Meals and Incidentals	38.55	15.00	5.75	3,324.94
Project Consumables	192.72	5.75	1.00	1,108.14
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				15,732.70
Total Estimated Costs				34,394.90

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Task 9
Final Report

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount
		Hourly Rate	per Week	Weeks	People	Hours	
Program Management I		82.06	42.00	0.25	1.00	10.50	861.63
Project Manager III		76.92				-	-
Project Manager II		66.67	42.00	2.00	1.00	84.00	5,600.28
Certified Industrial Hygienist		74.81				-	-
Engineer II		76.92	42.00	1.00	1.00	42.00	3,230.64
Survey Manager		56.42	42.00	2.00	1.00	84.00	4,739.28
Surveyor V		46.16				-	-
Quality Control Specialist	Regular	47.04				-	-
Site Safety Officer	Regular	47.04				-	-
UXO Supervisor/Tech VI	Regular	53.29				-	-
UXO Supervisor/Tech V	Regular	47.04				-	-
UXO Technician IV	Regular	40.49				-	-
UXO Technician III	Regular	34.10				-	-
Laborer II	Regular	28.85				-	-
Subtotal - Labor						220.50	14,431.83

Other Direct Costs	Loaded Rate	Number Weeks	Number Units	Amount
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	84.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	88.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56	1.00	2.00	411.12
Shipping	154.17			-
Site Trailer	983.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00			-
Subtotal - Other Direct Costs				411.12
Total Estimated Costs				14,842.95

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**Task 10
Site Remediation**

Labor Category		Loaded	Hours	Number	Number	Estimated	Amount	
		Hourly	per					Weeks
		Rate	Week					
Program Management I		82.06				-	-	
Project Manager III		76.92				-	-	
Project Manager II		66.67				-	-	
Certified Industrial Hygienist		74.81				-	-	
Engineer II		76.92				-	-	
Survey Manager		56.42				-	-	
Surveyor V		46.16				-	-	
Quality Control Specialist	Regular	47.04				-	-	
Site Safety Officer	Regular	47.04				-	-	
UXO Supervisor/Tech VI	Regular	53.29				-	-	
UXO Supervisor/Tech V	Regular	47.04				-	-	
UXO Technician IV	Regular	40.49				-	-	
UXO Technician III	Regular	34.10				-	-	
Laborer II	Regular	28.65				-	-	
Subtotal - Labor							-	-

Other Direct Costs	Loaded	Number	Number	Amount
	Rate	Weeks	Units	
FM Radio, Handheld w/ charger	25.69			-
FM Radio Repeater/Base Station	44.97			-
Cellular Telephone and Service	64.24			-
Video Camera	32.12			-
Computer	96.36			-
Brushcutter, power	96.36			-
Chainsaw	64.24			-
EOD Demolition Kit	51.39			-
Foester Ferrex Ordnance Locator	385.43			-
Schonstedt Magnetic Locator	51.39			-
Explosive Storage magazine	44.97			-
Carrier Phase GPS	899.35			-
Surveyor's Kit	64.24			-
Total Station Survey Equipment	835.11			-
Ford Explorer	321.20			-
Pickup, 4x4, 3/4 Ton	449.67			-
Air Fare - Round Trip	1,220.54			-
Mileage	0.40			-
Fuel	1.74			-
Lodging	68.09			-
Meals and Incidentals	38.55			-
Project Consumables	192.72			-
Printing and Binding	205.56			-
Shipping	154.17			-
Site Trailer	963.59			-
Electrical Hook Up	1,927.17			-
Magazine Fencing	899.35			-
Magazine Mobilization	770.87			-
Donor Explosives	1,541.74			-
Site Remediation	500.00	1.00	1.00	500.00
Subtotal - Other Direct Costs				500.00
Total Estimated Costs				500.00