

**Final
Site Investigation
Site-Specific Field Sampling Plan, Site-Specific Safety and
Health Plan, and Site-Specific Unexploded Ordnance Safety
Plan Attachments for Chemical Warfare Material Sites –
Agent ID Area (Parcel 509), Training Area T-6 (Naylor Field)
(Parcel 183), Blacktop Training Area (Parcel 511), Fenced
Yard in Blacktop Area (Parcel 512), Dog Training Area (Parcel
513), Dog Kennel Area (Parcel 516), Training Area T-5 (Parcel
182), Former Detection and Identification Area (Parcel 180),
Old Burn Pit (Parcel 514), CBR Proficiency Area (Parcel 517),
and Old Toxic Training Area (Parcel 188)**

**Fort McClellan
Calhoun County, Alabama**

**Delivery Order CK10
Contract No. DACA21-96-D-0018
IT Project No. 796887**

October 2000

**Final
Site Investigation
Site-Specific Field Sampling Plan Attachment for Chemical
Warfare Material Sites – Agent ID Area (Parcel 509), Training
Area T-6 (Naylor Field) (Parcel 183), Blacktop Training Area
(Parcel 511), Fenced Yard in Blacktop Area (Parcel 512), Dog
Training Area (Parcel 513), Dog Kennel Area (Parcel 516),
Training Area T-5 (Parcel 182), Former Detection and
Identification Area (Parcel 180), Old Burn Pit (Parcel 514), CBR
Proficiency Area (Parcel 517), and Old Toxic Training Area
(Parcel 188)**

**Fort McClellan
Calhoun County, Alabama**

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**Delivery Order CK10
Contract No. DACA21-96-D-0018
IT Project No. 796887**

October 2000

Revision 1

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List of Acronyms

See Attachment 1, List of Abbreviations and Acronyms.

Executive Summary

In accordance with Contract Number DACA21-96-D-0018, Delivery Order CK10, IT Corporation (IT) will conduct sampling and analysis activities associated with a site investigation (SI) at 11 chemical warfare material (CWM) hazardous, toxic, and radioactive waste sites at Fort McClellan (FTMC), Calhoun County, Alabama to determine the nature and extent of contamination to warrant corrective measures at these sites. The CWM sites that this SI will investigate are the following:

- Agent ID Area (Parcel 509[7])
- Training Area T-6 (Naylor Field) (Parcel 183[6])
- Blacktop Training Area (Parcel 511[7])
- Fenced Yard in Blacktop Area (Parcel 512[7])
- Dog Training Area (Parcel 513[7])
- Dog Kennel Area (Parcel 516[7])
- Training Area T-5 (Parcel 182[7])
- Former Detection and Identification Area (Parcel 180[7])
- Old Burn Pit (Parcel 514[7])
- Chemical, Biological, and Radioactive Proficiency Area (Parcel 517[7])
- Old Toxic Training Area (Parcel 188[7]).

Prior to IT conducting any field work at these sites, the U.S. Army Corps of Engineers (USACE)-Huntsville will clear the sites for CWM. Therefore, data related to CWM will not be collected as part of this SI. A CWM investigation will be provided in the CWM engineering evaluation/cost analysis that is being proposed by USACE-Huntsville.

The purpose of this site-specific sampling and analysis plan is to provide technical guidance for sampling and analysis activities at the CWM sites. These CWM sites are located in the center area of the Main Post. Specifically, IT will collect 43 surface soil samples, 43 subsurface soil samples, 41 groundwater samples, 17 surface water samples, and 17 sediment samples at the CWM sites. Chemical analyses of the samples collected during the field program will include volatile organic compounds, semivolatile organic compounds, metals, and CWM breakdown products. In addition, sediment samples will be analyzed for total organic carbon and grain size. Results from these analyses will be compared with site-specific screening levels presented in the IT July 2000 *Final Human Health and Ecological Screening Values and PAH Background Summary Report* and regulatory agency guidelines.

A USACE-Huntsville requirement for conducting work at the CWM sites at FTMC is to use unexploded ordnance (UXO) anomaly avoidance techniques; therefore, UXO surface sweeps and downhole surveys of soil borings will be required to support field activities at the CWM sites.

The surface sweeps and downhole surveys will be conducted to identify anomalies for the purposes of UXO avoidance.

The site-specific field sampling plan attachment to the installation-wide sampling and analysis plan (SAP) for the CWM sites will be used in conjunction with the site-specific safety and health plan, the site-specific UXO safety plan, the installation-wide work plan, and the SAP. The SAP includes the installation-wide safety and health plan, waste management plan, ordnance and explosives management plan, and quality assurance plan. Site-specific hazard analyses are included in the site-specific safety and health plan and the site-specific UXO safety plan.

1.0 Project Description

1.1 Introduction

The U.S. Army is conducting studies of the environmental impact of suspected contaminants at Fort McClellan (FTMC) in Calhoun County, Alabama, under the management of the U.S. Army Corps of Engineers (USACE)-Mobile District. The USACE has contracted IT Corporation (IT) to provide environmental services for the site investigation (SI) of 11 chemical warfare material (CWM) sites, Parcels 509(7), 183(6), 511(7), 512(7), 513(7), 516(7), 182(7), 180(7), 514(7), 517(7), and 188(7), under Delivery Order CK10, Contract Number DACA21-96-D-0018.

This site-specific field sampling plan (SFSP) attachment to the installation-wide sampling and analysis plan (SAP) (IT, 2000a) for FTMC has been prepared to provide technical guidance for sample collection and analysis to complete an SI at the 11 CWM sites. This SFSP will be used in conjunction with the site-specific safety and health plan (SSHP) and the site-specific unexploded ordnance (UXO) safety plan developed for this SI at the CWM sites, and the installation-wide work plan (WP) (IT, 1998) and SAP. The SAP includes the installation-wide safety and health plan (SHP), waste management plan, ordnance and explosives management plan, and quality assurance plan (QAP). Site-specific hazard analyses are included in the SSHP and the site-specific UXO safety plan.

1.2 FTMC Site Description and History

FTMC is located in the foothills of the Appalachian Mountains of northeastern Alabama near the cities of Anniston and Weaver in Calhoun County. The post is approximately 60 miles northeast of Birmingham, 75 miles northwest of Auburn, and 95 miles west of Atlanta, Georgia. FTMC consists of three main areas of government-owned and leased properties: Main Post, Pelham Range, and Choccolocco Corridor (leased). The lease for the Choccolocco Corridor was terminated in May 1998. The size of each property is presented below:

- Main Post 18,929 acres
- Pelham Range 22,245 acres
- Choccolocco Corridor (leased) 4,488 acres.

The Main Post is bounded on the east by the Choccolocco Corridor, which connects the Main Post with the Talladega National Forest. Pelham Range is located approximately 5 miles west of the Main Post and adjoins the Anniston Army Depot on the southwest. Pelham Range is bordered on the east by U.S. Highway 431.

FTMC is under the jurisdiction of the U.S. Army Training and Doctrine Command. The installation housed three major organizations including the U.S. Army Military Police School, the U.S. Army Chemical School, and the Training Center (under the direction of the training brigade), in addition to other major support units and tenants.

The U.S. government purchased 18,929 acres of land near Anniston in 1917 for use as an artillery range and a training camp due to the outbreak of World War I. The site was named Camp McClellan in honor of Major General George B. McClellan, a former leader of the Union Army during the Civil War. Camp McClellan was used to train troops for World War I from 1917 until the armistice. It was then designated as a demobilization center. Between 1919 and 1929, Camp McClellan served as a training area for active army units and other civilian elements. Camp McClellan was redesignated as FTMC in 1929 and continued to serve as a training area.

In 1940, the government acquired an additional 22,245 acres west of FTMC. This tract of land was named Pelham Range. In 1941, the Alabama Legislature leased approximately 4,488 acres to the U.S. government to provide an access corridor from the Main Post to Talladega National Forest. This corridor provided access to additional woodlands for training. The lease for the 4,488 acres (Choccolocco Corridor) was terminated in May 1998.

The U.S. Army operated the Chemical Corps School at FTMC from 1951 until the school was deactivated in 1973. The Chemical Corps School offered advanced training in all phases of chemical, biological, and radiological warfare to students from all branches of the military service.

FTMC was officially closed in September 1999. A portion of the Main Post has been added to the City of Anniston and another portion is scheduled to be transferred to the Department of Justice and the Alabama National Guard. The remainder of the Main Post is retained by the U.S. Army, who is administering to the property.

Recent activities at FTMC can be divided into support activities, academic training, and practical training. Support activities included housing, food services, and troop transportation during training. Academic training included classroom, laboratory, and field instruction. Practical

training included weapons, artillery and explosives, vehicle operation and maintenance, and physical and tactical training activities.

1.3 CWM Site Descriptions

The CWM sites, Parcels 509(7), 183(6), 511(7), 512(7), 513(7), 516(7), 182(7), 180(7), 514(7), 517(7), and 188(7), are located in the southeast area of the Main Post (Figures 1-1 and 1-2). The individual CWM sites to be investigated as part of this SI are described below.

Agent ID Area, Parcel 509(7). The Agent ID Area, Parcel 509(7) comprises approximately 1.2 acres within the Main Post at FTMC (Figure 1-3). The site is located west of 8th Avenue at the athletic field. Little is known about the history of this site with respect to any CWM-related activities. This area was identified on the 1969 Orientation Map of the Chemical Corps Student Guide (USACE, 1999a). Analysis of the historical aerial photographs shows that a great deal of activity has occurred at this area over the years (Parsons Engineering Science, Inc. [Parsons], 1999). This is to be expected, however, based on the area's central location on base. There is not any evidence observed in the photographs that indicates potential burial areas (Parsons, 1999). A site visit to this area in February 1999 by Parsons showed the area to be in an athletic field with an oval 400-meter running track on part of the area. There was not any evidence of burial at the surface observed during the site visit (Parsons, 1999).

Training Area T-6 (Naylor Field), Parcel 183(6). Training Area T-6 (Naylor Field), Parcel 183(6) is a heavily wooded area located at the base of the eastern slope of Howitzer Hill, about 300 feet southwest of the intersection of 23rd Street and 10th Avenue, and west of South Branch of Cane Creek (Figure 1-4) (Parsons, 1999). Training Area T-6 was used from an unknown date prior to 1954 until 1973. Historically, it was called the Howitzer Hill Decontamination Area or the Former Agent Decontamination Training Area. The site encompasses about 10 acres. The area was fenced and posted; however, the site is accessible due to breaks in the fence because of age and lack of maintenance. The area contained eight training sites that consisted of concrete pads on which equipment was parked, and a network of drainage ditches that may have drained to a shallow pond (Parsons, 1999). Only four concrete pads were located during a February 1999 site visit by Parsons (Parsons, 1999). Numerous drainage ditches were also located in the area surrounding the pads and were believed to have been used to drain liquids from the pads to a shallow open pond. The pond area was not visible during Parsons site visit. There was not any evidence of burial sites at the time of Parsons' site visit (Parsons, 1999). A site visit by IT in August 2000 also did not reveal any evidence of burial sites.

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 STARTING DATE: 12/20/99
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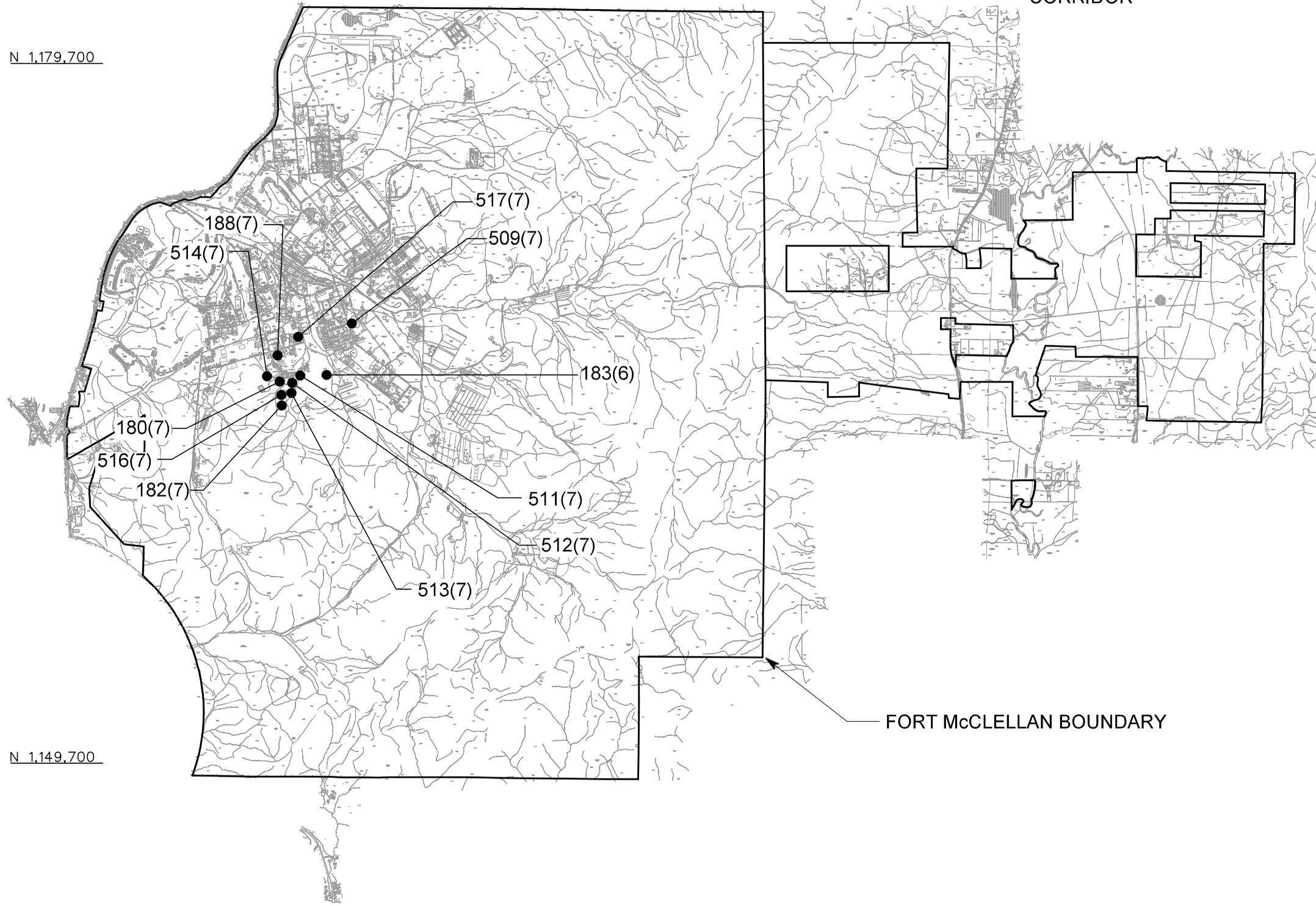
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LEGEND


 FORT McCLELLAN BOUNDARY

MAIN POST

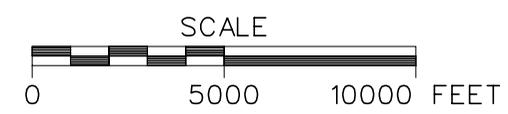
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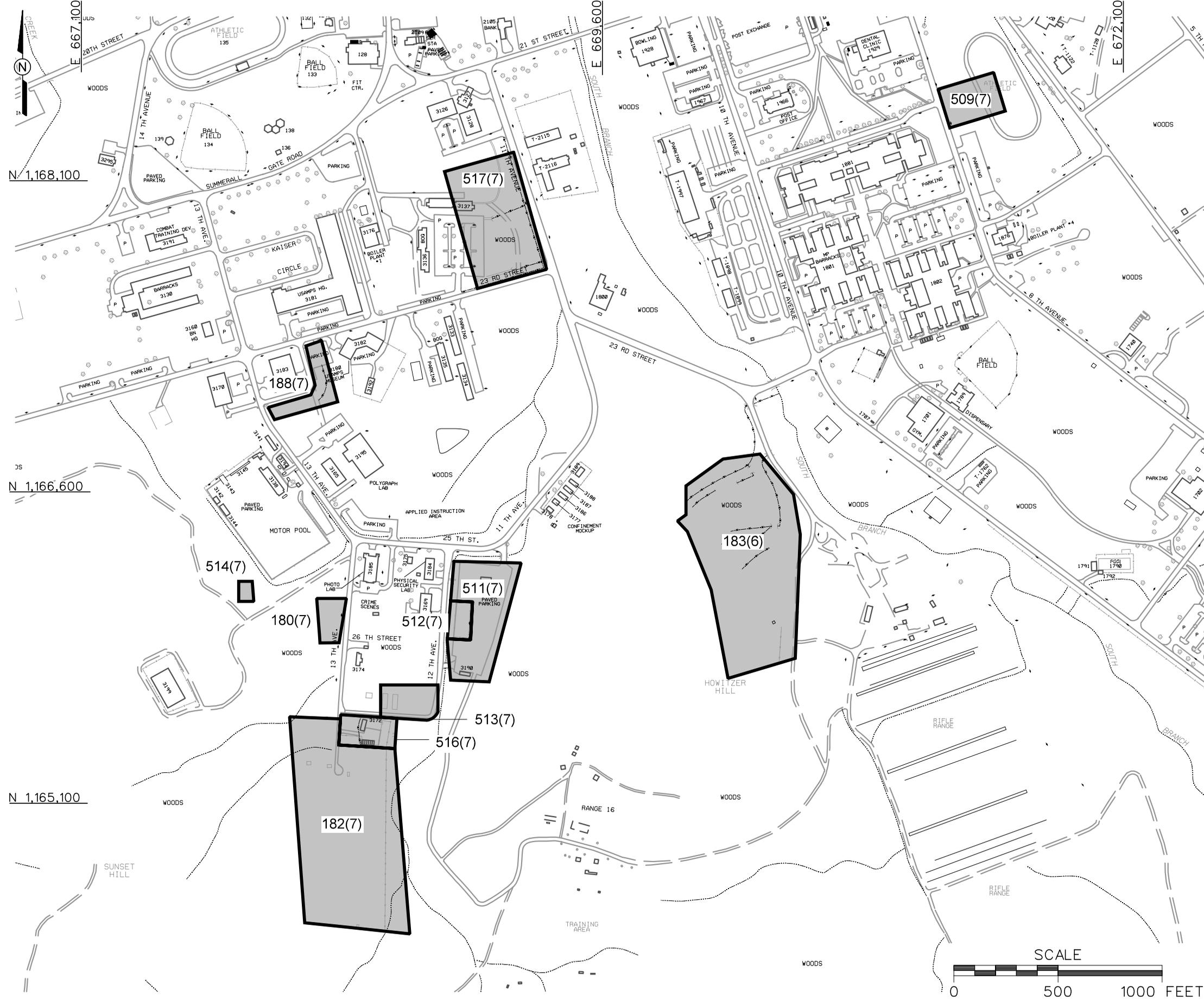
FIGURE 1-1
SITE LOCATION MAP
SITE INVESTIGATION AT
CWM SITES
PARCELS 509(7), 183(6), 511(7),
512(7), 513(7), 516(7), 182(7), 180(7)
514(7), 517(7) AND 188(7)

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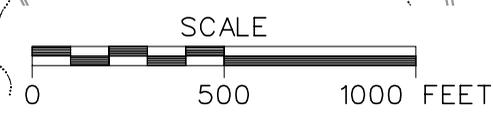
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 DRAWN BY: D. BILLINGSLEY
 STARTING DATE: 12/16/99
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- LEGEND**
- UNIMPROVED ROADS AND PARKING
 - PAVED ROADS AND PARKING
 - BUILDING
 - TREES / TREELINE
 - PARCEL BOUNDARY
 - BRIDGE
 - CULVERT WITH HEADWALL
 - SURFACE DRAINAGE / CREEK
 - MANMADE SURFACE DRAINAGE FEATURE
 - FENCE
 - UTILITY POLE

FIGURE 1-2
SITE MAP
SITE INVESTIGATION AT
CWM SITES
PARCELS 509(7), 183(6), 511(7),
512(7), 513(7), 516(7), 182(7), 180(7),
514(7), 517(7) AND 188(7)

U. S. ARMY CORPS OF ENGINEERS
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 FORT McCLELLAN
 CALHOUN COUNTY, ALABAMA
 Contract No. DACA21-96-D-0018



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 PROJ. NO.: 796887
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 PROJ. MGR.: J. YACOUB
 DRAFT. CHCK. BY:
 ENGR. CHCK. BY: J. RAGSDALE
 STARTING DATE: 12/14/99
 DATE LAST REV.:
 DRAWN BY: D. BILLINGSLEY

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 N 1,168,300



- LEGEND**
- UNIMPROVED ROADS AND PARKING
 - PAVED ROADS AND PARKING
 - BUILDING
 - TOPOGRAPHIC CONTOURS (CONTOUR INTERVAL - 5 FOOT)
 - TREES / TREELINE
 - PARCEL BOUNDARY
 - UTILITY POLE

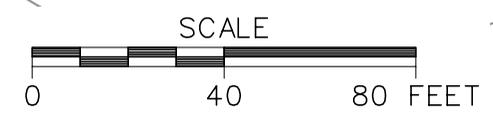


FIGURE 1-3
SITE MAP
 AGENT ID AREA
 PARCEL 509(7)
 SITE INVESTIGATION AT
 CWM SITES

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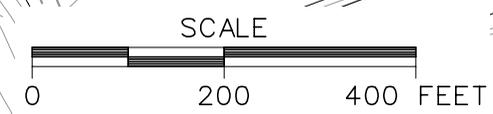
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 PROJ. MGR.: J. YACOB
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- LEGEND**
- UNIMPROVED ROADS AND PARKING
 - PAVED ROADS AND PARKING
 - BUILDING
 - SLAB
 - TOPOGRAPHIC CONTOURS (CONTOUR INTERVAL - 5 FOOT)
 - TREES / TREELINE
 - MARSH / WETLANDS
 - PARCEL BOUNDARY
 - CULVERT WITH HEADWALL
 - SURFACE DRAINAGE / CREEK
 - MANMADE SURFACE DRAINAGE FEATURE
 - FENCE
 - UTILITY POLE
 - HISTORICAL FEATURES, SAIC, 1993

FIGURE 1-4
SITE MAP
TRAINING AREA T-6 (NAYLOR FIELD)
PARCEL 183(6)
SITE INVESTIGATION AT
CWM SITES

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 FORT McCLELLAN
 CALHOUN COUNTY, ALABAMA
 Contract No. DACA21-96-D-0018



SOURCE: SCIENCE APPLICATIONS INTERNATIONAL CORPORATION, 1993,
 "DRAFT FORT McCLELLAN REMEDIAL INVESTIGATION REPORT", AUGUST.



The training activities conducted reportedly involved the decontamination of various CWMs including distilled mustard (HD), lewisite, and sarin (GB), as well as the decontamination solutions supertropical bleach (STB), decontamination agent, noncorrosive (DANC), and Decontamination Solution Number 2 (DS2) (Roy F. Weston, Inc. [Weston], 1990; Science Applications International Corporation [SAIC], 1993; Environmental Science and Engineering, Inc. [ESE], 1998). Not more than 40 milliliters of HD was typically reported to be used during each exercise (Weston, 1990). However, personnel interviewed during the environmental baseline survey (EBS) site visit stated that training aids were intentionally contaminated with up to 2 gallons of HD during each exercise (ESE, 1998). The training aids consisted of surplus vehicles that had been taken out of service and dedicated to these decontamination training exercises. After being intentionally contaminated with chemical warfare agent (CWA), the training aid was decontaminated using volumes of decontaminant (STB, DS2, or DANC) well in excess of the volume actually required to affect complete decontamination. One report indicated that both agents mustard and HD were used, and that most training occurred in the northern half of the area (ESE, 1998). Reportedly, personnel decontamination was also conducted here before trainees left the site; expended protective mask canisters were collected and sent to the on-site landfill; presumably to Landfill No. 3 (ESE, 1998).

Vehicles used as training aids are clearly visible at Training Area T-6 on aerial photographs (December 9, 1954, and March 10, 1973) (ESE, 1998). The training aids were located in the northern portion of the site and aligned northeast-southwest in 1954. The training aids were located in the same area in 1973, but were realigned to a northwest-southeast orientation (ESE, 1998).

CWM was not detected in surface soil samples collected and analyzed by the Army in 1973. The area was authorized by U.S. Army Toxic and Hazardous Material Agency and the U. S. Army Chemical School (USACMLS) for surface use only because subsurface soil sampling had not been conducted. The SI completed in 1993 included six soil samples collected from three locations at depths of between 1 foot and 5 feet (SAIC, 1993). Of these three locations, two were adjacent to the decontamination pads in the central-western portion of the site and one was near the pad at the southern end of the site near the gate. The samples were screened for HD using the Miniature Continuous Air Monitoring System (MINICAMS) and nothing was detected above background readings. Laboratory analysis for agent degradation products was also negative (SAIC, 1993).

The historical aerial photograph analysis shows open areas and objects possibly used for decontamination training. Nearly all of the activity occurred on the northern half of this site. One cleared area at the end of a north/south trail near the center of the fenced area appears in the 1954 aerial photograph and is suspected of being a possible burial site (Parsons, 1999). However, a site visit by IT in August 2000 did not reveal any burial sites. Activity at the site ceased or diminished dramatically sometime after 1969, since the area becomes largely revegetated in the subsequent photograph taken in 1982 (Parsons, 1999). This timeframe coincides with the reported dates of use for the area, with activities stopping in 1973 when the Chemical School left FTMC (Parsons, 1999).

Blacktop Training Area, Parcel 511(7) and Fenced Yard in Blacktop Area, Parcel 512(7). The Blacktop Training Area, Parcel 511(7), will be addressed with the Fenced Yard in the Blacktop Area, Parcel 512, as identified in the archive search report (USACE, 1999a). The area is a little over 3 acres and is primarily an “asphalt parking lot” type area located south of 25th Street, along the east side of 12th Avenue, with viewing stands (bleachers) on both ends of the area, and an inner fenced-in portion (Figure 1-5) (Parsons, 1999). The fenced yard in the Blacktop Area is almost one-half acre in addition to the 3 acres in the Blacktop Area.

The Blacktop Training Area was identified on the 1956 map of the Chemical Corps Training Areas and the 1969 Chemical School Orientation Map (Parsons, 1999). Various demonstrations may have taken place here, such as decontamination training, but the exact use is unknown. The area was reportedly used for training in the use of flame throwers, decontamination equipment, and smoke generators. The Fenced Yard, enclosed by the high fence, was believed to have been used to store agent or for toxic agent training (Figure 1-5). However, it may be a more recent structure (Parsons, 1999).

The analysis of historical aerial photographs shows that the area was cleared in the early 1940s and paved sometime after the 1954 aerial photograph was taken (Parsons, 1999). Once the area was paved, very few changes occurred that are visible in the aerial photographs. The one change that did occur is that the fenced area (Fenced Yard in Blacktop Area, Parcel 512) on the western edge of the pavement first shows up in the 1982 aerial photograph (Parsons, 1999). Anomaly features seen on the photographs located at the north and south ends of the paved area are bleachers, suggesting that training demonstrations took place here (Parsons, 1999).