

**Final
Site-Specific Unexploded Ordnance Safety Plan Attachment
Unexploded Ordnance Support during Construction
Activities for Drum Removal and Sampling at Former Agent
Training Area, Range K, Parcel 203(7)
Fort McClellan, Calhoun County, Alabama**

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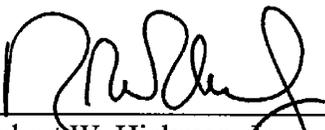
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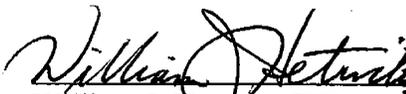
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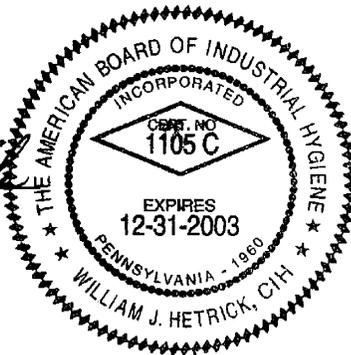
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Unexploded Ordnance Support during Construction
Activities for Drum Removal and Sampling at Former Agent
Training Area, Range K, Parcel 203(7)
Fort McClellan, Calhoun County, Alabama**

I have read and approve this site-specific unexploded ordnance (UXO) safety plan attachment for the Former Agent Training Area, Range K, Parcel 203(7) - Pelham Range, Fort McClellan, Calhoun County, Alabama, with respect to project hazards, regulatory requirements, and IT Corporation UXO procedures.


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24 May 02
Date


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5/23/02
Date

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List of Acronyms

See Attachment 1, List of Abbreviations and Acronyms, of the site-specific field sampling plan attachment contained in this binder.

1.0 General Information

This document defines unexploded ordnance (UXO) construction support procedures for activities to be performed by IT Corporation (IT) in conjunction with the site investigation activities at Range K, Former Agent Training Area, Parcel 203(7), at Fort McClellan (FTMC), Calhoun County, Alabama. IT will perform limited surface and subsurface UXO detection and safety support incidental to the collection of samples from inside and in the vicinity surrounding the removal of a partially exposed drum and the collection of excavation confirmation soil samples.

1.1 Site Location and Topography

The Former Agent Training Area, Range K, Parcel 203(7), is located in the northwest corner of Pelham Range, which is west of the Main Post. It is in a valley flanked by northeast-southwest topographic ridges and thrust faults. The elevation of the site ranges from about 570 and 610 feet above mean seal level (North American Vertical Datum of 1988). Surface drainage is to the southeast.

1.2 Site History

Range K is a 2-acre former chemical agent training area. The complete time of operation and the precise nature of the activities conducted at the site have not been completely documented. It is reported that shell tapping, where rounds were opened and decontaminated, was performed at Range K prior to 1961 through 1963. During training exercises, the standard practice involved breaking open one 155 millimeter (mm) distilled mustard, one 105-mm Sarin, and one 4.2-inch phosgene mortar round. The site has been physically rearranged by bulldozing and records indicate that the area was cleared for surface usage in 1967. Spent rounds, decontamination agent cans, and diethylenetriamine, sodium hydroxide, ethylene glycol monomethyl ether cans were observed by the U.S. Army Environmental Center during a site visit. Subsequent visits confirmed these observations. The site was located based on the 1997 U.S. Army Toxic and Hazardous Material Agency installation assessment and on the locations of a downed fence line.

1.3 Potential OE

Because this area has not been used as an impact area or firing range area, the probability of encountering ordnance and explosives (OE) has been determined to be low. There remains, however, the remote possibility of finding residue from chemical decontamination training.

2.0 Technical Management Plan

2.1 General

This section describes the technical approach and procedures to be employed by IT in providing UXO construction support/safety support during drum removal and sampling operations. IT expects to make a single excavation in support of sampling operations.

2.1.1 Construction Support

Construction support activities will be performed in accordance with the IT Corporation Installation-Wide Ordnance and Explosives Management Plan (Appendix E of the Installation-Wide Sampling and Analysis Plan [SAP]) (IT, 2002a). The work at Range K will conform with the requirements of U.S. Army Corps of Engineers (USACE) EP 75-1-2 “Unexploded Ordnance Support during Hazardous, Toxic and Radioactive Waste, and Construction Activities”.

Personnel and work standards will be in compliance with data item description (DID) OE-025.

2.2 Chemical Warfare Material

Chemical warfare material (CWM) could be encountered during the sampling activities at Range K. IT is not authorized to perform CWM-related tasks. If a suspected CWM is encountered during sampling activities, the procedures listed below will be followed.

The initial Exclusion Zone for a suspected CWM will be established at a minimum of 450 feet upwind.

Neither the suspect item nor the area will be disturbed further after discovery.

The discoverer will immediately notify the on-site UXO Technician III (UXO Technician III responsibilities described in Section 2.3.1.2).

The UXO Technician III will immediately direct the work team to stop work and evacuate the site along a cleared path in an upwind direction. Upon evacuation, the UXO Technician III will account for all work site personnel.

The UXO Technician III will note the location of the suspected CWM to assist with identification and relocation as required.

- The UXO Technician III will designate a minimum of two individuals to position themselves upwind at least 450 feet to prevent unauthorized personnel from entry into the area.
- The UXO Technician III will immediately notify the IT Project Site-Superintendent and Senior UXO Supervisor.
- The IT Project Site-Superintendent will immediately make notifications in accordance with the Transition Force SOP for Responding to OE/UXO Incidents (TF, 2002) (Attachment 1) and notify the USACE OE Safety Specialist; if this individual is not on-site, the USACE point of contact will be notified. Per USACE policy, they will notify the nearest Technical Escort Unit.
- The UXO Technician III will ensure that the area is secured until properly relieved by active duty explosive ordnance disposal, Technical Escort Unit, or local authority personnel.
- Before work can resume, the site plans will be reviewed for adequacy in consideration of the hazard discovered.
- The UXO Technician III will provide the Senior UXO Supervisor a suspect CWM report including the following information:
 - Date and local time of event
 - Location
 - Preliminary identification of suspect CWM
 - A description of events
 - A description of any property damage, personnel casualties and/or injuries
 - A description of whether medical services or facilities were required
 - A list of immediate notification and support requirements identified during the initial emergency response assessment
 - And any other pertinent information.

2.3 Organization

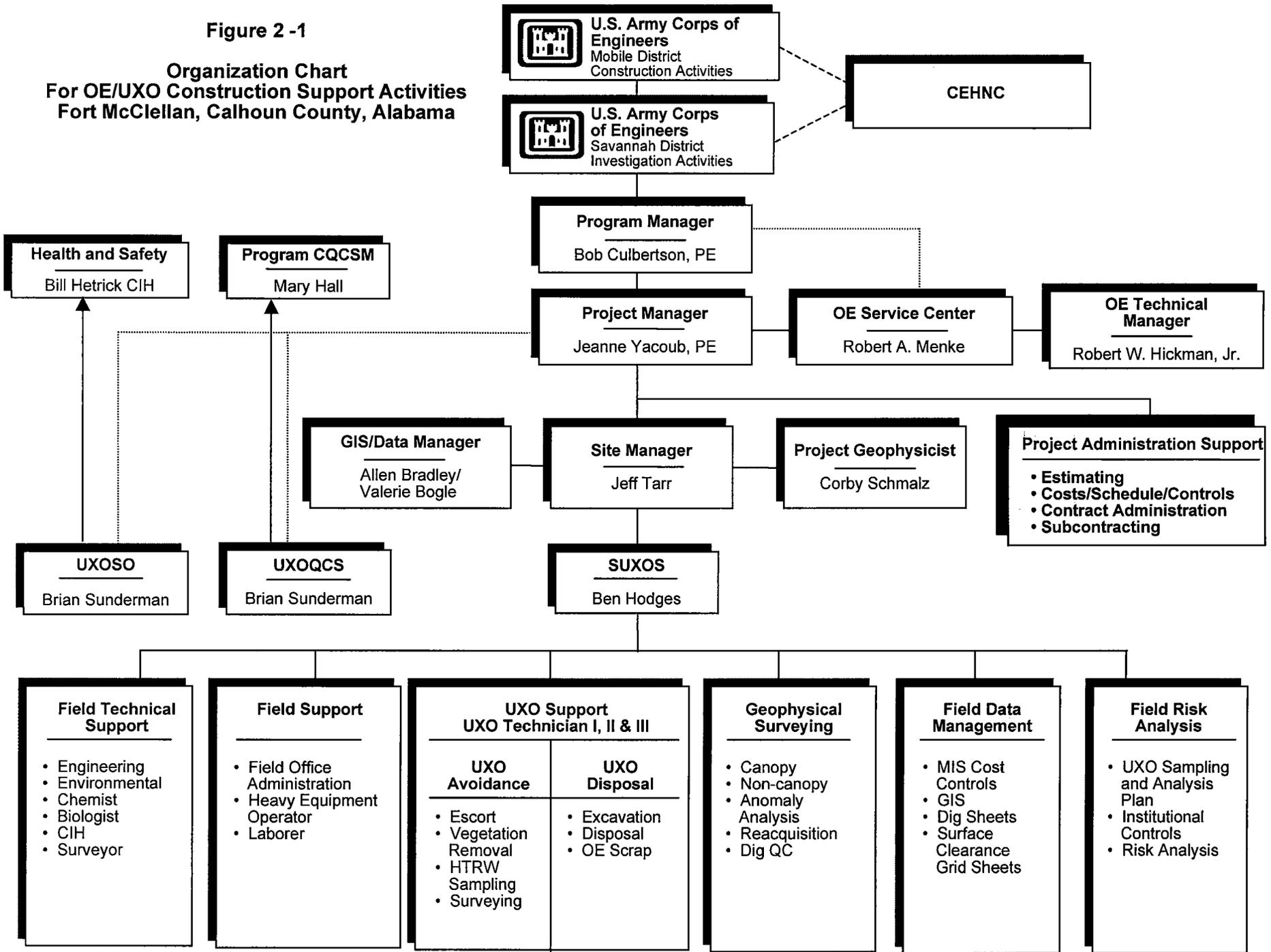
Figure 2-1 shows the project organization for UXO activities to be conducted at Range K.

2.3.1 UXO Personnel, Responsibilities, and Authorities

This plan has been developed to address all potential scenarios for encountering OE/UXO in construction support of hazardous, toxic, and radioactive waste sampling activities at Range K.

Figure 2 -1

**Organization Chart
For OE/UXO Construction Support Activities
Fort McClellan, Calhoun County, Alabama**



Staffing of UXO personnel will be in accordance with EP 75-1-2 and DID OE-025. Specific personnel and responsibilities are delineated below.

2.3.1.1 Senior UXO Supervisor

The Senior UXO Supervisor (SUXOS) receives direction from the IT FTMC site superintendent. The SUXOS is the senior UXO technician on site and plans, coordinates, and directs all UXO activities.

2.3.1.2 UXO Technician III

The UXO Technician III receives direction from and reports to the SUXOS. The UXO Technician III directs the actions of a project UXO team in accordance with an approved work plan or UXO site safety plan and daily verbal direction of the SUXOS. The responsibilities of the UXO Technician III include, but are not limited to, the following:

- Authority to stop work
- Consultation and coordination with the Site Safety and Health Officer regarding any modification to project documentation
- Compliance with Federal and State regulations
- Equipment and on-site vehicles
- Daily inspection of emergency equipment
- Supervision and direction of OE/UXO field activities for assigned tasks
- Assessment of the condition of OE/UXO to determine if disposal action is required.

2.3.1.3 UXO Technician II

This individual performs assigned tasks under the direct supervision of the UXO Technician III. The UXO Technician II is responsible for the safe and efficient performance of OE/UXO field operations, including the location and identification of UXO in accordance with the approved project documentation. This individual has stop work authority. Responsibilities include, but are not limited to, the following:

- Compliance with all safety and work related documentation
- Work under the supervision of the UXO Technician III
- Operation of UXO detection equipment

- Assisting in the identification of UXO items
- Identification and oversight to OE scrap removal under the supervision of the UXO Technician III
- Monitoring excavation operations to ensure that the sampling sites are safe in regard to UXO items.

2.3.1.4 UXO QC Specialist

This individual is responsible for the implementation of the approved program and project quality control (QC) plans. The UXO QC Specialist reports directly to the IT Quality Assurance (QA)/QC Officer and communicates directly with the SUXOS regarding the quality and performance of field activities. In the event of a quality deficiency, the UXO QC Specialist will notify the SUXOS, who will stop work until the quality deficiency has been corrected. He will ensure that needed changes to site-specific documents are written, approved, and implemented.

2.3.1.5 UXO Safety Officer

The UXO Safety Officer (UXOSO) is responsible for the implementation of the approved project safety documentation. The UXOSO reports directly to the site IT Health and Safety Officer and is responsible for the safe and efficient performance of specific assigned tasks. In the event of a safety problem, the UXOSO is authorized to stop work until the safety discrepancy is corrected. He will ensure compliance with site-specific safety project documentation.

2.4 Mobilization

IT will utilize the existing FTMC field office as the control point for all UXO construction support activities. Personnel will report to this building at the beginning of each workday for required daily health and safety briefings. All UXO health and safety records will be maintained in the field office.

2.5 General Site Practices

All operational activities at Range K will be performed under the supervision and direction of qualified UXO personnel. Non-UXO personnel must be accompanied and/or supervised by a UXO technician. Non-UXO personnel will be instructed and closely supervised to ensure that they do not handle or otherwise disturb a UXO item. Operations will be conducted during daylight hours only; also, the work schedule will be limited to no more than 10 hours in any one-day and no more than 40 hours in any one-week when performing OE removal and disposal operations.

IT will conduct a daily tailgate safety briefing. An overall UXO safety meeting will be held at the discretion of the SUXOS in cooperation with the UXOSO. Visitors must receive a safety briefing prior to entering the operating area and must be escorted at all times. All visitors entering Range K must sign in at the IT field office, receive a safety briefing and be escorted at all times. Additionally, the IT escort must notify Range Control via radio upon arrival at Pelham Range Gate and relay the number of personnel and vehicles.

To maximize safety and to ensure clear communications between the equipment operator and the UXO personnel, hand signals will be employed at FTMC.

The UXO personnel shall make every effort to identify the presence of subsurface excavation hazards such as utilities (sewer, telephone, water, fuel, electric, and pipe services).

If the situation arises where UXO personnel must enter a trench or a hole at the drum location for surveying, the employee will be protected from cave-ins by an adequate protective system that is either field fabricated or commercially procured. All confined space entry requirements will be met before any UXO personnel enters a trench or hole. This procedure requires contacting the IT FTMC Health and Safety officer prior to entry. If it is suspected that an oxygen deficiency or gaseous conditions could exist in the excavation, air in the excavation shall be tested prior to entry into the excavation. A log of tests must be maintained. All confined space entry will be conducted in accordance with *IT Health and Safety Policy HS300, Confined Spaces*.

The sides of all excavations in which employees are exposed to danger from moving ground shall be guarded by a support system, sloping or benching of the ground, or other equivalent means. Sloping and benching, if required, will be in accordance with EM 385-1-1 and *IT Health and Safety policy HS307, Excavation and Trenching*. When excavations are less than 5 feet in depth, and when a "competent person" examines the site and determines there to be no potential for cave-in, protective systems are not required. Excavations greater than four feet may constitute a confined space. The FTMC IT Health and Safety Officer will determine if the conditions for a confined space exist when excavations are greater than four feet. If a situation arises where confined space entry is necessary, work will be halted until confined space entry procedures can be developed and approved.

Prior to operating mechanical excavation equipment, the operator shall extend the boom out to its maximum reach and draw an arc into the earth using the equipment's bucket. This line will define the maximum reach of the boom. This boom maximum reach area needs to be cleared of UXO prior to excavation activities. Personnel are not to come within the reach of the boom of

mechanical equipment until the operator secures all moving parts and signals through positive aural and visual communication that it is safe to approach the excavation.

Personnel are not to approach an excavation (trench) from an open side. Trench frontal and rear approaches for observation and investigation are authorized with respect to wind direction. Sidewall inspections may be authorized after donning of a safety line, and with a safety observer.

Do not subject explosives to heat, shock, or friction. Movement of UXO is to be avoided. Movement of a fused or damaged munition may cause the munition to function.

Keep all materials and equipment that might fall or roll into an excavation at least two (2) feet from the edge of excavation, unless a restraining device is provided.

Personnel will not work on the sloped or benched excavation at levels above other employees.

Personnel will not work under loads that are being lifted by the digging equipment.

Personnel working with mechanical excavation teams will remain behind excavation equipment or similar cover to reduce the effects of a blast/fragmentation resulting from an accidental detonation.

2.6 UXO Construction Support Operations

2.6.1 Introduction

IT will provide a UXO Team to perform UXO safety support and UXO construction support during hazardous, toxic, and radioactive waste investigation, sampling, and drum removal activities at Range K.

2.6.2 Exclusion Zone (EZ)

Range K does not have a history of use as an impact area or an area for disposal (e.g., detonation or burning) of ordnance items. Therefore, during construction support activities at Range K, a minimum safe separation distance of 200 feet will be established to protect individual operating units in the event of an accidental detonation while excavation operations are underway. The minimum of 200 feet is per USACE, 2000, EM 1110-1-4009 "Engineering and Design Ordnance and Explosives Response," and "Memorandum on the Determination of Appropriate Safety Distances on Ordnance and Explosives (OE) Project Sites," OE Center of Expertise Interim Guidance Document 00-01, June 23. The 200-foot minimum distance will be used since there is no hard evidence of OE in the area. In the unlikely event that OE is discovered, the exclusion

zone (EZ) safe separation distance will be re-evaluated and re-established based on the most probable munition (MPM) found or suspected. Essential personnel are generally considered to be the UXO Team, equipment operators, and site safety personnel.

2.7 Technical Operations

The UXO team will support excavation activities around the partially exposed drum at Range K to allow the collection of a soil sample from inside and in the immediate area surrounding the drum as specified in the attached Site-Specific Field Sampling Plan, Range K, Former Agent Training Area, Parcel 203(7) (IT, 2002). After the drum is removed, the excavation will be sampled by the UXO team to determine if there is the potential for more buried drums. If additional drums are found in the excavation site, they will be sampled and disposed of in the same manner as the partially exposed drums. Additionally, IT will investigate anomalies at other sampling sites and access routes at Range K as required.

2.7.1 General Excavation Safety Requirements

The Technician III will have both an IT radio and a radio capable of contacting Range Control.

If the situation arises where it is necessary to enter the hole, the employee will be protected from cave-ins by an adequate protective system. Based on the known size of the drum, the excavation should not be required to proceed to a depth greater than six feet.

Personnel supporting the excavation team will remain behind the excavation equipment or under similar cover to reduce the effects of a blast/fragmentation resulting from an accidental detonation. This location will be at least 200 feet from the excavation site.

The UXO Supervisor will conduct a daily safety brief for all personnel involved in explosive disposal operations in the following areas:

- Personal hygiene
- Two-man rule
- Potential trip/fall hazards
- Horse play
- Explosive hazards
- Location of emergency shelter (if available)

- Parking area for vehicles (vehicles must be positioned for immediate departure with engines running)
- Wind direction (toxic fumes)
- Location of first aid kit and fire extinguisher(s)
- Route to nearest hospital or emergency aid station
- Type of communications in event of an emergency.

2.7.2 Access Corridors and Sampling Sites

Since these areas may contain OE contamination, the UXO team must conduct a surface access survey for UXO before any type of activities commence. This includes foot and vehicular traffic.

The UXO team will conduct access surveys of the footpaths and vehicular lanes approaching and leaving each of the investigation sites. Access surveys will begin in a known clear area and proceed by the most direct route to the sampling site. The boundaries of the access route and sampling site will be marked with white tape or white pin flags.

If an OE item is found during the survey, the location will be conspicuously marked with a red pin flag. Additionally, UXO personnel will complete the IT FTMC “Unexploded Ordnance Report Form.” Subsurface anomalies will be marked with a yellow flag. Anomalies will be investigated at the discretion of the UXO Technician III. He may choose to investigate anomalies as they are found or continue to survey the access route to locate the best and/or clearest route.

The boundaries of the access route and sampling site will be recorded in the IT FTMC “UXO Sketch Log” by the UXO technician. Additionally, anomaly locations will be recorded on this form.

Instrumentation used at this site will include the Schonstedt GA 72, the CST Corporation Magna-Trak 102, or the Whites Spectrum XLT Metal Detector. Additionally, the Schonstedt MG-220 or MG-230 will be set up for downhole monitoring. All equipment will be operated as specified in the appropriate operator’s manual. All equipment will be function tested prior to use following the procedure in paragraph 3.2, FTMC UXO Supplementary Procedures (IT, 2001) (Attachment 2) and the operator’s manual. The Whites Metal Detector will be used in

conjunction with hand-held magnetometers in areas of high concentrations of rocks with a magnetic signature to assist in eliminating anomalies created by “hot rocks.”

The access route will be twice as wide as the widest vehicle that will use the route. Footpath lanes will be a minimum of three feet wide.

No personnel will be allowed outside of the surveyed areas without a UXO escort. No unescorted access will be permitted inside the corridor area until a survey has been completed and boundaries established.

At the actual investigation site, the UXO team must also complete a survey of an area sufficient to support mechanical excavation equipment maneuverability, parking of support vehicles, and establishment of decontamination stations. As a minimum, the surveyed area should have a dimension in all directions equal to twice the length of the largest vehicle or piece of equipment to be brought on site. White pin flags or tape will be used to mark the boundaries of the surveyed site.

Tracked or other vehicles whose movement would disturb the soil are authorized for use only in areas that have been surveyed in which no anomalies have been found or in areas where anomalies have been found and resolved.

Erosion and weathering will typically cause some OE items to leach to the surface or otherwise be uncovered. In cases where access corridors or sampling sites have not been surveyed or traversed for a period of time, additional surveys may be required. The SUXOS, with input from the FTMC UXOSO, will make the decision regarding the performance of follow-on surveys. The Site-Superintendent will be informed of this decision. The decision will be based on such factors as: the amount of time since the last survey was performed; the weather during this period; the terrain in the area of concern; the former use of the area; and the type of quantity of OE found during initial surveys.

Incremental geophysical surveys at boring hole locations will be initially accomplished using a direct push or hand auger to install a pilot hole. An access survey of the immediate vicinity of the pilot hole location will precede the installation of the pilot hole. The UXO team will use a manual or mechanical portable auger to install the pilot hole. The augered hole will be inspected for anomalies with a geophysical instrument (configured for downhole utilization) in two-foot increments as the hole is advanced below ground surface. Hand augering will not proceed if an anomaly is detected that cannot be positively identified as inert material. If a suspect OE item is

encountered, the sampling personnel must resolve the anomaly or move the drill site. The pilot hole will also be inspected with the geophysical instrument upon reaching the final depth of the hand augered hole, providing a total clearance depth equal to pilot hole depth plus two feet. If the proposed site is still free of magnetic anomalies, the drilling equipment may be brought on site and utilized. The UXO team will continue to inspect the boring hole for anomalies at two-foot increments as the drilling is advanced from the clearance depth of the pilot hole until a depth of 12 feet is reached.

2.7.3 Excavation Operations at the Drum Location

The excavation of the drum will be performed utilizing a UXO Team, equipment operator, an excavator, and hand digging tools as required. The UXO Team will be comprised of a UXO Technician III and a UXO Technician II. The purpose of this excavation is to allow access to the partially exposed drum for the collection of soil samples and the eventual removal of the drum.

Prior to excavation of the drum, a sample of the drum contents will be taken utilizing a remote sampling technique described in the Site-Specific Field Sampling Plan and in accordance with the IT Standard Operating Project Procedure for Drum Sampling (IT, 2002b). UXO personnel will determine the orientation of the drum before the sample is taken in accordance with the referenced procedure.

During excavation operations, one UXO Team Member will serve as a UXO Safety Observer and will monitor each cut as it is accomplished. If possible, the safety observer will be positioned up-wind of the excavation. This individual will be beyond the arc of the excavator's boom, but stationed in such a manner that he is able to visually inspect the cut as it is being made and to monitor the area of the hole after the cut is accomplished. As the lift is being dumped, the UXO Safety Observer will reposition himself to monitor the spoils as they are dispersed.

If the UXO Safety Observer observes an OE item or potential OE, the UXO Safety Observer will immediately signal the equipment operator to halt the movement of the boom and bucket.

If the boom and bucket are clear of the suspect item, the UXO Safety Observer will signal the equipment operator to return the boom and bucket to a safe position with the bucket on the ground. The UXO Safety Observer will not enter the boom's arc until the boom and bucket have been grounded, the excavator's engine is idled, and the equipment operator signals "hands and feet clear".

If a suspect item is observed while being lifted, the UXO Safety Observer will immediately signal the equipment operator to halt the boom and bucket movement and inform the operator that an object of concern is in the bucket. The bucket must then be positioned in such a manner that the object can be inspected. The equipment operator will gently lower the boom until the bucket is in contact with the ground and will then idle the engine and signal "hands and feet clear". At that time, the UXO Safety Observer will approach the bucket and examine the object.

If necessary to gain access to an object in the bucket, the bucket may be partially opened or tilted to permit access to the contents. Every attempt should be made to ensure that the object is not dumped or spilled out of the bucket until the UXO Safety Observer can make a positive identification.

If the object is determined to be an OE item, the UXO Safety Observer will immediately notify the UXO Technician III. The UXO Technician III will determine an EZ based on the munition. The UXO Technician III will in-turn notify the SUXOS and provide him with the identification, condition, and EZ of the item. The UXO Technician III will evacuate all personnel except the UXO Team to an area beyond the established EZ.

The OE/UXO area will be secured and notification made in accordance with the Transition Force SOP for Responding to OE/UXO Incidents (TF, 2002) (Attachment 1). IT personnel will secure the area until the proper authority has removed the hazard.

If the object is determined to be a non-hazardous OE item, the item will be properly categorized as scrap or other and disposed accordingly.

Once the drum has been opened to access the interior, samples will be collected from the drum contents. After drum content samples have been collected, the drum will be sealed and covered with plastic until the results of samples are evaluated. If the results of the drum samples determine that the drum may be handled, then the drum will be further excavated and over packed. Additional investigation will be conducted for other buried drums in the excavation area. If additional drums are found during the excavation, they will be investigated and sampled; then removed by the same procedures. The drum(s) and excavated soil will be removed from the site and disposed of in accordance with the site-specific Field Sampling Plan.

2.7.3.1 Excavation of Anomalies During Access To or At These Sampling Sites

Anomaly excavation of suspected OE will be performed by a minimum of a two-person UXO Team after the completion of the access path clearance. The UXO Team will relocate each pin flag that was placed to mark the location of a potential subsurface UXO. They will then begin at one end of the subsurface survey lane and will investigate the location of each pin flag. The UXO Team will use instrumentation described previously to reacquire the exact position of the suspected UXO. The team will then carefully hand-excavate the OE while frequently monitoring the location of the anomaly with the magnetometer.

2.7.3.2 Hand Excavation Tools

Small hand tools (e.g., shovels, spades, trowels, and pry bars) will be used by UXO Technicians to carefully hand-excavate UXO. Hand tools will be used for the majority of UXO, which generally are found near the surface.

2.7.3.3 Excavator

A commercial excavator (backhoe or track-mounted mechanical shovel) may be used by the UXO Team to carefully excavate the UXO or magnetic anomalies if it is believed that the UXO or magnetic anomalies are at a greater depth than can be efficiently hand excavated. Mechanical excavation will be used no closer than 1 foot to magnetic anomalies located during excavation. The UXO Team will communicate with the excavator operator via hand signals to stop the excavation if suspected ordnance is observed.

Excavation of the UXO will be initiated outside of the boundary of the subsurface anomaly detected by the magnetometer. This excavation will continue down until the excavated area has reached a depth below the top of the anomaly as determined by frequent inspection with the magnetometer.

Using progressively smaller and more delicate tools to carefully remove the soil as they approach the anomaly, the UXO Team will then expand the side wall of the excavated hole toward the UXO to expose the UXO in the wall of the excavation for inspection and identification without moving or disturbing the UXO.

Once the item is exposed for inspection the UXO Team will determine if it is OE. If the item is not OE it will be removed and the area will be rechecked with the magnetometer to ensure that an anomaly is not hidden beneath it. The UXO Team will then annotate the results of the excavation on the FTMC Field Activity Daily Log, backfill the hole created during the excavation, and remove the pin flag before moving on to the next marked subsurface anomaly.

If the item is an OE, the UXO Team will carefully remove enough soil, without disturbing the item, to allow identification the item or to obtain its identification features. They will then reposition four pin flags around the perimeter of the item to identify it as a subsurface OE and annotate the OE nomenclature or identification features on the FTMC Field Activity Log.

The area will be secured and notification made in accordance with the Transition Force SOP for Responding to OE/UXO Incidents (TF, 2002) (Attachment 1). IT personnel will secure the area until the proper authority has removed the hazard.

2.7.4 Storage and Transportation of Explosives

IT Corporation will not store or transport demolition explosives.

2.7.5 UXO Disposal and Disposition Procedures

IT will not perform OE destruction incidental to construction support operations at FTMC. If OE/UXO materials are discovered, the area will be secured and notification made in accordance with the Transition Force SOP for Responding to OE/UXO Incidents (TF, 2002) (Attachment 1). IT personnel will secure the area until the proper authority has removed the hazard.

2.7.6 Disposal of OE Scrap

IT will comply with the following procedures for processing ammunitions, explosives, and dangerous articles and range residue for turn-in as scrap. The SUXOS is responsible for the certification that all items are free of dangerous or hazardous materials. He will coordinate the transportation and turn-in to Foster Wheeler of all OE-related scrap utilizing the U.S. Department of Defense DD Form 1348-1A.

The UXO Quality Control Officer will monitor perform audits that monitor collection of all scrap certification and turn-in procedures.

The UXO Team Leader is responsible for the inspection and segregation of each item found.

Once inspected, OE scrap will be segregated and placed in a lockable box mounted in the rear of an IT vehicle. OE scrap will be secured in this container to ensure that mixing does not occur. The scrap will remain in this container until turned over to Foster Wheeler at their scrap collection point on FTMC at the end of the day. Non-OE scrap metal will be certified non-OE scrap metal by the UXO team. Non-OE scrap metal will be stockpiled on site.

2.8 Demobilization

Demobilization for FTMC will not occur; IT assets will be shifted to other FTMC delivery orders as required.

3.0 References

IT Corporation (IT), 2001, *Fort McClellan Unexploded Ordnance Supplementary Procedures*, June.

IT Corporation (IT), 2002a, *Draft Revision 3, Installation-Wide Sampling and Analysis Plan, Fort McClellan, Calhoun County, Alabama*, February.

IT Corporation (IT), 2002b, *IT Standard Operating Project Procedure for Drum Sampling*, February.

U. S. Army Corps of Engineers (USACE), 2000, *Engineering Publication, EP 75-1-2, Unexploded Ordnance (UXO) Support During Hazardous, Toxic, and Radiological (HTRW) and Construction Activities*, 20 November.

U.S. Army Engineering and Support Center, Huntsville (CEHNC), 2000, *DID OE-005-04, Explosives Siting Plan*, 3 March.

U.S. Army Engineering and Support Center, Huntsville (CEHNC), 1999, *HNC-ED-CS-S-98-1, Methods for Predicting Primary Fragmentation Characteristics of Cased Explosives*, January

U.S. Army Transition Force (TF), 2002, *TF Ordnance and Explosives (OE) and Unexploded Ordnance (UXO) Standard Operating Procedures, Fort McClellan, Alabama*, January 30.

U.S. Department of Defense (DOD), 1999, *6055.9 Standard, Ammunition and Explosives Safety Standards*, July.

ATTACHMENT 1

**U.S. ARMY TRANSITION FORCE,
TF OE/UXO STANDARD OPERATING PROCEDURE,
FORT McCLELLAN, ALABAMA**

MEMORANDUM FOR: U.S. Army Transition Force (TF), Fort McClellan (FTMC), Alabama

SUBJECT: TF Ordnance and Explosives (OE) and Unexploded Ordnance (UXO) Standard Operating Procedure (SOP)

1. **PURPOSE:** To establish procedures for TF personnel when OE and UXO are found on FTMC.
2. **APPLICABILITY:** This SOP applies to personnel assigned to or employed by the TF. The U.S. Army Engineering and Support Center, Huntsville (CEHNC) and Mobile District Corps of Engineers (MDCE) will ensure their contractors follow this SOP and site-wide work plans.
3. **RESPONSIBILITIES:**
 - a. **TF Site Manager will:**
 - (1) Maintain overall command and control of assets involved in the cleanup of conventional or potential chemical munitions found on FTMC. This authority is in IAW with AR 385-10, The Army Safety Program.
 - (2) Resolve any conflicts involving conventional or potential chemical munitions found on FTMC.
 - (3) Approve all incident reports and public affairs information before their release.
 - b. **TF Operations Officer will:**
 - (1) Supervise Operations and Security personnel when they are required to respond to a conventional or potential chemical munitions incident.
 - (2) Keep the Site Manager informed on all operations and security actions taken.
 - (3) Initiate, staff, and transmit Chemical Event Reports if a confirmed chemical incident occurs.
 - (4) Draft and coordinate the Site Manager's approval on all releases of information.
 - c. **TF Safety Officer will:**
 - (1) Keep the Site Manager and Operations Officer informed on any safety concerns.
 - (2) Coordinate with and inform CEHNC Safety, Contractor UXO Safety, or 722nd EOD whenever a conventional munitions incident is under TF control.
 - (3) Coordinate with and inform CEHNC Safety, Contractor UXO Safety, or 722nd EOD whenever a potential chemical munitions incident occurs.

- d. **TF Base Realignment and Closure (BRAC) Environmental Coordinator (BEC)** will:
- (1) Advise the TF Site Manager on environmental issues concerning the removal or disposal of OE/UXO or potential chemical munitions items.
 - (2) Notify the BRAC Cleanup Team (BCT) of any confirmed chemical incident by transmitting a copy of the approved Chemical Event Report to the Environmental Protection Agency (EPA) Region IV and the Alabama Department of Environmental Management (ADEM) per *Appendix D, FTMC CWM SOP*.
- e. **Contractors:**
- (1) MDCE contractors will notify TF Operations or Safety whenever a conventional munitions item is discovered.
 - (2) CEHNC and MDCE contractors will notify TF Operations upon detection of a potential chemical munitions item.
 - (3) CEHNC and MDCE contractors will mark the conventional or potential chemical munitions item per their site-wide plans.
 - (4) MDCE and CEHNC contractors will keep the TF Operations or Safety Officer informed on any safety concerns involving conventional or chemical munitions items.
 - (5) MDCE and CEHNC contractors will assist the TF Operations Section as needed in the event of a confirmed chemical incident.

4. **DEFINITIONS:**

a. **Conventional ordnance** are munitions not suspected of containing chemical agent. The term "**UXO**" means any item of explosive ordnance that failed to function as designed or has been abandoned, discarded, or improperly disposed of and yet, is still capable of causing damage to personnel or material. UXO munitions have been primed, fuzed, armed, or otherwise prepared for action, and been fired, dropped, launched, projected, or placed in such a manner as to be a hazard to operations, installation, personnel, or materiel and remain unexploded either by malfunction, design, or any other cause referenced in *Title 40 Code of Federal Regulations (CFR) 266.201, Standards For the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities*.

b. **OE** consists of ammunition, ammunition components, chemical or biological warfare materiel or explosives that are abandoned, expelled from demolition pits or burning pads, lost, discarded, buried, or fired. Such ammunition, ammunition components, and explosives are no longer under the "accountable record" control of any DOD organization or activity.

c. **Chemical Warfare Material (CWM)** is any abandoned, fired, burned, or otherwise disposed of equipment, munitions, devices, and containers designed for use directly in connection with the deployment, testing, or containerization of chemical agent. It includes V and G series nerve agent, H series blister agent, and Lewisite in other than munitions configurations. Chemical Agent Identification Sets (CAIS) are considered CWM. CWM is also any other equipment or materiel that are above the "3X" level of contamination defined in *AR (Army Regulation) 385-61, The Army Chemical Agent Safety Program* and *DOD Standard 6055.9, Ammunition and Explosives Safety*. An item that is XXX or 3X, has been partially decontaminated by locally approved procedures, bagged, or contained in an agent-tight barrier or approved plastic bag. **Use the FTMC CWM SOP for procedural guidance.**

d. Recovered CWM (RCWM) is chemical agent material, associated equipment, or surrounding contaminated media discovered either by chance or during deliberate real estate recovery/restoration operations that was used for its intended purpose or previously disposed of as waste. RCWM is classified based on the requirements of the Environmental Protection Agency (EPA) *40 CFR 266 Subpart M, EPA*. Use the *FTMC CWM SOP* for procedural guidance.

e. Military Munitions Rule (MMR). RCWM discovered on firing ranges or training areas will be handled per the EPA MMR with respect to classification, transportation, and disposal. RCWM found buried will be managed in compliance with environmental laws and regulations, as applicable:

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Superfund Amendments and Reauthorization Act (SARA)
- Resource Conservation and Recovery Act (RCRA).

If the TF believes buried RCWM is not subject to management under the provisions of CERCLA, SARA, or RCRA, no off-site removal action will commence until the Office of the Assistant Secretary of the Army (Installations and Environment) (ASA (I&E)) has reviewed the circumstances and made a final determination. RCWM does not fall within the scope of *AR 50-6, Chemical Surety Program* except as detailed in Chapter 12 of the regulation.

f. Ordnance Scrap is military munitions or components thereof that may contain no explosive, pyrotechnic, or chemical agent. These can be but are not limited to, practice munitions without spotting charges, drill rounds, inert training munitions, or expended ejection munitions. Fragments of military munitions, which have functioned as designed or were recovered from areas where munitions were intentionally destroyed, are ordnance scrap if they have no explosive, pyrotechnic, or chemical filler. These items pose no imminent threat to public safety, but may require venting or some other action prior to release from DOD control.

g. "Other" consists of non-munitions material found at ordnance sites. This can include banding, wire, trash, auto parts, shipping boxes, or any kind of material that has been abandoned or discarded at an OE site that was never a component of military munitions. Ferrous rocks that activate geophysical instruments during investigations, which are removed from a site, should be classified as "other" under this guidance.

5. **BACKGROUND:** The diversity of FTMC work activities, multiple land ownerships, and the discovery of conventional and potential chemical munitions items throughout FTMC land areas, have revealed conflicts in reporting and disposal procedures for the TF, CEHNC, and MDCE.

a. FTMC was closed in September 1999, under the Base Realignment and Closure (BRAC) Act. FTMC land areas are being cleared of hazardous, toxic, and radiological waste (HTRW), conventional, and possible chemical munitions to allow property transfer out of Department of Defense (DOD) control. The TF has the responsibility to ensure this process is conducted efficiently and safely using regulatory guidance.

b. A challenge is determining who controls particular FTMC land areas. For example, the Alabama Department of Transportation (ALDOT) is building the Eastern Bypass (EBP) through portions of FTMC property. Part of the EBP is ALDOT-owned while other portions remain under Army control. All conventional or potential chemical munitions items found on such "civilian" land are reported to local law enforcement. This usually is the Calhoun County Sheriff's Department. They then report the information to the 722nd Explosive Ordnance Disposal (EOD) detachment located at the Anniston Army Depot.

c. The local reuse authority, the Joint Powers Authority (JPA) is involved in selling land on FTMC. Some FTMC land areas belong to the JPA, other areas remain under DOD control awaiting transfer, and still others have already been transferred or leased to other entities. Examples include the Department of Justice (DOJ), Alabama Army National Guard (ALARNG), City of Anniston, and local businesses.

d. Environmental work activity is often conducted in old range and training areas where conventional or potential chemical munitions may be found. MDCE is the FTMC environmental program manager and their Total Environmental Remediation Contractor (TERC) is IT Corporation. IT UXO personnel check FTMC work sites using approved instrumentation before declaring an area safe for sampling and characterization. They follow anomaly avoidance procedures. Their scope of work states if a conventional or potential chemical munitions is found, the item will not be touched, disturbed, moved, or disposed of

e. The U.S. Army Engineering and Support Center, Huntsville (CEHNC) selected FWENC to perform OE/UXO response activities at FTMC. CEHNC has contract oversight of FWENC whose mission is locating, assessing, and disposing of OE materials, including UXO on FTMC.

6. U.S. ARMY TRANSITION FORCE:

a. Non-DOD Land. If conventional or potential chemical munitions are discovered on property outside DOD control, the TF will inform the reporting party to contact the Calhoun County Sheriff's Department.

b. Unknown items. The TF will determine who is the appropriate response agency and will contact them. The TF will coordinate with CEHNC Safety and the party who reported the incident, and inform them of actions being taken. This will be done prior to the response agency arriving at the incident site.

c. DOD-Land. In the event a conventional or potential chemical item is discovered and there is a question on who is to respond to the incident, the TF will either exercise a response under CEHNC oversight or notify the 722nd EOD. The TF will coordinate with CEHNC Safety and applicable contractor representatives, and update them on the situation. When the response action is completed, the TF will again notify CEHNC Safety and the applicable contractor on the completed action.

d. CWM/RCWM. The TF will follow the procedures outlined in the *FTMC CWM SOP*. Emergency on-site destruction of chemical munitions may be considered as an option to reduce risk. The TF Site Manager will direct the TF Operations Officer to coordinate on-site security between the time of discovery and time of treatment or transport. The TF BEC can provide additional information on proper actions to take such as NEPA (National Environmental Policy Act), ADEM guidance, and local requirements or procedures. All chemical agent samples drawn from CWM/RCWM will be managed in compliance with the laboratory safety and security provisions of *29 CFR 1910.1450, Occupational Exposure to Hazardous Chemicals in Laboratories*.

7. REFERENCES

DOD Standard 6055.9, DOD Ammunition and Explosives Safety Standards.
<https://www.denix.osd.mil/denix/Public/ES-Programs/Explosives/Safety/cover.html>

29 CFR 1910.1450, Occupational Exposure to Hazardous Chemicals in Laboratories.
http://www.osha-slc.gov/OshStd_data/1910_1450.html

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SUBJECT: TF SOP For Responding to OE/UXO Incidents

30 January 2002

40 CFR 266 Subpart M, EPA Military Munitions Rule (MMR)
<http://www.epa.gov/epaoswer/hazwaste/military/mun-rule.htm>

40 CFR 266.201, Environmental Protection, Standards For the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
http://www.access.gpo.gov/nara/cfr/waisidx_99/40cfr266_99.html

AR 50-6, Chemical Surety
<http://www.usapa.army.mil/pdffiles/r50-6.pdf>

AR 385-61, The Army Chemical Agent Safety Program.
<http://www.usapa.army.mil/pdffiles/r385-61.pdf>

AR 385-64, Army Explosive Safety Program.
<http://www.usapa.army.mil/pdffiles/r385-64.pdf>

FTMC General Site-Wide Work Plan (FWENC)
sneill@fwenc.com

FTMC OE/UXO Safety MOA
moore@mcclellan.army.mil

FTMC CWM Standard Operating Procedures (SOP)
boltons@mcclellan.army.mil

CEHNC Base Realignment and Closure (BRAC) Ordnance and Explosives (OE) Response Projects
<http://www.hnd.usace.army.mil/oew/policy/52gpmoa.pdf>

CEHNC and 52nd Ordnance Group Memorandum of Agreement
<http://www.hnd.usace.army.mil/oew/policy/52gpmoa.pdf>

Final Installation-Wide Sampling and Analysis Plan, Fort McClellan, Calhoun County, Alabama (IT)
smoran@theitgroup.com

Fort McClellan Unexploded Ordnance Supplementary Procedures (IT)
smoran@theitgroup.com

8. ACRONYMS

ADEM	Alabama Department of Environmental Management
ALARNG	Alabama Army National Guard
ALDOT	Alabama Department of Transportation
AR	Army Regulation
ASA (I&E)	Assistant Secretary of the Army (Installations and Environment)
BEC	Base Realignment and Closure Environmental Coordinator
BIP	Blow (n) In Place
BRAC	Base Realignment and Closure
CAIS	Chemical Agent Identification Sets
CEHNC	U.S. Army Engineering and Support Center, Huntsville
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
CWM	Chemical Warfare Materiel
DACA	Department of the Army Contracting Agency
DOD	Department of Defense
DOJ	Department of Justice
EBP	Eastern Bypass
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
EZ	Exclusion Zone
FTMC	Fort McClellan
FWENC	Foster Wheeler Environmental Corporation
HTRW	Hazardous Toxic Radiological Waste
IT	The International Technology Group
JPA	Joint Powers Authority
MDCE	Mobile District Corps of Engineers
MMR	Military Munitions Rule
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
OE	Ordnance and Explosives
RCRA	Resource Conservation and Recovery Act
RCWM	Recovered Chemical Warfare Materiel
SARA	Superfund Amendments and Reauthorization Act
SOP	Standard Operating Procedures
SUXOS	Senior Unexploded Ordnance Supervisor
TERC	Total Environmental Remediation Contractor
TEU	Technical Escort Unit
TF	Transition Force
UXO	Unexploded Ordnance
XXX	3X Chemical Decontamination

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21 March 2002

MEMORANDUM FOR: All Personnel, USAG Transition Force, Fort McClellan, Alabama.

SUBJECT: Transition Force Standard Operating Procedure for Responding to Suspected CWM.

1. PURPOSE: To establish procedures for Transition Force personnel to use in the event suspected chemical warfare material is found.
2. APPLICABILITY: This Standard Operating Procedure applies to all personnel assigned to, or employed by the Transition Force.
3. RESPONSIBILITIES:
 - a. All personnel are responsible for knowing and following the procedures listed below.
 - b. The Site Manager will:
 - (1) Maintain overall command and control of all assets involved in the removal/disposal of any CWM item.
 - (2) Designate personnel to make up the Initial Response Team to Report CWM item removal/disposal. The team will be comprised of:
 - (a) The Operations Officer
 - (b) The BEC
 - (c) The Safety Officer
 - (d) The Contracting Officer
 - (e) The Security Guard Supervisor
 - (f) Operations Sergeant
 - (3) Approve all Chemical Event Reports and public affairs information prior to their submission to outside organizations/agencies.
 - c. The Operations Officer will:
 - (1) Lead the Initial Response Team and supervise the reporting of the event.
 - (2) Keep the Site Manager informed of the status of the removal/disposal operations.

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SUBJECT: Transition Force Standard Operating Procedure for Responding to Suspected CWM.

(3) Initiate, staff, and transmit all Chemical Event Reports regarding the incident to the DA Operations Center, TRADOC EOC and BRAC, and Fort Benning Garrison Commander (see Appendix B for examples).

(4) Draft and coordinate for Site Manager's approval all releases of information to the public.

(5) Oversee the logistics requirements of the operation.

(6) Lead the Initial Response Team in the absence of the Operations Officer.

d. The BEC will:

(1) Advise the Site Manager on all environmental issues concerning the removal/disposal operation.

(2) Notify the BRAC Cleanup Team of the incident by transmitting a copy of the approved Chemical Event Report to the EPA Region IV and ADEM(see Appendix D).

e. The Safety Officer will:

(1) Coordinate directly with the Corps of Engineers Safety Officer responsible for on site safety during the removal/disposal operation.

(2) Keep the Site Manager and the Operations Officer informed of any safety issues and concerns.

f. The Security Guard Supervisor will:

(1) Assist the Operations and Safety Officers in developing any necessary access control to the site of the suspected CWM.

(2) Coordinate directly with the contractor, civil law enforcement and the fire department on all matters concerning security of the site.

g. The Operations Sergeant will:

(1) Assist the Operations Officer as directed.

(2) Maintain a Journal of all activities related to the operation.

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SUBJECT: Transition Force Standard Operating Procedure for Responding to Suspected CWM

h. Contractors will:

- (1) Notify the TF Operations Section upon detection of a suspected CWM item.
- (3) Mark the area closest to the suspected CWM without disturbing the item.
- (3) Keep the Site Manager and the Operations Officer informed of any safety concerns.
- (4) Assist the TF Operations Section as needed.

4. DEFINITIONS:

a. **Chemical event (Suspect Chemical Warfare Material Sites):** On Fort McClellan this includes only those areas specifically sited in the CWM EE/CA. Maps identifying these areas are attached at Appendix C.

(1) A chemical agent release from non-stockpile chemical weapons is any detection of agent outside the munition body or bulk storage container into the atmosphere outside of a closed containment system that is confirmed and exceeds Airborne Exposure Limitations (AEL).

(a) **Unconfirmed release (RING-OFF):** Monitors (Mini-cams) at the site have indicated the presence of chemical agent but confirmation has not been made by Depot Area Air Monitoring System (DAAMS).

(b) **Confirmed release:** Depot Area Air Monitoring System (DAAMS) has confirmed a release of chemical agent.

(2) Confirmed detection of agent above threshold concentration occurring for any period outside the primary engineering control.

(3) Actual exposure of personnel to agent above allowable limits.

(4) Any terrorist or criminal act directed toward chemical agent storage, laboratory or demilitarization facility or any deliberate release of chemical agent.

(5) Loss of chemical agent.

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SUBJECT: Transition Force Standard Operating Procedure for Responding to Suspected CWM.

b. **Chemical Event (Conventional OE Sites):** On Fort McClellan this includes areas of the installation not included in the CWM EE/CA.

(1) Discovery of an actual or suspected chemical agent munition or container that may require emergency transportation and/or disposal.

(2) Confirmed release of agent from munitions and/or containers.

(3) Actual exposure of personnel to agent above allowable limits.

(4) Any terrorist or criminal act directed toward chemical agent storage, laboratory or demilitarization facility or any deliberate release of chemical agent.

(5) Loss of chemical agent.

(a) **Suspected release (RING-OFF):** Item is believed to be releasing agent but confirmation has not been made.

(b) **Confirmed release:** Item has tested positive for release of a chemical agent.

5. PROCEDURES: All personnel will follow these procedures:

a. **Notification Procedures:** You will immediately notify TF Operations when you become aware of a suspected CWM item:

(1) **During duty hours (0730-1630) notify the Operations Section at 848-5680/4824.** Note: Do not stop there if contact is not immediately made; if there is no answer keep trying, it is imperative that this notification be made as soon as possible.

(2) **After duty hours, holidays and weekends, notify the Security Guards, at their cell phone # 282-0140/0141.** If you are unable to make contact with security personnel start notifications with the Transition Force alert roster (Notification Roster # 1 located at Appendix A).

b. Be prepared to give the following information:

(1) Location of Item.

(2) Wind direction at the site, if available.

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SUBJECT: Transition Force Standard Operating Procedure for Responding to Suspected CWM.

- (3) Physical description of the item.
- (4) Whether the item is on the surface or subsurface.
- (5) If it appears to be intact or damaged.
- (6) Accessibility limitations.

c. If you are receiving the information from an outside source record the message verbatim and attempt to obtain the above information. Ascertain the name, organization, location and call back number or call sign of person reporting the item.

d. The person in operations receiving the call will notify the Operations Officer, Executive Officer, and Site Manager of the incident. This notification will take place immediately without respect to chain of command. Do not wait to find the Operations Officer when the Site Manager is available, notify the Site Manager and back brief as necessary.

e. The Operations Section will initiate and maintain a separate Journal for all events related to the incident.

f. During off-duty hours, immediately initiate notification of personnel on Notification Roster # 1 located at Appendix A.

g. Immediately place security on the item. Security requirements will vary based on the situation.

h. Notifications to agencies outside of the Transition Force must first be approved by the Site Manager or his designated representative, once approved, use the applicable notification roster(s) located at Appendix A. However, in the event an individual is injured at one of the sites and that injury might be related to a possible chemical agent exposure you will notify the Calhoun County Emergency Management Agency as soon as possible and inform them of the incident.

i. Suspected CWM found outside of the CWM EE/CA Sites (Conventional OE Sites) will immediately come under control of the Transition Force for evaluation. The item(s) will remain under Army control until assessed and subsequently transferred to the appropriate agency for storage or destruction. In this case, the 722nd EOD will be notified rather than COE/Tech Escort. If the incident occurs outside of the CWM EE/CA footprint notify the COE Safety Officer of the incident.

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SUBJECT: Transition Force Standard Operating Procedure for Responding to Suspected CWM.

NOTE: Mitigation of contamination or safety issues at the site within the CWM EE/CA footprint will begin after the “Ring-Off”; DAAMS may or may not have confirmed a release at that point. A confirmation (positive or negative) will be made whether or not mitigation has been completed.

j. All non public releases of information regarding the incident, and all Chemical Event reports generated will be staffed through the TF Operations Section and approved by the Site Manager or his designated representative.

GLYNN D. RYAN
Site Manager

APPENDIX A

Notification Rosters to the Transition Force Standard Operating Procedure for Responding to Suspected CWM

ATZN-HQS

SUBJECT: Appendix A (Notification Rosters) to the Transition Force Standard Operating Procedure for Responding to Suspected CWM.

NOTIFICATION ROSTER # 1		TRANSITION FORCE PERSONNEL				
	NAME	WORK PHONE #	HOME PHONE #	CELL PHONE #	CALL SIGN	TIME NTFD
SITE MANAGER	MR. RYAN	3847/3845	256-435-2651	256-282-0856	TF 6	
OPERATIONS OFFICER	MR. HARVEY	7347/4503	256-435-5110	None		TF 3
SAFETY OFFICER	MR. MOORE	5433/6863	256-835-1244	256-282-0135		Safety
OPNS NCO	MSG FOX	5680/4824	770-834-0372	None		3 Bravo
PLANS NCO	SSG LESTER	5680/6595	256-236-9691	Pager 240-0089		3 Alpha
SECURITY SUPERVISOR	MR. BOLTON	4732/5680	256-779-6915	706-506-1567		Sierra 1
BEC	MR. LEVY	3539/6853	256-435-2396	None		Echo 1
LEGAL	MR. DOYLE	5436	256-435-7747	None		Lima 1

NOTE: The above roster contains unlisted home phone numbers, personal cell phone, and pager numbers. These numbers will not be given to anyone outside of the TF HQ and Operations sections without prior approval of that individual.

NOTIFICATION ROSTER # 2		HIGHER HEADQUARTERS	
AGENCY	PHONE #	FAX #	TIME NTFD
GARRISON COMMANDER (Fort Benning)	706-545-1500	706-835-6302	
TRADOC EOC	757-788-2256/2257	757-788-2997	
DA OPS	703-697-0218	703-693-6290	
TRADOC BRAC	757-788-4350	757-788-4374	
TRADOC MR. PESSAGNO	757-788-2118		
SAFETY: MR. KORNFELD	757-788-2193	757-788-2145	

NOTIFICATION ROSTER # 3		EOD/TECH ESCORT	
AGENCY/POC	PHONE #	FAX #	TIME NTFD
COE: DUSTY RHODES (Safety Officer) TOM BAKSA	256-656-2405 256-656-2375	None	
FW: ART HOLCOMB (Site Supervisor) STEVE NEILL (Project Manger)	256-820-7904	256-820-6322	
PARSONS: JOE CUDNEY (Project Manager) RICH MAHAN (Site Safety Officer)	404-606-0347	None	
EOD: 722 ND EOD, ANAD	256-238-1477	None	

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SUBJECT: Appendix A (Notification Rosters) to the Transition Force Standard Operating Procedure for Responding to Suspected CWM.

NOTIFICATION ROSTER # 4		LOCAL EMERGENCY and CONTRACTORS	
AGENCY NAME	PHONE#	FAX#	TIME NTFD
ANNISTON POLICE DEPT (Dispatch)	256-238-1800		
ANNISTON FIRE DEPT (Dispatch)	256-237-3541		
ANNISTON FIRE DEPT (Ft McClellan)	256-231-7684		
CALHOUN COUNTY SHERIFF	256-236-6600		
ALABAMA STATE POLICE	256-435-3521		
JACKSONVILLE POLICE DEPT	256-435-6448		
OXFORD POLICE DEPT	256-831-3121		
WEAVER POLICE DEPT	256-820-0530		
AMBULANCE SERVICES	911		
JOHNSON CONTROL	256-237-7789		
CALHOUN COUNTY EMA	256-435-0543		

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SUBJECT: Appendix B (Sample Chemical Event Report) to the Transition Force Standard Operating Procedure for Responding to Suspected CWM.

SAMPLE

CHEMICAL EVENT REPORT

CHEMICAL EVENT REPORT (UNCLASSIFIED)

HEADER: THIS IS A CHEMICAL EVENT REPORT, RCS: CSGPO-453

BODY:

1. **Date and Time of Event/Control number:** 151048 local /Mar/01 – FMC 01-01
2. **Location:** 16SFN 14253090, May 96, 1:25,000
3. **Quantity and Type of Munitions/Agent involved:** 1 each, Livens Projectile, MK II, Liquid Filled, Agent - Unk
4. **Description of what has happened:** On 14 Mar 01 @ approximately 1048 hrs local, during the Alpha Phase EE/CA operation to characterize the area for the presence of lack of Unexploded Ordnance (UXO), Huntsville Corps of Engineers contractor located a Livens projectile laying on the ground surface, not covered by earth or leaves (see attachment) at FN 14253090. The COE contractor notified the Fort McClellan (FMC) Operations section @ 11:11hrs local. FMC Operations notified the 722nd EOD Company @ 11:30hrs local. The 722nd EOD Company responded and completed their assessment by 1300hrs local. The 722nd assessment was that the projectile was intact, not leaking and liquid filled. The U.S. Army Technical Escort Unit (TEU) arrived on site to further assess the situation @ 1600hrs local. TEU determined the liquid fill line of the projectile and the presence of a burst tube. Both assessments could not rule out a chemical fill. Upon receipt of initial data assessment from TEU by FMC's Operations, the FMC Site Manager notified TRADOC EOC and the Army Operations Center of the site finding @ 1620, 14 Mar 01.
5. **Emergency notification level:**
Department of the Army Operation Center (SSG Williams)
TRADOC – EOC, TRADOC BRAC
Fort Benning Garrison Commander
Environmental Protection Agency – Region IV
Alabama Department of Environmental Management
6. **Description of property damage:**
7. **Personnel casualties and/or injuries:** NONE
8. **Whether or not medical services and/or facilities were required:** NONE
9. **State if SRF commander is required:** NONE

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10. Assistance required: Technical Escort Unit, 722nd EOD Company conducted initial verification of projectile and fill.

ATZN-HQS

SUBJECT: Appendix B (Sample Chemical Event Report) to the Transition Force Standard Operating Procedure for Responding to Suspected CWM.

11. Any other pertinent information: The Technical Escort Unit personnel are on site, but not all their equipment. TEU anticipates having the necessary equipment to confirm projectile fill NLT 17 Mar 01 at which time fill will be confirmed.

12. Commander's assessment of the situation: The site in which the projectile is located is secured and will remain secured until the projectile fill is identified and TEU determines the disposition of the projectile.

13. In reporting emergency destruction of hazardous munitions: N/A

14. Elements of media release: Media release is projected for 19 Mar 01, if verification of CWM is confirmed.

15. Notification of senior government official: Department of the Army Operations Center

16. Name of person preparing report: Glynn D. Ryan, Fort McClellan Site Manager

For Questions: Gary E. Harvey, Fort McClellan Operations Officer
256.848-7347/4503, gary.harvey@mcclellan.army.mil

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ATZN-HQS

SUBJECT: Appendix B (Sample Chemical Event Report) to the Transition Force Standard Operating Procedure for Responding to Suspected CWM.

SAMPLE

CHEMICAL EVENT FOLLOW-UP REPORT

CHEMICAL EVENT REPORT (UNCLASSIFIED)

HEADER: THIS IS A CHEMICAL EVENT FOLLOW-UP REPORT, RCS: CSGPO-453

BODY:

1. Date and Time of Event/Control number: 161600 local /Mar/01 – FMC 01-02

2. Location: 16SFN 14253090, May 96, 1:25,000

3. Quantity and Type of Agent/Agent involved: 1 each, Livens Projectile, MK II, Liquid Filled, Agent - Unk

4. Update to Chemical Event on 14 Mar 01: On 16 Mar 01 @ approximately 0900 hrs local, Livens projectile was placed inside a Multiple Round Container (MRC), Field Portable Digital Radiography and Computed Technology (DRCT) set up to mobile van. First X-ray scan image of the Livens Projectile showed the projectile to be filled about half full with an unknown liquid and burster running the length of the projectile. Physical integrity of the Livens Projectile was good with no evidence of leakage. PC measurements of the round were taken. At approximately 1315 began another DRCT scan of the Livens Projectile at a slower scan for better resolution of x-rays. Expect Portable Isotopic Neutron Spectroscopy (PINS) test to be completed at approximately 1630 hours, local. The Data from the PINS test is to be processed and analyzed by Edgewood on Monday 19 Mar 01. The Projectile remains in place and guarded until the contents and final disposal method can be determined.

5. Emergency notification level:

Department of the Army Operation Center
TRADOC – EOC, TRADOC BRAC
Fort Benning Garrison Commander
Environmental Protection Agency – Region IV
Alabama Department of Environmental Management

6. Description of property damage:

7. Personnel casualties and/or injuries: NONE

8. Whether or not medical services and/or facilities were required: NONE

9. State if SRF commander is required: NONE

10. Assistance required: Technical Escort Unit, 722nd EOD Company conducted initial verification of projectile and fill.

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11. Any other pertinent information:

ATZN-HQS

SUBJECT: Appendix B (Sample Chemical Event Report) to the Transition Force Standard Operating Procedure for Responding to Suspected CWM.

12. Commander's assessment of the situation: The site in which the projectile is located is secured and will remain secured until the projectile fill is identified and TEU determines the disposition of the projectile.

13. In reporting emergency destruction of hazardous munitions: N/A

14. Elements of media release: Media release is projected for 19 Mar 01, if verification of CWM is confirmed.

15. Notification of senior government official: Department of the Army Operations Center

16. Name of person preparing report: Glynn D. Ryan, Fort McClellan Site Manager

For Questions: Gary E. Harvey, Fort McClellan Operations Officer
256.848-7347/4503, gary.harvey@mcclellan.army.mil

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ATZN-HQS

SUBJECT: Appendix B (Sample Chemical Event Report) to the Transition Force Standard Operating Procedure for Responding to Suspected CWM.

SAMPLE

CHEMICAL EVENT FINAL REPORT

CHEMICAL EVENT REPORT (UNCLASSIFIED)

HEADER: THIS IS A CHEMICAL EVENT FINAL REPORT, RCS: CSGPO-453

BODY:

1. **Date and Time of Event/Control number:** 201100 local /Mar/01 – FMC 01-03
2. **Location:** 16SFN 14253090, May 96, 1:25,000
3. **Quantity and Type of Agent/Agent involved:** 1 each, Livens Projectile, MK II, Liquid Filled, Agent - FM
4. **Update to Chemical Event on 14 Mar 01:** On 20 Mar 01 @ approximately 0950 hrs local, assessment by the Material Assessment Review Board (MARB) determined with high confidence that the projectile contained FM smoke. MARB recommendation was that the projectile be disposed of locally.
5. **Emergency notification level:**
Department of the Army Operation Center
TRADOC – EOC, TRADOC BRAC
Fort Benning Garrison Commander
Environmental Protection Agency – Region IV
Alabama Department of Environmental Management
6. **Description of property damage:**
7. **Personnel casualties and/or injuries:** NONE
8. **Whether or not medical services and/or facilities were required:** NONE
9. **State if SRF commander is required:** NONE
10. **Assistance required:** None
11. **Any other pertinent information:**
12. **Commander's assessment of the situation:** Agrees with MARB determination of FM smoke and recommendation that the round be disposed of locally.
13. **In reporting emergency destruction of hazardous munitions:** N/A

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ATZN-HQS

SUBJECT: Appendix B (Sample Chemical Event Report) to the Transition Force Standard Operating Procedure for Responding to Suspected CWM.

14. Elements of media release: Not Planned.

15. Notification of senior government official: Department of the Army Operations Center

16. Name of person preparing report: Glynn D. Ryan, Fort McClellan Site Manager

For Questions: Gary E. Harvey, Fort McClellan Operations Officer
256.848-7347/4503, gary.harvey@mcclellan.army.mil

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ATZN-HQS

SUBJECT: Appendix C (Environmental Notifications) to the Transition Force Standard Operating Procedure for Responding to Suspected CWM.

1. PURPOSE: To Inform members of the BCT/Regulatory Community of the discovery of a potential chemical warfare material item at Fort McClellan.

2. PROCEDURES: The BEC or his designated representative will be responsible for making notifications to the following agencies:

a. Alabama Department of Environmental Management (ADEM)

Primary POC:	Mr. Phillip Stroud
Phone #:	(334) 279-5646
Fax #:	(334) 279-3050
Email:	PNS@adem.state.al.us

b. Environmental Protection Agency Region IV (EPA)

Primary POC:	Mr. Doyle Brittain
Phone #:	(404) 562-8459
Fax #:	(404) 562-8518
Email:	BRITTAIN.doyle@epamail.epa.gov

c. Other agencies as directed by the Site Manager.

ATTACHMENT 2

**FORT McCLELLAN UNEXPLODED ORDNANCE
SUPPLEMENTARY PROCEDURES**



Procedure No.	OE001
Revision No.	0
Date of Revision	6/6/01
Last Review Date	6/6/01
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FTMC UXO SUPPLEMENTARY PROCEDURES

Subject: Ordnance and Explosives

1.0 INTRODUCTION

IT Corporation (IT) has been retained by the U.S. Army Corps of Engineers-Mobile District, under Contract Number DACA21-96-D-0018, to provide environmental services related to Base realignment and closure (BRAC) of Fort McClellan, Alabama. The Installation-Wide Ordnance and Explosives (OE) Management Plan for Fort McClellan (FTMC) was prepared by IT Corporation and submitted as a final document in March 2000. The Installation-Wide OE Management Plan was prepared to provide general guidance for conducting unexploded ordnance (UXO) work associated with hazardous, toxic, and radiological waste (HTRW) investigations and remedial activities currently in progress at FTMC. IT Corporation prepares site-specific field sampling, health and safety, and UXO safety plans for sites where fieldwork will occur that may potentially contain OE. A UXO Safety Plan is not prepared for sites that are not reported to be in areas containing OE.

1.1 Purpose

This document is intended to provide procedures to the field staff that outline UXO operations and clarify activities currently permitted under "anomaly avoidance." The document is not intended to replace any of the project documents currently approved; rather, it is intended to complement those documents with additional information that allows successful completion of the job.

2.0 FTMC EMPLOYEE ORIENTATION/TRAINING AND CERTIFICATION

The IT FTMC orientation program is designed to:

- Indoctrinate new employees to FTMC-unique procedures
- Verify compliance with regulatory certification requirements
- Provide continuing instruction and updating in UXO fundamentals to sustain readiness to safely perform UXO tasks

These standard policies and procedures are applicable to all members of The IT Group, Inc. except where superseded or modified by the member Company.



2.1 Responsibilities

The IT OE Service Center Operations Manager will oversee the training programs and maintain a master record of UXO employee training and certification status.

The UXO person designated as the senior IT UXO individual at FTMC will schedule the orientation listed below.

The FTMC UXO Safety Officer will:

- Conduct all UXO-specific orientation and training at FTMC
- Certify that each new UXO employee is capable of performing UXO work activities at FTMC
- Maintain FTMC training files and records on each UXO technician on site reflecting his or her current training status.

2.2 UXO Employee Orientation

Every UXO employee assigned to FTMC will receive a site-specific UXO orientation in addition to training required by the Occupational Health and Safety Administration (OSHA). This orientation will include, as a minimum, the following topics:

- Local emergency response drills and procedures
- Personal protective equipment (PPE) and personnel decontamination procedures
- Ordnance recognition/UXO expected to be encountered at FTMC
- Equipment safety
- FTMC site orientation
- Chemical warfare material (CWM) awareness and procedures
- Communications procedures
- FTMC Logbook/data recording procedures
- IT administrative policies and procedures
- Magnetometer checkout procedures.

Upon completion of the UXO employee orientation, the FTMC UXO Safety Officer will monitor the performance of the new hire for at least three workdays while conducting typical UXO activities. The FTMC UXO Safety Officer will



then certify that the individual is capable of performing UXO activities at FTMC based upon satisfactory performance of the three-day period. A copy of this certification will be maintained in the individual's site FTMC training file (see example at Attachment 1).

2.3 UXO Sustainment Training

All UXO technicians have had the OSHA 40-hour hazardous waste operations and emergency response (HAZWOPER) course in order to be initially certified at FTMC. They are also required to maintain the certification with an 8-hour OSHA refresher course on an annual basis. Additionally, all IT FTMC UXO personnel will have 8 hours of site-specific annual UXO sustainment training. This training can be performed incrementally (2 hours every quarter) at the discretion of the site superintendent in coordination with the FTMC IT UXO Safety Officer. Topics will include, but are not limited to, the following subjects:

- Site-specific environmental hazards
- Site-specific UXO hazards, ordnance fuzing, functioning and precautions
- Topics which the IT UXO Team Leader or IT Safety UXO Officer determines necessary to support FTMC UXO activities

Sustainment training will be conducted for a period of no less than 8 hours. Daily safety briefings, tailgate safety meetings, and other required site-specific training are not a substitute for this training. The purpose of this training is to provide each UXO employee with site-specific UXO training over and above OSHA requirements. The site-specific UXO training will be recorded in the project file and the UXO employee's personnel file.

3.0 FTMC MAGNETOMETER/METAL DETECTOR FUNCTION TEST AND FIELD PROCEDURES

This section provides FTMC magnetometer/metal detector function tests and operating procedures to be employed at all work sites that have been identified as requiring avoidance support.

3.1 Geophysical Test Plot

The purpose of a test plot is to provide a consistent environment where the equipment can be evaluated. The location of the geophysical test plot will be inside the IT compound. It will be established as follows

- The test plot will consist of an area approximately 20 x 20 feet and clear of vegetation and magnetic anomalies, located in the IT compound next to the southeast end of the office trailers.
- Five metal test objects will be buried at depths varying from 6 inches to 24 inches. The objects will approximate the weight, diameter, and length of an MK 2 grenade, a 60mm mortar, a 2.36-inch rocket warhead, a 75mm projectile, and a 37mm projectile. Additionally, three non-ferrous test objects will be buried at a depth of 2 inches to 8 inches. A 6-inch length of 1/2-inch reinforcing rod will be placed on the surface for use as a surface check source. Items with greater mass will be buried at greater depths. Each burial location will be marked with a wooden stake located about 6 inches to the north of the object. Each stake will be assigned a reference number and will be tagged or marked to denote the depth, type of item and orientation of the item. The site will utilize native soils; no fill material will be brought in from another area. Sand will be used to cover the area to mitigate the effects of wet weather.
- For downhole magnetometer testing, a length of 2-inch PVC pipe will be buried to a depth of 36 inches. The pipe should be of sufficient length to allow at least another 24 inches to extend above the surface of the ground. A metal object will be buried at a depth of 24 inches and 24 inches from the side of the pipe. The location of the item, similar in size and mass to a 75mm projectile, will be marked with a wooden stake tagged to denote the depth, type of item, orientation, and reference number assigned.

3.2 Magnetometer/Metal Detector Check-Out Procedures

- Prior to field use, all magnetometers and metal detectors will be set up following the guidelines in the manufacturer's operating manual for the specific instrument used. Instrumentation used at this site will include the Schonstedt GA 72, the CST Corporation Magna-Trak 102, or White's Spectrum XLT Metal Detector. Additionally, the Schonstedt MG-220 or

MG-230 will be set up for downhole monitoring. All equipment will be operated in a manner consistent with instructions contained in the appropriate operator's manual. All equipment will be function-tested prior to use. The White's Metal Detector will be used in conjunction with hand-held magnetometers in areas of high concentrations of rocks with a magnetic signature, to assist in eliminating anomalies created by "hot rocks." The operating manual for each of the instruments used at FTMC will be available for use with the equipment.

- Once the instrument has been determined to be working according to the manufacturer's operating manual, the operator will perform a function test on the FTMC geophysical test plot using the detection methods described in the manual. A function test will consist of using the instrument over a minimum of three test sources. The same sources will be used during each function test to ensure consistency. The instrument detection indicator, as described in the operator's manual, will be noted in the instrument logbook. For site checks, a 6-inch length of 1/2-inch steel reinforcing rod will be available to each operator at the work site.
- Instruments that fail to reproduce a detection indication consistent with previous tests will be checked to ensure that the power supply or batteries are sufficient. If the power supply is determined to be sufficient and the operator cannot find a fault in accordance with the operator's manual, the instrument will be tagged and removed from service.
- Function tests will be performed each morning before the equipment is put into service.
- If an instrument is determined to be working improperly, the FTMC UXO Team Leader and the site superintendent will be immediately notified. Any activities performed using that instrument since its last positive test procedure will be considered invalid and will require reevaluation.
- Upon completion of the function test, the "Magnetometer/Metal Detector Functions Test Data Sheet" (Attachment 2) and the equipment logbook will be filled out.

- After an instrument has been function-tested at the beginning of each day, the instrument will be checked at least once during every hour of use or each time the instrument is turned on after having been turned off. This check will consist of dropping the 6-inch length of 1/2-inch reinforcing rod in a clear area and passing the detector over the rod in a manner consistent with the operator's instructions. The instrument indication will be compared to the indication produced during the morning function test. Instruments that fail to produce a consistent indication will be checked and removed from service as required.

3.3 Equipment Documentation

Each piece of equipment will be assigned a logbook noting the make, model, manufacturer, and serial number of the equipment. The logbook and manufacturer's operating manual will be present when the equipment is tested. The following information will be recorded:

- Date and time
- The test plot object used (assigned stake number)
- The reading or indication at each test site
- Whether or not the reading or indication was satisfactory
- The name of the individual performing the test.

The IT FTMC Quality Control (QC) Officer will observe the daily testing of all equipment and will record the results of each test in his field logbook.

3.4 Magnetometer/Metal Detector Field Procedures

All intrusive field activities in potential OE areas (e.g., digging, fence post driving, grading, well installation or excavation) will be preceded by a UXO sweep. Each hole made in areas where OE may potentially be found will have a check immediately over the spot of the intrusion. Magnetometer operations at FTMC will assume a detection depth of one foot when surveying an area for excavation.

All magnetometers and metal detectors will be operated in accordance with the manufacturers specifications and procedures.

When surveying a potential area for a sampling well, an area of sufficient size will be surveyed to allow for installation of required pads and bollards. After the well



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is installed, the location of bollards will be adjusted as required if an anomaly is detected during the bollard installation process.

The White's Metal Detector will be used to augment the magnetometers on sites where "hot rocks" are suspected. The purpose of using the metal detector in addition to the magnetometers is to eliminate the probability of "hot rocks."

4.0 FTMC ACCESS CLEARANCES, VEGETATION REMOVAL, AND ROAD MAINTENANCE

This section is designed to provide specific procedures regarding activities associated with the building of access corridors, vegetation removal, and road maintenance in support of FTMC operations.

4.1 Access Corridors

The purpose of access corridors is to enable IT personnel access to well and/or other types of sampling sites within FTMC. Access corridors will be created by marking the route, both length and width, in which a UXO survey has been performed. The marking method will be defined in each site-specific UXO safety plan. No unescorted access is permitted until a corridor has been established. If an anomaly is detected during the survey or during a subsequent excavation, it must be avoided, since investigation is not authorized. The route will be altered to avoid the anomaly for FTMC activities. A magnetometer is considered to reliably detect anomalies to a depth of one foot.

The size of each area to be surveyed is dependent on the type and quantity of equipment expected to be used on that site. The UXO survey crew will follow the procedures outlined in the site-specific UXO safety plan to determine the dimensions of the area to be surveyed. Normally, the width of the access route will be at least twice as wide as the widest vehicle that will use the route; footpaths will be a minimum of 3 feet wide.

Tracked or other vehicles, that disturb the soil are authorized for use only in areas that have been surveyed and no anomalies have been detected.

Erosion and weathering will typically cause some UXO items to leach to the surface or otherwise be uncovered. In cases where access corridors or sampling sites have not been surveyed or traversed for a period of time, additional UXO surveys may be required. The decision regarding the performance of additional

surveys will be made by the FTMC UXO team leader and the IT FTMC UXO Safety Officer. The site superintendent will be notified of this decision. This decision will be based on, but not limited to, such factors as: the amount of time since the last survey was performed; the weather during this period; the terrain in the area of concern; and the type and quantity of UXO found during initial surveys.

4.2 Vegetation Removal

In cases where removal of large trees or other types of vegetation is required, the following procedures will be followed:

- The UXO technician will survey around the base of the tree or vegetation, and, if no anomaly is detected, direct the bulldozer or other equipment to proceed. If an anomaly is detected, the location will be recorded and marked and another route will be selected. The size of the area to be surveyed will depend on the size of the suspected root system of the tree to be removed.
- Once the tree has been pushed over, the UXO technician will survey around the root ball and the area in and around the hole. If an anomaly is detected, the anomaly will be recorded and marked and an alternate route will be selected. If no anomaly is detected, the UXO technician will direct the equipment operator to proceed with the excavation.

4.3 Road Maintenance

Remote range roads and trails frequently require a certain amount of repair to remain passable. This section describes authorized actions regarding the maintenance of dirt or gravel range roads by IT UXO personnel.

- Bulldozers or grader-type equipment is authorized to repair roads and trails as long as a UXO survey has been performed and no anomalies have been detected.
- The UXO technician will observe the blade of the equipment as the earth is moved. If a potential UXO is uncovered, the UXO technician will signal the equipment operator to immediately stop the equipment. The UXO technician will then attempt to visually identify the object. If the object cannot be positively identified as a non-hazardous item, the



equipment will be moved, the location of the object marked and recorded on the IT FTMC Unexploded Ordnance Report Form (Attachment 3), and the route changed to avoid the object. If no suspicious objects are detected, the equipment will continue to move earth at a rate of no more than one foot of depth at a time. If, more grading is required after the first pass is complete the UXO technician will perform another survey. If no anomalies are detected, the equipment can repeat the grading process. If an anomaly is detected, the operation will be halted and the route changed.

- After an area has been surveyed and no anomalies have been detected, soil can be removed at a rate of no more than one foot per lift. If additional grading is required, a survey will be performed after each one-foot increment the soil has been removed.
- Earth may not, at any time, be moved at a rate of more than one foot in each lift.

5.0 FTMC UXO LOG BOOKS

All UXO team leaders or UXO technicians supporting HTRW operations will maintain a logbook. The purpose of the logbook is to record UXO actions and activities taken at each work site.

5.1 Responsibilities

UXO personnel will maintain an individual daily logbook of work activities.

The logbooks will be routinely inspected weekly by the UXO QC Officer and will be made available to the FTMC site superintendent upon request. Copies will be made daily and filed in the IT Field Project office.

Logbooks will contain bound and numbered pages. Entries will be on successive pages as work is performed. The individual using the logbook will sign the page after the last entry for that page has been made. Logbooks are part of the project legal file and will be filed with the project files upon completion of each investigation.

5.2 Data Requirements

As a minimum, individual logbooks will contain the following information:

- Date, time and location of UXO activities
- Personnel involved in the activities
- UXO activities performed, including UXO/anomalies found
- A description of areas swept
- A record of the magnetometer or other equipment used, including instrument serial number
- Weather conditions.

The IT FTMC QC Officer will utilize the IT FTMC “UXO Avoidance Quality Control Report” (Attachment 4) to document checks of field activities.

Additionally, UXO personnel will complete IT FTMC Form “UXO Sketch Log” (Attachment 5) and IT FTMC Unexploded Ordnance Report Form. The “UXO Sketch Log” will contain a description of activities, including the dimensions of the area surveyed. A description of the length and width will be recorded, as well as the manner in which the survey was performed. These forms will be completed as required and presented to the site superintendent.

ATTACHMENT 1

FTMC Employee Certification (Example)

I certify that (name of individual) has fulfilled all UXO orientation requirements and has been observed by me for a period of 3 work days and is therefore eligible to perform UXO activities at FTMC.

Brian Sunderman
FTMC UXO Safety Officer

ATTACHMENT 3

Unexploded Ordnance Report Form

Report Tracking Number:													
Discovery and Reporting Time													
<table border="1" style="margin: auto;"> <tr><th colspan="2">Time of Discovery</th></tr> <tr><th>Date</th><th>Time</th></tr> <tr><td> </td><td> </td></tr> </table>	Time of Discovery		Date	Time			<table border="1" style="margin: auto;"> <tr><th colspan="2">Time Reported to Base Transition Force</th></tr> <tr><th>Date</th><th>Time</th></tr> <tr><td> </td><td> </td></tr> </table>	Time Reported to Base Transition Force		Date	Time		
Time of Discovery													
Date	Time												
Time Reported to Base Transition Force													
Date	Time												
Employee Name: _____	Reported to FTMC Transitional Force Personnel Name: _____												
Location of Ordnance													
Location, Description, and Parcel Number:													
Coordinates of Ordnance:	<table border="1" style="margin: auto;"> <tr><th colspan="2">State Plane Coordinates</th></tr> <tr><th>Northing</th><th>Easting</th></tr> <tr><td> </td><td> </td></tr> </table>	State Plane Coordinates		Northing	Easting								
State Plane Coordinates													
Northing	Easting												
<table border="1" style="margin: auto;"> <tr><th colspan="4">Picture Taken of Ordnance</th></tr> <tr><th>Yes</th><th>No</th><th>Date</th><th>Time</th></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>		Picture Taken of Ordnance				Yes	No	Date	Time				
Picture Taken of Ordnance													
Yes	No	Date	Time										
Written Description and/or Sketch of Ordnance:													
Corrective Action Taken by Fort McClellan Transition Force													
Date													

These standard policies and procedures are applicable to all members of The IT Group, Inc. except where superceded or modified by the member Company.

ATTACHMENT 4

UXO Quality Control Report

Project Location: _____

Date: _____

Work Site Location: _____

Day: _____

1. Personnel Involved:

2. Description of Work Being Performed:

3. Equipment Utilized:

4. Comments:

Completed By

Printed Name & Title

Signature

Date

These standard policies and procedures are applicable to all members of The IT Group, Inc. except where superceded or modified by the member Company.

ATTACHMENT 5

UXO Sketch Location Log

District: _____ **Hole Number:** _____ **Date:** _____

Company Name: IT Corporation **Subcontractor:** _____

Parcel Location: _____ **Well Location:** _____ **Date Started:** _____ **Date Completed:** _____

Type of UXO Work Being Performed:

Most Probable Munition:	_____
Down-Hole Depth Achieved for UXO Avoidance:	_____
Total Number of Surface UXO Marked:	_____
Total Number of Anomalies Marked:	_____

Location Sketch/Comments:	Not to Scale
Signature of UXO Technician:	Date:

These standard policies and procedures are applicable to all members of The IT Group, Inc. except where superceded or modified by the member Company.

List of Abbreviations and Acronyms

2,4-D	2,4-dichlorophenoxyacetic acid	BCT	BRAC Cleanup Team	Cl	chlorinated
2,4,5-T	2,4,5-trichlorophenoxyacetic acid	BERA	baseline ecological risk assessment	CLP	Contract Laboratory Program
2,4,5-TP	silvex	BEHP	bis(2-ethylhexyl)phthalate	cm	centimeter
3D	3D International Environmental Group	BFB	bromofluorobenzene	CN	chloroacetophenone
AB	ambient blank	BFE	base flood elevation	CNB	chloroacetophenone, benzene, and carbon tetrachloride
AbB3	Anniston gravelly clay loam, 2 to 6 percent slopes, severely eroded	BG	Bacillus globigii	CNS	chloroacetophenone, chloropicrin, and chloroform
AbC3	Anniston gravelly clay loam, 6 to 10 percent slopes, severely eroded	bgs	below ground surface	CO	carbon monoxide
AbD3	Anniston and Allen gravelly clay loams, 10 to 15 percent slopes, eroded	BHC	betahexachlorocyclohexane	Co-60	cobalt-60
Abs	skin absorption	BHHRA	baseline human health risk assessment	CoA	Code of Alabama
ABS	dermal absorption factor	BIRTC	Branch Immaterial Replacement Training Center	COC	chain of custody; contaminant of concern
AC	hydrogen cyanide	bkg	background	COE	Corps of Engineers
ACAD	AutoCadd	bls	below land surface	Con	skin or eye contact
AcB2	Anniston and Allen gravelly loams, 2 to 6 percent slopes, eroded	BOD	biological oxygen demand	COPC	chemical(s) of potential concern
AcC2	Anniston and Allen gravelly loams, 6 to 10 percent slopes, eroded	Bp	soil-to-plant biotransfer factors	COPEC	chemical(s) of potential ecological concern
AcD2	Anniston and Allen gravelly loams, 10 to 15 percent slopes, eroded	BRAC	Base Realignment and Closure	CPSS	chemicals present in site samples
AcE2	Anniston and Allen gravelly loams, 15 to 25 percent slopes, eroded	Braun	Braun Intertec Corporation	CQCSM	Contract Quality Control System Manager
ACGIH	American Conference of Governmental Industrial Hygienists	BSAF	biota-to-sediment accumulation factors	CRDL	contract-required detection limit
AdE	Anniston and Allen stony loam, 10 to 25 percent slope	BSC	background screening criterion	CRL	certified reporting limit
ADEM	Alabama Department of Environmental Management	BTAG	Biological Technical Assistance Group	CRQL	contract-required quantitation limit
ADPH	Alabama Department of Public Health	BTEX	benzene, toluene, ethyl benzene, and xylenes	CRZ	contamination reduction zone
AEC	U.S. Army Environmental Center	BTOC	below top of casing	Cs-137	cesium-137
AEL	airborne exposure limit	BTV	background threshold value	CS	ortho-chlorobenzylidene-malononitrile
AET	adverse effect threshold	BW	biological warfare; body weight	CSEM	conceptual site exposure model
AF	soil-to-skin adherence factor	BZ	breathing zone; 3-quinuclidinyl benzilate	CSM	conceptual site model
AHA	ammunition holding area	C	ceiling limit value	CT	central tendency
AL	Alabama	Ca	carcinogen	ctr.	container
ALAD	ä-aminolevulinic acid dehydratase	CAB	chemical warfare agent breakdown products	CWA	chemical warfare agent
amb.	Amber	CAMU	corrective action management unit	CWM	chemical warfare material; clear, wide mouth
amsl	above mean sea level	CBR	chemical, biological and radiological	CX	dichloroformoxime
ANAD	Anniston Army Depot	CCAL	continuing calibration	'D'	duplicate; dilution
AOC	area of concern	CCB	continuing calibration blank	D&I	detection and identification
APEC	areas of potential ecological concern	CCV	continuing calibration verification	DAAMS	depot area air monitoring system
APT	armor-piercing tracer	CD	compact disc	DAF	dilution-attenuation factor
AR	analysis request	CDTF	Chemical Defense Training Facility	DANC	decontamination agent, non-corrosive
ARAR	applicable or relevant and appropriate requirement	CEHNC	U.S. Army Engineering and Support Center, Huntsville	°C	degrees Celsius
AREE	area requiring environmental evaluation	CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	°F	degrees Fahrenheit
ASP	Ammunition Supply Point	CERFA	Community Environmental Response Facilitation Act	DCA	dichloroethane
ASR	Archives Search Report	CESAS	Corps of Engineers South Atlantic Savannah	DCE	dichloroethene
AST	aboveground storage tank	CF	conversion factor	DDD	dichlorodiphenyldichloroethane
ASTM	American Society for Testing and Materials	CFC	chlorofluorocarbon	DDE	dichlorodiphenyldichloroethene
AT	averaging time	CFDP	Center for Domestic Preparedness	DDT	dichlorodiphenyltrichloroethane
ATSDR	Agency for Toxic Substances and Disease Registry	CFR	Code of Federal Regulations	DEH	Directorate of Engineering and Housing
ATV	all-terrain vehicle	CG	carbonyl chloride (phosgene)	DEP	depositional soil
AWARE	Associated Water and Air Resources Engineers, Inc.	CGI	combustible gas indicator	DFTPP	decafluorotriphenylphosphine
AWWSB	Anniston Water Works and Sewer Board	ch	inorganic clays of high plasticity	DI	deionized
'B'	Analyte detected in laboratory or field blank at concentration greater than the reporting limit (and greater than zero)	CHPPM	U.S. Army Center for Health Promotion and Preventive Medicine	DID	data item description
BCF	blank correction factor; bioconcentration factor	CK	cy anogen chloride	DIMP	di-isopropylmethylphosphonate
		cl	inorganic clays of low to medium plasticity	DM	dry matter

List of Abbreviations and Acronyms (Continued)

DMBA	dimethylbenz(a)anthracene	FAR	Federal Acquisition Regulations	GSSI	Geophysical Survey Systems, Inc.
DMMP	dimethylmethylphosphonate	FB	field blank	GST	ground stain
DOD	U.S. Department of Defense	FD	field duplicate	GW	groundwater
DOJ	U.S. Department of Justice	FDA	U.S. Food and Drug Administration	gw	well-graded gravels; gravel-sand mixtures
DOT	U.S. Department of Transportation	FedEx	Federal Express, Inc.	HA	hand auger
DP	direct-push	FEMA	Federal Emergency Management Agency	HCl	hydrochloric acid
DPDO	Defense Property Disposal Office	FFCA	Federal Facilities Compliance Act	HD	distilled mustard
DPT	direct-push technology	FFE	field flame expedient	HDPE	high-density polyethylene
DQO	data quality objective	FFS	focused feasibility study	HEAST	Health Effects Assessment Summary Tables
DRMO	Defense Reutilization and Marketing Office	FI	fraction of exposure	Herb.	herbicides
DRO	diesel range organics	Fil	filtered	HHRA	human health risk assessment
DS	deep (subsurface) soil	Flt	filtered	HI	hazard index
DS2	Decontamination Solution Number 2	FMDC	Fort McClellan Development Commission	HPLC	high performance liquid chromatography
DWEL	drinking water equivalent level	FML	flexible membrane liner	HNO ₃	nitric acid
E&E	Ecology and Environment, Inc.	FMP 1300	Former Motor Pool 1300	HQ	hazard quotient
EB	equipment blank	FOMRA	Former Ordnance Motor Repair Area	HQ _{screen}	screening-level hazard quotient
EBS	environmental baseline survey	Foster Wheeler	Foster Wheeler Environmental Corporation	hr	hour
EC ₅₀	effects concentration for 50 percent of a population	Frtn	fraction	H&S	health and safety
ECBC	Edgewood Chemical/Biological Command	FS	field split; feasibility study	HSA	hollow-stem auger
ED	exposure duration	FSP	field sampling plan	HTRW	hazardous, toxic, and radioactive waste
EDD	electronic data deliverable	ft	feet	'I'	out of control, data rejected due to low recovery
EF	exposure frequency	ft/ft	feet per foot	IATA	International Air Transport Authority
EDQL	ecological data quality level	FTA	Fire Training Area	ICAL	initial calibration
EE/CA	engineering evaluation and cost analysis	FTMC	Fort McClellan	ICB	initial calibration blank
Elev.	elevation	FTRRA	FTMC Reuse & Redevelopment Authority	ICP	inductively-coupled plasma
EM	electromagnetic	g	gram	ICRP	International Commission on Radiological Protection
EMI	Environmental Management Inc.	g/m ³	gram per cubic meter	ICS	interference check sample
EM31	Geonics Limited EM31 Terrain Conductivity Meter	G-856	Geometrics, Inc. G-856 magnetometer	ID	inside diameter
EM61	Geonics Limited EM61 High-Resolution Metal Detector	G-858G	Geometrics, Inc. G-858G magnetic gradiometer	IDL	instrument detection limit
EOD	explosive ordnance disposal	GAF	gastrointestinal absorption factor	IDLH	immediately dangerous to life or health
EODT	explosive ordnance disposal team	gal	gallon	IDM	investigative-derived media
EPA	U.S. Environmental Protection Agency	gal/min	gallons per minute	IDW	investigation-derived waste
EPC	exposure point concentration	GB	sarin	IEUBK	Integrated Exposure Uptake Biokinetic
EPIC	Environmental Photographic Interpretation Center	gc	clay gravels; gravel-sand-clay mixtures	IF	ingestion factor; inhalation factor
EPRI	Electrical Power Research Institute	GC	gas chromatograph	ILCR	incremental lifetime cancer risk
ER	equipment rinsate	GCL	geosynthetic clay liner	IMPA	isopropylmethyl phosphonic acid
ERA	ecological risk assessment	GC/MS	gas chromatograph/mass spectrometer	IMR	Iron Mountain Road
ER-L	effects range-low	GCR	geosynthetic clay liner	in.	inch
ER-M	effects range-medium	GFAA	graphite furnace atomic absorption	Ing	ingestion
ESE	Environmental Science and Engineering, Inc.	GIS	Geographic Information System	Inh	inhalation
ESMP	Endangered Species Management Plan	gm	silty gravels; gravel-sand-silt mixtures	IP	ionization potential
ESN	Environmental Services Network, Inc.	gp	poorly graded gravels; gravel-sand mixtures	IPS	International Pipe Standard
ESV	ecological screening value	gpm	gallons per minute	IR	ingestion rate
ET	exposure time	GPR	ground-penetrating radar	IRDMIS	Installation Restoration Data Management Information System
EU	exposure unit	GPS	global positioning system	IRIS	Integrated Risk Information Service
Exp.	explosives	GS	ground scar	IRP	Installation Restoration Program
E-W	east to west	GSA	General Services Administration; Geologic Survey of Alabama	IS	internal standard
EZ	exclusion zone	GSBP	Ground Scar Boiler Plant	ISCP	Installation Spill Contingency Plan

List of Abbreviations and Acronyms (Continued)

IT	IT Corporation	mm	millimeter	NR	not requested; not recorded; no risk
ITEMS	IT Environmental Management System™	MM	mounded material	NRC	National Research Council
'J'	estimated concentration	MMBtu/hr	million Btu per hour	NRCC	National Research Council of Canada
JeB2	Jefferson gravelly fine sandy loam, 2 to 6 percent slopes, eroded	MOGAS	motor vehicle gasoline	NRHP	National Register of Historic Places
JeC2	Jefferson gravelly fine sandy loam, 6 to 10 percent slopes, eroded	MP	Military Police	ns	nanosecond
JfB	Jefferson stony fine sandy loam, 0 to 10 percent slopes have strong slopes	MPA	methyl phosphonic acid	N-S	north to south
JPA	Joint Powers Authority	MPM	most probable munition	NS	not surveyed
K	conductivity	MQL	method quantitation limit	NSA	New South Associates, Inc.
K _{ow}	octonal-water partition coefficient	MR	molasses residue	nT	nanotesla
L	lewisite; liter	MRL	method reporting limit	nT/m	nanoteslas per meter
l	liter	MS	matrix spike	NTU	nephelometric turbidity unit
LBP	lead-based paint	mS/cm	millisiemens per centimeter	nv	not validated
LC	liquid chromatography	mS/m	millisiemens per meter	O ₂	oxygen
LCS	laboratory control sample	MSD	matrix spike duplicate	O&G	oil and grease
LC ₅₀	lethal concentration for 50 percent population tested	MTBE	methyl tertiary butyl ether	O&M	operation and maintenance
LD ₅₀	lethal dose for 50 percent population tested	msl	mean sea level	OB/OD	open burning/open detonation
LEL	lower explosive limit	MtD3	Montevallo shaly, silty clay loam, 10 to 40 percent slopes , severely eroded	OD	outside diameter
LOAEL	lowest-observed-advserse-effects-level	mV	millivolts	OE	ordnance and explosives
LT	less than the certified reporting limit	MW	monitoring well	oh	organic clays of medium to high plasticity
LUC	land-use control	MWI&P	Monitoring Well Installation and Management Plan	ol	organic silts and organic silty clays of low plasticity
LUCAP	land-use control assurance plan	Na	sodium	OP	organophosphorus
LUCIP	land-use control implementation plan	NA	not applicable; not available	ORP	oxidation-reduction potential
max	maximum	NAD	North American Datum	OSHA	Occupational Safety and Health Administration
MB	method blank	NAD83	North American Datum of 1983	OSWER	Office of Solid Waste and Emergency Response
MCL	maximum contaminant level	NAVD88	North American Vertical Datum of 1988	OVM-PID/FID	organic vapor meter-photoionization detector/flame ionization detector
MCLG	maximum contaminant level goal	NAS	National Academy of Sciences	OWS	oil/water separator
MCPA	4-chloro-2-methylphenoxyacetic acid	NCEA	National Center for Environmental Assessment	oz	ounce
MCS	media cleanup standard	NCP	National Contingency Plan	PA	preliminary assessment
MD	matrix duplicate	NCRP	National Council on Radiation Protection and Measurements	PAH	polynuclear aromatic hydrocarbon
MDC	maximum detected concentration	ND	not detected	PARCCS	precision, accuracy, representativeness, comparability, completeness, and sensitivity
MDCC	maximum detected constituent concentration	NE	no evidence; northeast	Parsons	Parsons Engineering Science, Inc.
MDL	method detection limit	ne	not evaluated	Pb	lead
mg	milligrams	NEW	net explosive weight	PBMS	performance-based measurement system
mg/kg	milligrams per kilogram	NFA	No Further Action	PC	permeability coefficient
mg/kg/day	milligram per kilogram per day	NG	National Guard	PCB	polychlorinated biphenyl
mg/kgbw/day	milligrams per kilogram of body weight per day	NGP	National Guardsperson	PCDD	polychlorinated dibenzo-p-dioxins
mg/L	milligrams per liter	ng/L	nanograms per liter	PCDF	polychlorinated dibenzofurans
mg/m ³	milligrams per cubic meter	NGVD	National Geodetic Vertical Datum	PCE	perchloroethene
mh	inorganic silts, micaceous or diatomaceous fine, sandy or silt soils	Ni	nickel	PCP	pentachlorophenol
MHz	megahertz	NIC	notice of intended change	PDS	Personnel Decontamination Station
µg/g	micrograms per gram	NIOSH	National Institute for Occupational Safety and Health	PEF	particulate emission factor
µg/kg	micrograms per kilogram	NIST	National Institute of Standards and Technology	PEL	permissible exposure limit
µg/L	micrograms per liter	NLM	National Library of Medicine	PES	potential explosive site
µmhos/cm	micromhos per centimeter	NPDES	National Pollutant Discharge Elimination System	Pest.	pesticides
min	minimum	NPW	net present worth	PETN	pentarey thritol tetranitrate
MINICAMS	miniature continuous air monitoring system	No.	number	PFT	portable flamethrower
ml	inorganic silts and very fine sands	NOAA	National Oceanic and Atmospheric Administration	PG	professional geologist
mL	milliliter	NOAEL	no-observed-adverse-effects-level		

List of Abbreviations and Acronyms (Continued)

PID	photoionization detector	RSD	relative standard deviation	STC	source-term concentration
PkA	Philo and Stendal soils local alluvium, 0 to 2 percent slopes	RTC	Recruiting Training Center	STD	standard deviation
PM	project manager	RTECS	Registry of Toxic Effects of Chemical Substances	STEL	short-term exposure limit
POC	point of contact	RTK	real-time kinematic	STL	Severn-Trent Laboratories
POL	petroleum, oils, and lubricants	SA	exposed skin surface area	STOLS	Surface Towed Ordnance Locator System®
POW	prisoner of war	SAD	South Atlantic Division	Std. units	standard units
PP	peristaltic pump; Proposed Plan	SAE	Society of Automotive Engineers	SU	standard unit
ppb	parts per billion	SAIC	Science Applications International Corporation	SUXOS	senior UXO supervisor
PPE	personal protective equipment	SAP	installation-wide sampling and analysis plan	SVOC	semivolatile organic compound
ppm	parts per million	sc	clayey sands; sand-clay mixtures	SW	surface water
PPMP	Print Plant Motor Pool	Sch.	Schedule	SW-846	U.S. EPA's <i>Test Methods for Evaluating Solid Waste: Physical/Chemical Methods</i>
ppt	parts per thousand	SCM	site conceptual model	SWMU	solid waste management unit
PR	potential risk	SD	sediment	SWPP	storm water pollution prevention plan
PRA	preliminary risk assessment	SDG	sample delivery group	SZ	support zone
PRG	preliminary remediation goal	SDZ	safe distance zone; surface danger zone	TAL	target analyte list
PSSC	potential site-specific chemical	SEMS	Southern Environmental Management & Specialties, Inc.	TAT	turn around time
pt	peat or other highly organic silts	SF	cancer slope factor	TB	trip blank
PVC	polyvinyl chloride	SFSP	site-specific field sampling plan	TBC	to be considered
QA	quality assurance	SGF	standard grade fuels	TCA	trichloroethane
QA/QC	quality assurance/quality control	SHP	installation-wide safety and health plan	TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
QAM	quality assurance manual	SI	site investigation	TCDF	tetrachlorodibenzofurans
QAO	quality assurance officer	SINA	Special Interest Natural Area	TCE	trichloroethene
QAP	installation-wide quality assurance plan	SL	standing liquid	TCL	target compound list
QC	quality control	SLERA	screening-level ecological risk assessment	TCLP	toxicity characteristic leaching procedure
QST	QST Environmental, Inc.	sm	silty sands; sand-silt mixtures	TDEC	Tennessee Department of Environment and Conservation
qty	quantity	SM	Serratia marcescens	TDGCL	thiodiglycol
Qual	qualifier	SMDP	Scientific Management Decision Point	TDGCLA	thiodiglycol chloroacetic acid
'R'	rejected data; resample	s/n	signal-to-noise ratio	TERC	Total Environmental Restoration Contract
R&A	relevant and appropriate	SOP	standard operating procedure	THI	target hazard index
RA	remedial action	SOPQAM	U.S. EPA's <i>Standard Operating Procedure/Quality Assurance Manual</i>	TIC	tentatively identified compound
RAO	removal action objective	sp	poorly graded sands; gravelly sands	TLV	threshold limit value
RBC	risk-based concentration	SP	submersible pump	TN	Tennessee
RCRA	Resource Conservation and Recovery Act	SPCC	system performance calibration compound	TNT	trinitrotoluene
RD	remedial design	SPCS	State Plane Coordinate System	TOC	top of casing; total organic carbon
RDX	cyclonite	SPM	sample planning module	TPH	total petroleum hydrocarbons
ReB3	Rarden silty clay loams	SQRT	screening quick reference tables	TR	target cancer risk
REG	regular field sample	Sr-90	strontium-90	TRADOC	U.S. Army Training and Doctrine Command
REL	recommended exposure limit	SRA	streamlined human health risk assessment	TRPH	total recoverable petroleum hydrocarbons
RFA	request for analysis	SRM	standard reference material	TSCA	Toxic Substances Control Act
RfC	reference concentration	Ss	stony rough land, sandstone series	TSDF	treatment, storage, and disposal facility
RfD	reference dose	SS	surface soil	TWA	time-weighted average
RGO	remedial goal option	SSC	site-specific chemical	UCL	upper confidence limit
RI	remedial investigation	SSHO	site safety and health officer	UCR	upper certified range
RL	reporting limit	SSHP	site-specific safety and health plan	'U'	not detected above reporting limit
RME	reasonable maximum exposure	SSL	soil screening level	UF	uncertainty factor
ROD	Record of Decision	SSSL	site-specific screening level	USACE	U.S. Army Corps of Engineers
RPD	relative percent difference	SSSSL	site-specific soil screening level	USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
RRF	relative response factor	STB	supertropical bleach	USAEC	U.S. Army Environmental Center

List of Abbreviations and Acronyms (Continued)

USAEHA	U.S. Army Environmental Hygiene Agency
USACMLS	U.S. Army Chemical School
USAMPS	U.S. Army Military Police School
USATCES	U.S. Army Technical Center for Explosive Safety
USATEU	U.S. Army Technical Escort Unit
USATHAMA	U.S. Army Toxic and Hazardous Material Agency
USC	United States Code
USCS	Unified Soil Classification System
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
UTL	upper tolerance level; upper tolerance limit
UXO	unexploded ordnance
UXOQCS	UXO Quality Control Supervisor
UXOSO	UXO safety officer
V	vanadium
VOA	volatile organic analyte
VOC	volatile organic compound
VOH	volatile organic hydrocarbon
VQlfr	validation qualifier
VQual	validation qualifier
VX	nerve agent (O-ethyl-S-[diisopropylaminoethyl]-methylphosphonothiolate)
WAC	Women's Army Corps
Weston	Roy F. Weston, Inc.
WP	installation-wide work plan
WRS	Wilcoxon rank sum
WS	watershed
WSA	Watershed Screening Assessment
WWI	World War I
WWII	World War II
XRF	x-ray fluorescence
yd ³	cubic yards

Q	Sample interference obscured peak of interest
R	Non-target compound analyzed for but not detected (GC/MS methods)
S	Non-target compound analyzed for and detected (GC/MS methods)
T	Non-target compound analyzed for but not detected (non GC/MS methods)
U	Analysis in unconfirmed
Z	Non-target compound analyzed for and detected (non-GC/MS methods)

Qualifiers

J	The low-spike recovery is low
N	The high-spike recovery is low
R	Data is rejected

SAIC – Data Qualifiers, Codes and Footnotes, 1995 Remedial Investigation

N/A – Not analyzed

ND – Not detected

Boolean Codes

LT – Less than the certified reporting limit

Flagging Codes

9 – Non-demonstrated/validated method performed for USAEC

B – Analyte found in the method blank or QC blank

C – Analysis was confirmed

D – Duplicate analysis

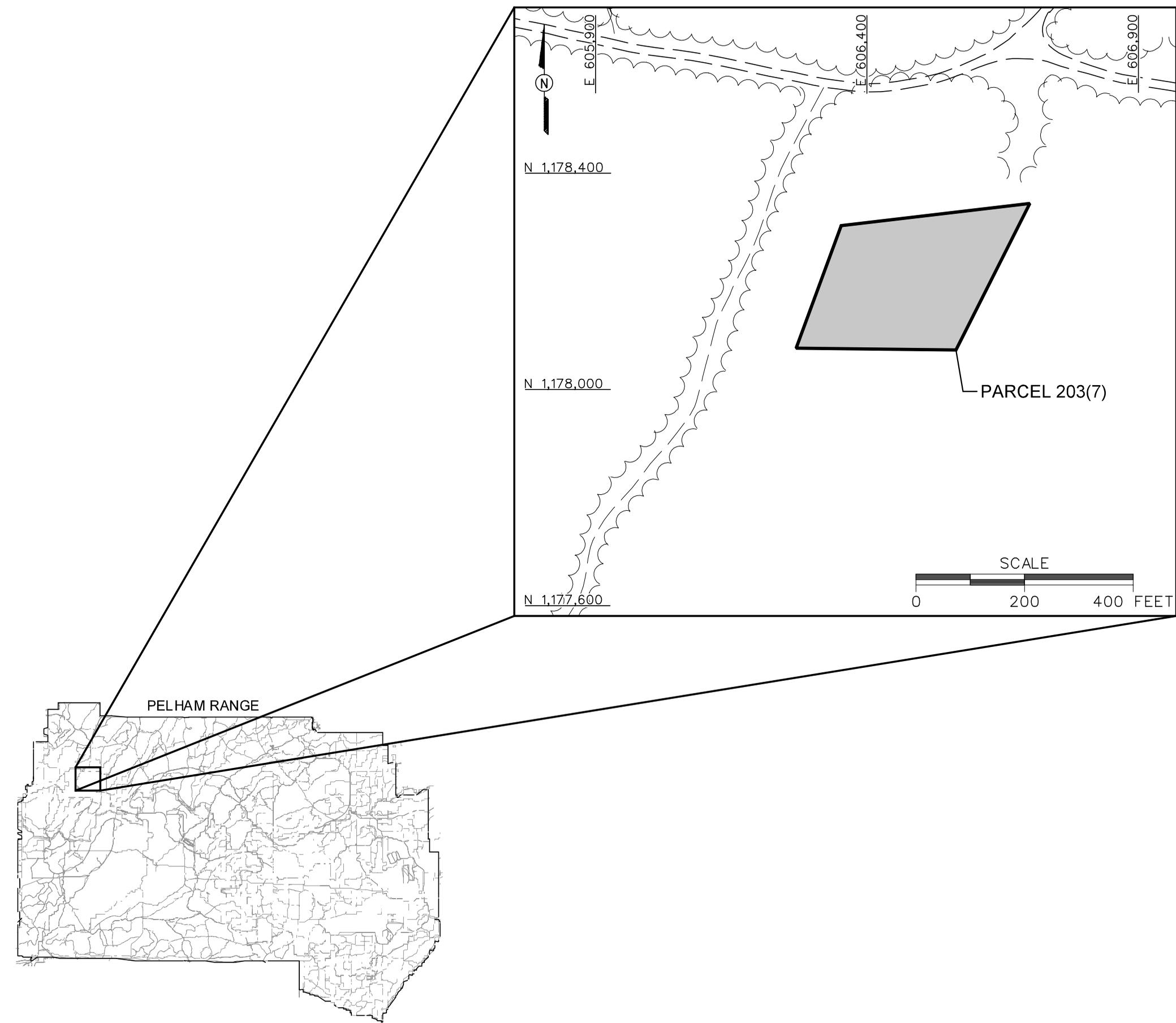
I – Interfaces in sample make quantitation and/or identification to be suspicious

J – Value is estimated

K – Reported results are affected by interfaces or high background

N – Tentatively identified compound (match greater than 70%)

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 PROJ. NO.: 774645
 INITIATOR: J. RAGSDALE
 PROJ. MGR.: J. YACOUB
 DRAFT. CHCK. BY:
 ENGR. CHCK. BY: S. MORAN
 DATE LAST REV.:
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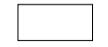
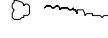
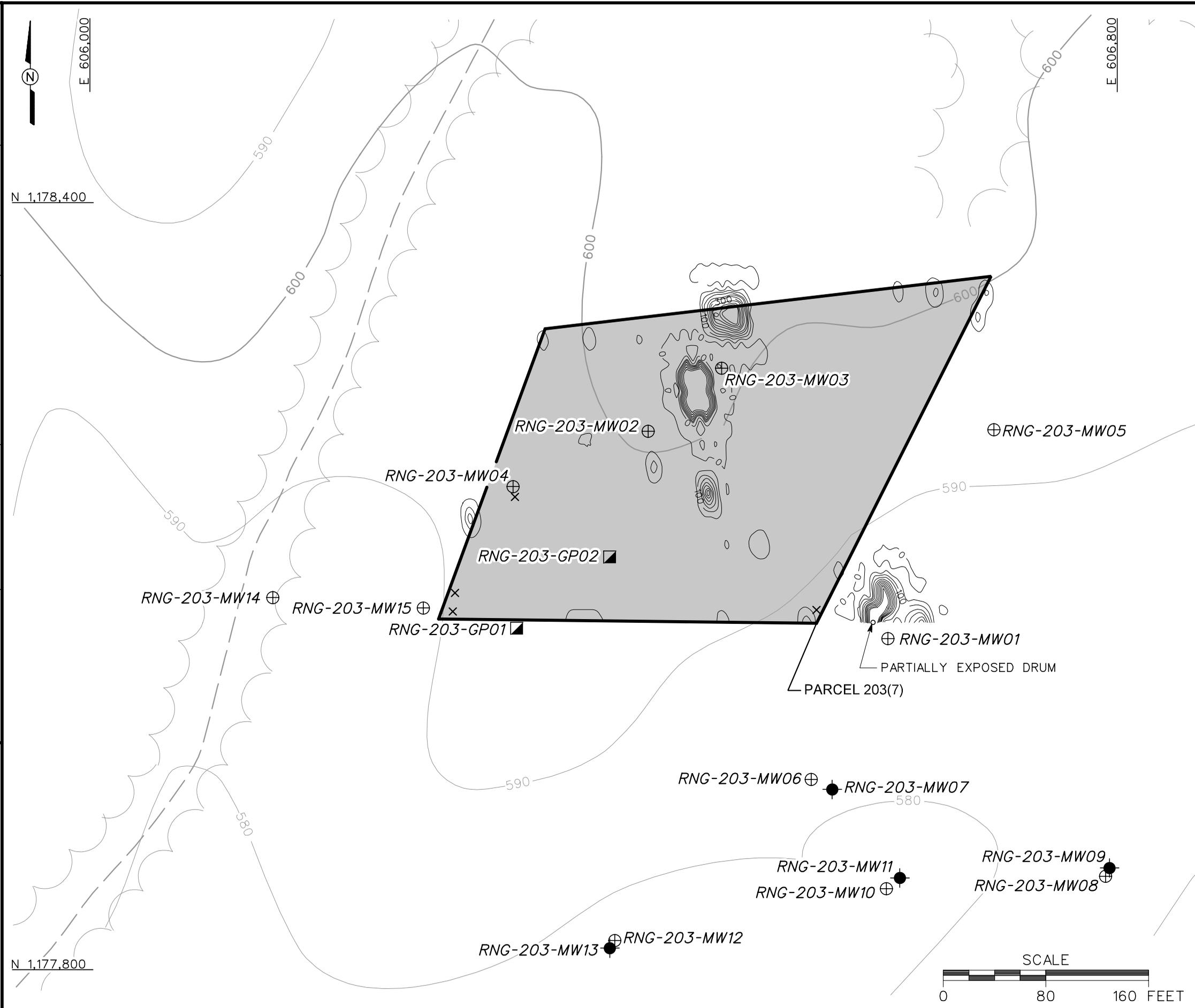
-  UNIMPROVED ROADS AND PARKING
-  PAVED ROADS AND PARKING
-  BUILDING
-  TREES / TREELINE
-  PARCEL BOUNDARY

FIGURE 1-1
SITE LOCATION MAP
RANGE K
FORMER AGENT TRAINING AREA
PARCEL 203(7)

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

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 PROJ. MGR.: J. YACOUB
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 ENGR. CHCK. BY: S. MORAN
 DATE LAST REV.:
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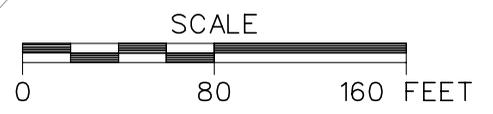


LEGEND	
	UNIMPROVED ROADS AND PARKING
	TOPOGRAPHIC CONTOURS (CONTOUR INTERVAL - 10 FOOT)
	TREES / TREELINE
	PARCEL BOUNDARY
	SURFACE DEBRIS (USAEC 1992)
	TIME DOMAIN ELECTROMAGNETIC SURVEY CONTOURS (mV)
	RESIDUUM MONITORING WELL LOCATION
	BEDROCK MONITORING WELL LOCATION
	SURFACE AND SUBSURFACE SOIL SAMPLE LOCATION

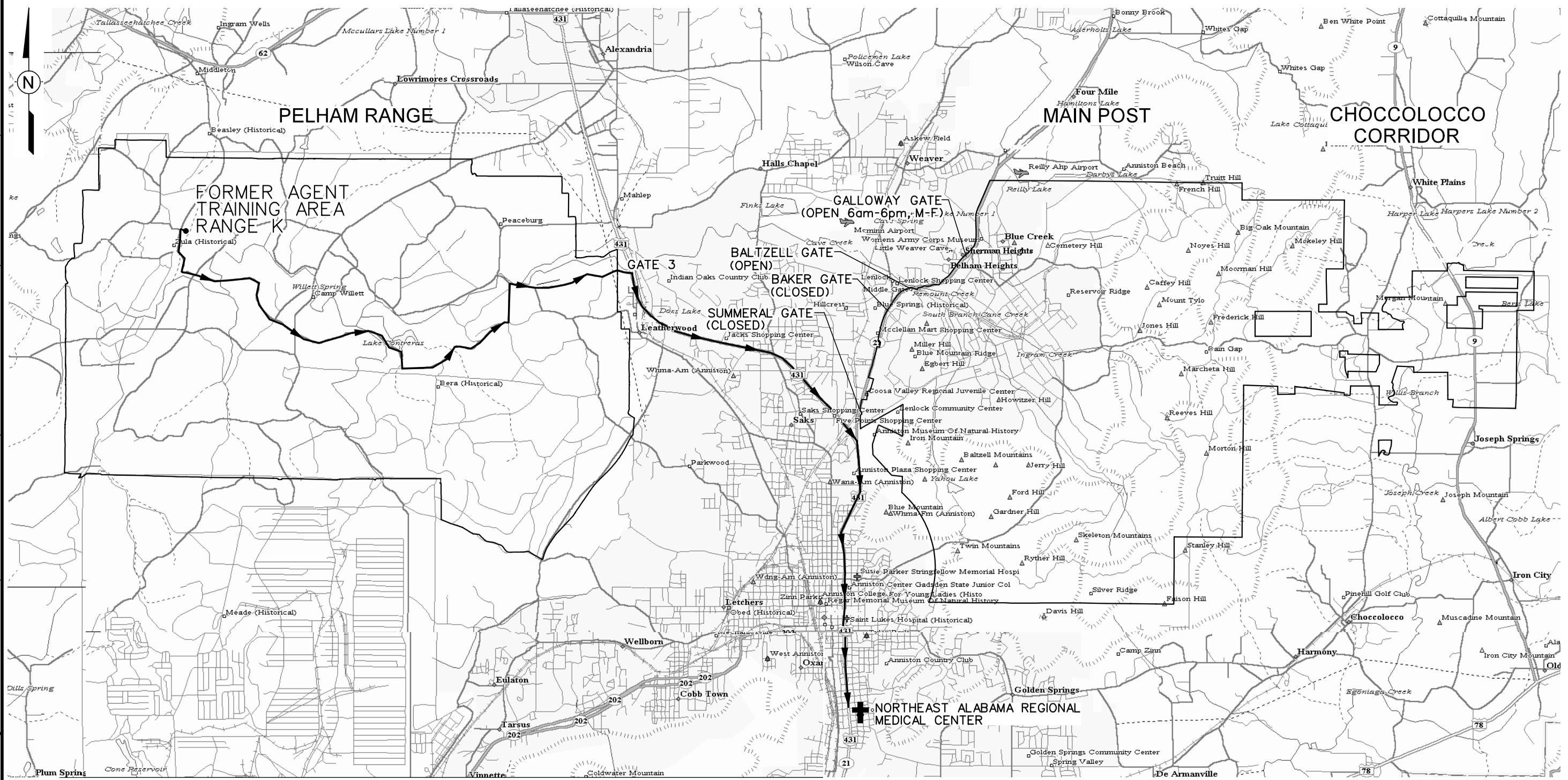
- NOTES:**
1. GEOPHYSICAL CONTOUR DATA SUPPLIED BY SAIC. LOCATIONS ARE APPROXIMATE. SAIC, 2000, REMEDIAL INVESTIGATION/BASELINE RISK ASSESSMENT, FORT McCLELLAN, ALABAMA, JULY.
 2. TOPOGRAPHIC DATA SUPPLIED BY USACE AND IS NOT CONFIRMED BY FIELD SURVEY.

FIGURE 1-2
SAMPLE LOCATION MAP
RANGE K
FORMER AGENT TRAINING AREA
PARCEL 203(7)

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



DWG. NO.: ...774645es.697
 PROJ. NO.: 774645
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 PROJ. MGR.: J. YACOUB
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 11/07/01
 STARTING DATE: 12/20/00
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LEGEND:

- ROUTE TO NORTHEAST ALABAMA REGIONAL MEDICAL CENTER
- U.S. HIGHWAY
- HOSPITAL
- INVESTIGATION SITES

DRIVING DIRECTIONS FROM PELHAM RANGE GATE 3 TO THE NORTHEAST ALABAMA MEDICAL CENTER

- EXIT PELHAM RANGE AT GATE NO. 3 AND TURN RIGHT ON U.S. HWY 431
- CONTINUE TO WHERE AL HWY 21 MERGES WITH U.S. HWY 431 AND CONTINUE SOUTH
- CONTINUE SOUTH ON AL21/US431 FOR ~ 2.7 MILES
- TURN LEFT ONTO EAST 10th STREET
- GO ~ 0.2 MILE TO MEDICAL CENTER ON RIGHT
- NORTHEAST ALABAMA REGIONAL MEDICAL CENTER, 400 EAST 10 TH STREET
- PHONE NUMBER : (256) 235-5121

**FIGURE 5-1
HOSPITAL EMERGENCY ROUTE**

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

