

Site Investigation
Final
Site-Specific Field Sampling Plan Attachment
for the Fill Area at Range 30, Parcel 231(7)

Fort McClellan
Calhoun County, Alabama

Prepared for:

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Task Order CK005
Contract No. DACA21-96-D-0018
IT Project No. 774645

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List of Acronyms

ADEM	Alabama Department of Environmental Management
bgs	below ground surface
CERFA	Community Environmental Response Facilitation Act
CESAS	Corps of Engineers South Atlantic Savannah
CLP	Contract Laboratory Program
CSEM	conceptual site exposure model
DOE	Directorate of Environment
DQO	data quality objective
EBS	environmental baseline survey
EM	electromagnetic
EPA	U.S. Environmental Protection Agency
ESE	Environmental Science and Engineering, Inc.
FTMC	Fort McClellan
GPR	ground-penetrating radar
GPS	global positioning system
IDW	investigation-derived waste
IT	IT Corporation
PID	photoionization detector
PSSC	potential site-specific chemical
QA/QC	quality assurance/quality control
QAP	installation-wide quality assurance plan
SAP	sampling and analysis plan
SHP	installation-wide safety and health plan
SI	site investigation
SSHP	site-specific safety and health plan
USACE	U.S. Army Corps of Engineers
UXO	unexploded ordnance
WP	installation-wide work plan

Executive Summary

In accordance with Contract No. DACA21-96-D-0018, Task Order CK005, IT Corporation (IT) will conduct site investigation activities at the Fill Area at Range 30, Parcel 231(7), to determine the presence or absence of potential site-specific chemicals at this site. The purpose of this site-specific field sampling plan (SFSP) is to provide technical guidance for sampling activities at the Fill Area at Range 30. The parcel is located on the northern portion of the Main Post near the eastern end of Reilly Airfield. Although actual dates of operation could not be verified, it appears Range 30 was used from 1977 through either 1983 or 1989 as a confidence course and end of cycle training course. However, other activities may have occurred at this site prior to 1977. Ordnance fired at this site consisted of M-16 blanks, flares, and simulators. The range became inactive sometime between 1983 and 1989. Documentation regarding disposal activities and the type of material placed at this site is not available.

Specifically, IT will collect 10 surface soil samples, 10 subsurface soil samples, 3 groundwater samples, 1 surface water sample, 1 sediment sample, 2 seep samples, and 1 depositional soil sample at this site. Potential contaminant sources at the site are unknown. Therefore, chemical analyses of the samples collected during the site investigation will include volatile organic compounds, semivolatile organic compounds, target analyte metals, chlorinated pesticides and herbicides, polychlorinated biphenyls, organophosphorus pesticides, and nitroexplosives. Results from these analyses will be compared with site-specific screening levels specified in the installation-wide work plan (WP) and regulatory agency guidelines.

The Fill Area at Range 30, Parcel 231(7) falls within the "Possible Explosive Ordnance Impact Area" shown on Plate 10 of the FTMC Archive Search Report, Maps (U.S. Army Corps of Engineers, 1998a). Therefore, IT will conduct unexploded ordnance avoidance activities, including surface sweeps and downhole surveys of soil borings.

This SFSP attachment to the installation-wide sampling and analysis plan (SAP) (IT, 1998a) for the Fill Area at Range 30 will be used in conjunction with the site-specific safety and health plan (SSHP), the installation-wide WP (IT, 1998b), and the SAP. The SAP includes the installation-wide safety and health plan, waste management plan, and quality assurance plan. Site-specific hazard analyses are included in the SSHP.

1.0 Project Description

1.1 Introduction

The U.S. Army is conducting studies for the environmental impact of suspected contaminants at Fort McClellan (FTMC) in Calhoun County, Alabama, under the management of the U.S. Army Corps of Engineers (USACE)-Mobile District. The USACE has contracted IT Corporation (IT) to provide environmental services for the site investigation (SI) of the Fill Area at Range 30, Parcel 231(7) site under Task Order CK005, Contract No. DACA21-96-D-0018.

This site-specific field sampling plan (SFSP) attachment to the installation-wide sampling and analysis plan (SAP) (IT, 1998a) for FTMC has been prepared to provide technical guidance for sample collection and analysis at the Fill Area at Range 30, Parcel 231(7) (Figure 1-1). The SFSP will be used in conjunction with the site-specific safety and health plan (SSHP) developed for the Fill Area at Range 30, Parcel 231(7) site, and the installation-wide work plan (WP) (IT, 1998b) and SAP. The SAP includes the installation-wide safety and health plan (SHP), waste management plan, and quality assurance plan (QAP).

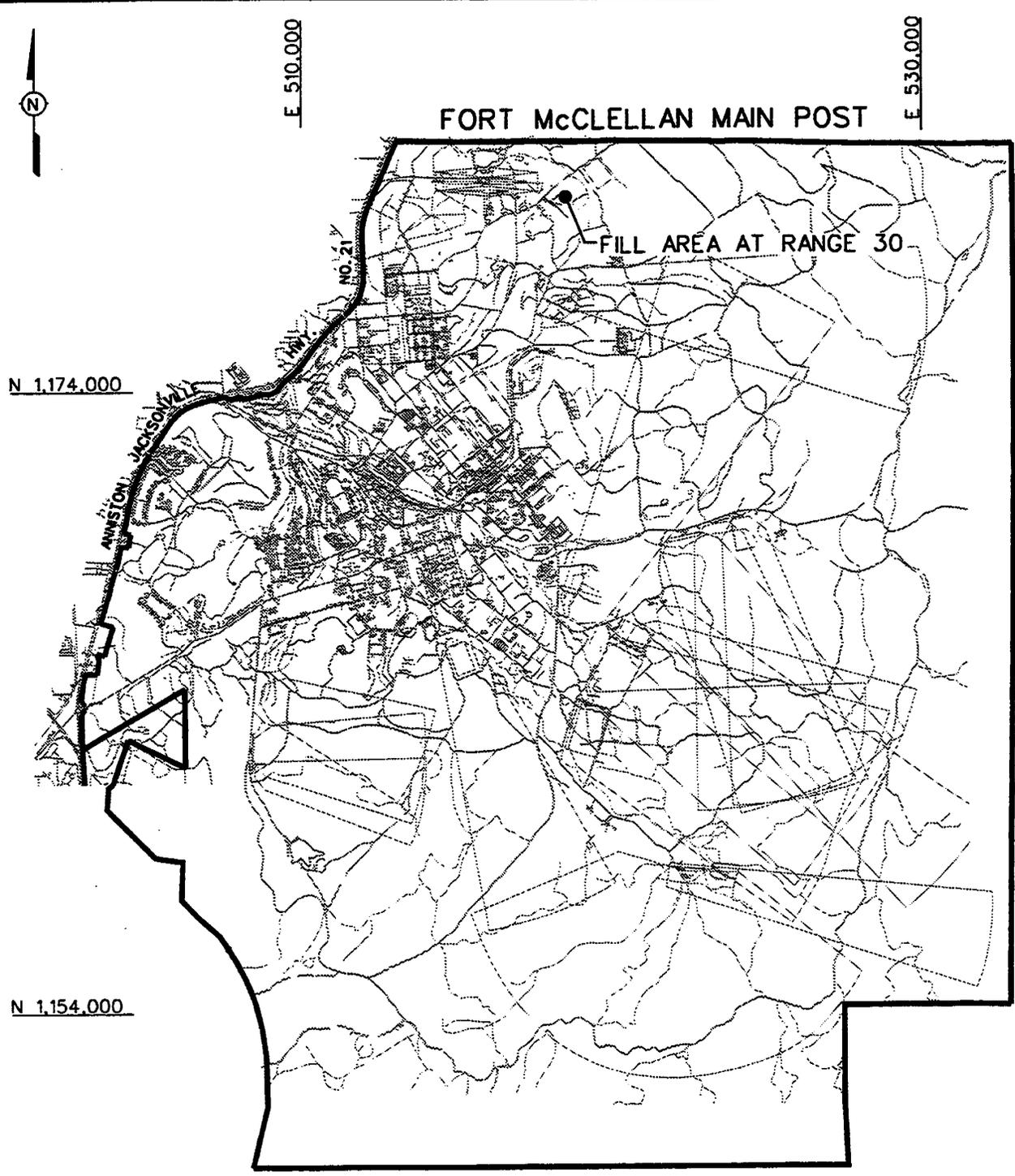
1.2 Site Description

Parcel 231(7) is located on the northern portion of Main Post near the eastern end of Reilly Airfield (Figure 1-2). The dates of operation for the Range 30 could not be determined. However, Range 30 is visible on 1949, 1954, 1961, 1972, and 1982 aerial photographs. Based on interviews, it appears the Range was deactivated between 1983 and 1989. There is a possible fill area on the acreage once occupied by Range 30. The fill area within Range 30 is the focus of the site investigation. Documentation or records of fill areas or disposal practices at Range 30 were not available. The size of the Fill Area could not be determined from the Environmental Photography Interpretation Center report. Photographic signatures, resembling large linear north-south trending mounds, are present in the central portion of this parcel; however, smaller mounds are present elsewhere within the parcel. The IT walk-over team noted several piles (mounds) of construction debris along both sides of an unimproved road that traverses the rear (north-northwest) portion of the site. Because of the dense vegetation, the walkover team could not be certain the mounds of construction debris along the unimproved road were the mounds identified in the U.S. Environmental Protection Agency (EPA) photographs. The walk-over did not reveal the large linear mounds. Parcel 231(7) fronts a paved road and lies between two unimproved roads. From review of photographs, it appears Range 30 covers approximately 23 acres (EPA, 1990). The front acreage (approximately 10 acres) has been plowed and seeded as a feed area for

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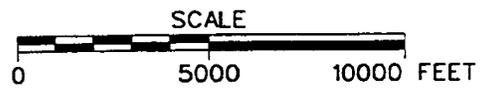


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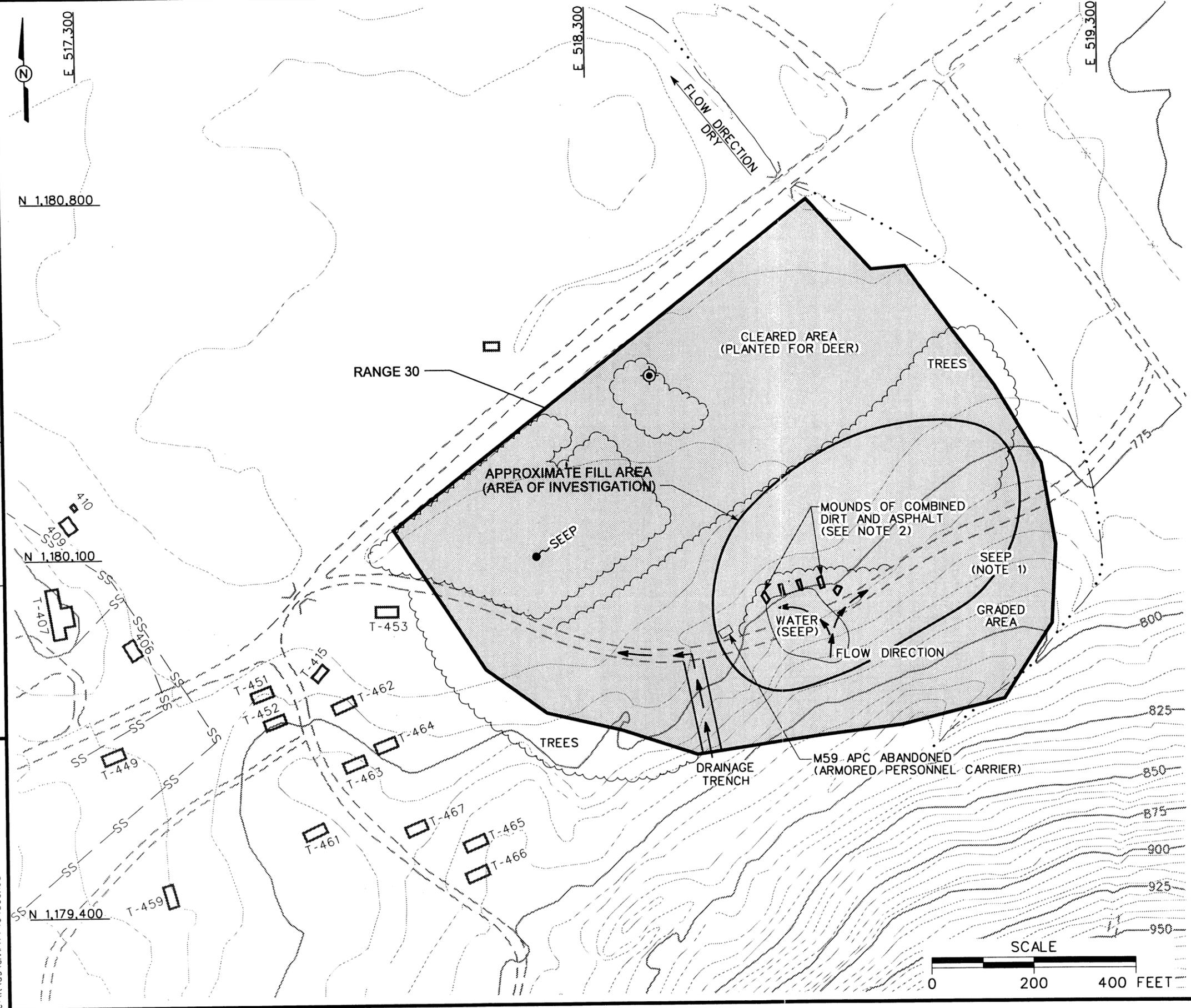
 FORT McCLELLAN BOUNDARY

FIGURE 1-1
SITE LOCATION MAP
FILL AREA AT RANGE 30
PARCEL 231(7)

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



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 ENGR. CHCK. BY: A. MAYILA
 STARTING DATE: 08/03/98
 DATE LAST REV.:
 DRAWN BY: D. BILLINGSLEY
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- LEGEND**
- UNIMPROVED ROADS AND PARKING
 - PAVED ROADS AND PARKING
 - BUILDING
 - TOPOGRAPHIC CONTOURS
 - TREES / TREELINE
 - PARCEL BOUNDARY
 - BRIDGE
 - CULVERT WITH HEADWALL
 - SURFACE DRAINAGE / CREEK
 - MANMADE SURFACE DRAINAGE FEATURE
 - FENCE
 - SANITARY SEWER LINE
 - STORM DRAINAGE LINE
 - ABANDONED MONITORING WELL
 - DRAINAGE DITCH FLOW DIRECTION

- NOTE:**
1. APPROXIMATE AREA WHERE THIRD SEEP WAS NOTED IN MARCH 1998 SITE RECONNAISSANCE. POTENTIAL THIRD SEEP SAMPLING LOCATION.
 2. SURFACE SOIL SAMPLES WILL BE COLLECTED AT THE MOUNDS. SUBSURFACE SOIL SAMPLES WILL BE COLLECTED AT THE BASE OF THE MOUNDS.

FIGURE 1-2
SITE MAP
FILL AREA AT RANGE 30
PARCEL 231(7)

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



wild animals and is posted as such. A rectangular body of water (seep) was noted near the east boundary, and an unmarked well was located midway of the parcel front, adjacent to the paved road. A dry stream (dry at the time of the walk-over) has its origins on the slope east of the parcel and runs roughly parallel to the northeast boundary. It crosses under the paved road at the northernmost point of the parcel. These features are shown on Figure 1-2.

The far rear portion of the site is graded with soil without any grass or shrubs. The unimproved road that crosses the rear portion of the site is covered near the midway point by a shallow pond (seep) approximately 20 feet by 20 feet.

The entire area is covered with the Cumberland gravelly loam, 2 to 6 percent slopes, eroded type soil (CoB2). The surface soil ranges from very dark brown to reddish brown. The subsoil ranges from dark red to red and from silty clay loam to clay in texture. The thickness of the alluvium ranges from 2 to 15 feet or more. In some areas, this soil is underlain by beds of gravel or sand. Infiltration is medium, permeability is moderate, and the capacity for available moisture is high. Runoff is medium and is a slight hazard. These soils have developed in old general alluvium that washed from soils derived mainly from limestone and cherty limestone, and to some extent, shale and sandstone. Rounded chert, sandstone, and quartzite gravel, as much as 3 inches in diameter, are on and in the soil. Depth to water is greater than 20 feet and depth to bedrock is from 4 to greater than 20 feet. Elevation at the site is 760 feet. (U.S. Department of Agriculture, 1961).

1.3 Scope of Work

The scope of work for activities associated with the Fill Area at Range 30, Parcel 231(7), as specified in the statement of work (USACE, 1998), includes the following tasks:

- Develop the SFSP attachment.
- Develop the SSHP attachment.
- Conduct a surface and near surface unexploded ordnance (UXO) survey over all areas to be included in the sampling effort.
- Provide downhole UXO support for all intrusive drilling to determine potential downhole hazards.

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- Provide downhole UXO support for all intrusive drilling to determine potential downhole hazards.

- Collect 10 surface soil samples, 10 subsurface soil samples, 3 groundwater samples, 1 surface water sample, 1 sediment sample, 2 seep samples, and 1 depositional soil sample to determine whether potential site-specific chemicals (PSSC) are present at the Fill Area at Range 30, Parcel 231(7).

Upon completion of the field activities and sample analyses, draft and final reports will be prepared to evaluate the absence or presence of PSSC at this site, and to recommend further actions, if appropriate. Reports shall be prepared in accordance with EPA Region IV and Alabama Department of Environmental Management (ADEM) requirements.

2.0 Summary of Previous Environmental Studies

Environmental Science and Engineering, Inc. (ESE) conducted an EBS to document current environmental conditions of all FTMC property (ESE, 1998). The study identified sites that, based on available information, have no history of contamination and comply with U.S. Department of Defense (DOD) guidance on fast track cleanup at closing installations. The EBS also provides a baseline picture of FTMC properties by identifying and categorizing the properties by seven criteria.

1. Areas where no storage, release, or disposal (including migration) has occurred.
2. Areas where only storage has occurred.
3. Areas of contamination below action levels.
4. Areas where all necessary remedial actions have been taken.
5. Areas of known contamination with removal and/or remedial action underway.
6. Areas of known contamination where required response actions have not been taken.
7. Areas that are not evaluated or require further evaluation.

The EBS was conducted in accordance with the Community Environmental Response Facilitation Act (CERFA) (CERFA-Public Law 102-426) protocols and DOD policy regarding contamination assessment. Record searches and reviews were performed on all reasonably available documents from FTMC, ADEM, EPA Region IV, and Calhoun County, as well as a database search of Comprehensive Environmental Response, Compensation, and Liability Act-regulated substances, petroleum products, and Resource Conservation and Recovery Act-regulated facilities. Available historic maps and aerial photographs were reviewed to document historic land uses. Personal and telephone interviews of past and present FTMC employees and military personnel were conducted. In addition, visual site inspections were conducted to verify conditions of specific property parcels. The Fill Area at Range 30, Parcel 231(7) site was identified as a CERFA Category 7 parcel, where further evaluation is needed. Previous environmental studies have not been conducted at this site.

3.0 Site-Specific Data Quality Objectives

3.1 Overview

The data quality objectives (DQO) process is followed to establish data requirements. This process ensures that the proper quantity and quality of data are generated to support the decision-making process associated with the action selection for the Fill Area at Range 30, Parcel 231(7). This section incorporates the components of the DQO process described in the EPA publication EPA 540-R-93-071 *Data Quality Objectives Process for Superfund, Interim Final Guidance* (EPA, 1993). The DQO process as applied to the Fill Area at Range 30, Parcel 231(7) is described in more detail in Section 4.3 of the WP. Table 3-1 provides a summary of the factors used to determine the appropriate quantity of samples, the procedures necessary to meet the objectives of the site investigation, and to establish a basis for future action at this site.

The samples will be analyzed using EPA SW-846 methods, including Update III Methods where applicable, as presented in Chapter 4.0 in this SFSP and Table 6-1 in the QAP. Data will be reported and evaluated in accordance with Corps of Engineers South Atlantic Savannah (CESAS) Level B criteria (USACE, 1994) and the stipulated requirements for the generation of definitive data (Section 3.1.2 of the QAP). Chemical data will be reported by the laboratory in Contract Laboratory Program (CLP)-like forms. These packages will be validated in accordance with EPA National Functional Guidelines by Level III criteria.

3.2 Data Users and Available Data

The intended data users and available data related to the site investigation at the Fill Area at Range 30, Parcel 231(7), presented in Table 3-1, have been used to formulate a site-specific conceptual model presented in Section 3.3 below. This conceptual model was developed to support the preparation of this SFSP, which is necessary to meet the objectives of these activities and to establish a basis for future action at the site. The data users for the data and information generated during field activities are primarily the EPA, USACE, ADEM, FTMC, and the USACE supporting contractors. This SFSP, along with the necessary companion documents, has been designed to provide the regulatory agencies with sufficient detail to reach a determination as to the adequacy of the scope of work. The program has also been designed to provide the level of defensible data and information required to confirm or rule out the existence of residual PSSC in the site media.

3.3 Conceptual Site Exposure Model

The conceptual site exposure model (CSEM) provides the basis for identifying and evaluating the potential risks to human health to support the risk assessment. The CSEM includes all plausible receptor scenarios and potential exposure pathways. The CSEM graphically presents all possible pathways, by which a potential receptor may be exposed, including all sources, release and transport pathways, and exposure routes. In addition, it facilitates consistent and comprehensive evaluation of human health risks, and helps ensure that potential pathways are not overlooked. The elements necessary to construct a complete exposure pathway and develop the CSEM include:

- Source (i.e., contaminated environmental) media
- Contaminant release mechanisms
- Contaminant transport pathways
- Receptor scenarios
- Exposure pathways.

Contaminant release mechanisms and transport pathways are not required to identify receptor contact scenarios with contaminated source media.

The Fill Area at Range 30, Parcel 231(7), is a densely vegetated area near the eastern end of Reilly Airfield that includes linear mounds identified on aerial photographs as potential fill mounds. Additional data is needed to identify the presence, nature and extent, if any, of any contaminants of potential concern (COPC). Pending the receipt of additional data, the CSEM reflects all plausible contaminant source media, pathways of concern, and receptors applicable to the area. Potential contaminant migration pathways at the site include: infiltration and leaching to subsurface soil and groundwater; erosion and runoff to surface water, depositional soil and sediment; biotransfer through venison; and dust emissions and volatilization to air. Future land use for the area will likely be industrial, other future land use is possible. The CSEM includes the following plausible future receptors:

- The resident scenario is considered for future purposes only, because there are currently no residents present at the site
- The groundskeeper scenario is considered for future purposes only, because the site is currently not maintained by a groundskeeper
- The construction worker scenario is considered for future purposes only, because the site is currently not under construction

- The recreational site user scenario, which includes hunting, youthful and other intruders, hikers, campers and other recreational users is considered for both current and future purposes, although it is not known whether the site is currently used for any of these activities
- The venison consumption scenario is considered for both current and future purposes, as associated hunting activities may currently take place at the site now and in the future.
- The fish consumption scenario is excluded, as the site does not drain into a body of water suitable for fishing that would lead to human consumption. There are large seeps at the site and a drainage ditch at the northeast edge of the site. However, the drainage appears to be intermittent and would not support fish.

A summary of relevant contaminant release and transport mechanisms, source and exposure media, and receptors and exposure pathways is provided by Figure 3-1 and Table 3-1.

3.4 Decision-Making Process, Data Uses, and Needs

The decision-making process consists of a seven-step process that is presented in detail in Section 4.3 of the WP and will be followed during the site investigation at the Fill Area at Range 30, Parcel 231(7). Data uses and needs are summarized in Table 3-1.

3.4.1 Risk Evaluation

Confirmation of contamination at the Fill Area at Range 30, Parcel 231(7), will be based on comparing detected site chemicals concentrations with site-specific screening levels and background concentrations developed in the WP. EPA definitive data with CESAS Level B data packages will be used to achieve detection limits sufficient to determine whether or not the established guidance criteria are exceeded in site media. Definitive data will be adequate for confirming the presence of site contamination and for supporting a feasibility study and risk assessment.

Assessment of potential ecological risk associated with sites or parcels (e.g., surface water and sediment sampling, specific ecological risk assessment methods, etc.) is addressed in the installation-wide WP.

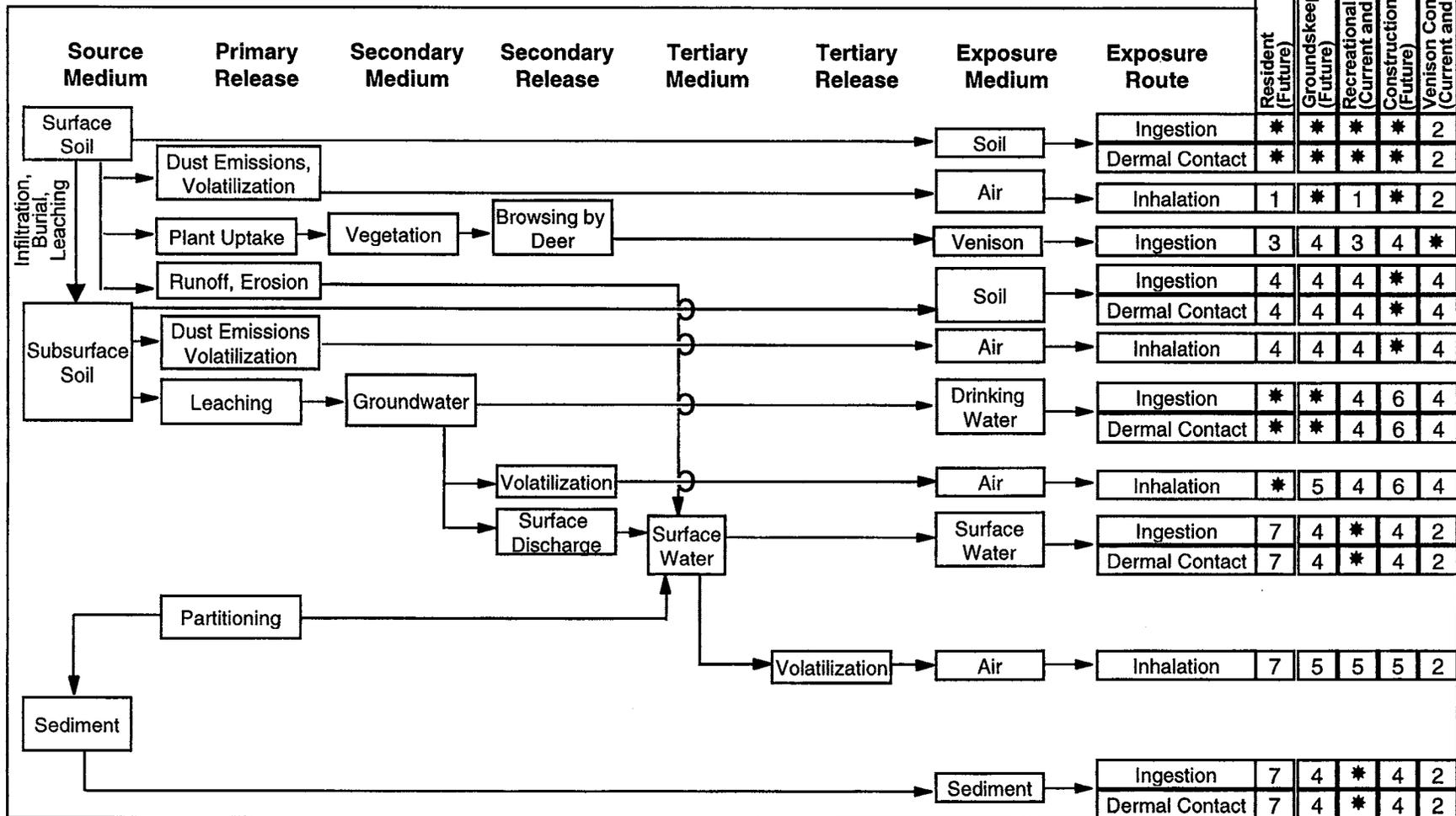
3.4.2 Data Types and Quality

Surface and subsurface soil, groundwater, surface water (seep water), sediment, and depositional soil will be sampled and analyzed in order to meet the objectives of the site investigation at the Fill Area at Range 30, Parcel 231(7). Quality assurance/quality control (QA/QC) samples will be

Figure 3-1

Human Health Conceptual Site Exposure Model for Fill Area at Range 30, Parcel 231(7)
Fort McClellan, Alabama

Receptor Scenarios



* = Complete exposure pathway quantified in SSSL development.

1 = Volatilization from undisturbed surface soil deemed insignificant; soil is likely to be paved or vegetated, reducing dust emissions to insignificant levels; inhalation pathway not quantified.

2 = This scenario is created to assess indirect (food chain) exposure to surface soil.

3 = Evaluated under venison consumption scenario.

4 = Incomplete exposure pathway.

5 = Although theoretically complete, this pathway is judged to be insignificant.

6 = Although theoretically complete, these pathways are not quantified for the construction worker because SSSLs developed for the groundskeeper would be at least as restrictive.

7 = Although theoretically complete, SSSLs for these pathways are developed only for the recreational site user. SSSLs developed for the recreational site user may be used to estimate risk for this receptor.

collected for all sample types as described in Chapter 4.0 of this SFSP. Samples will be analyzed by EPA-approved SW-846 methods, including Update III methods where applicable. Samples will be analyzed by EPA-approved SW-846 methods, where available; comply with EPA definitive data requirements; and be reported using hard copy data packages. In addition to meeting the quality needs of this SI, data analyzed at this level of quality are appropriate for all phases of site characterization, remedial investigation, and risk assessment.

3.4.3 Precision, Accuracy, and Completeness

Laboratory requirements of precision, accuracy, and completeness for this SI are provided in Section 9.0 of the QAP.

4.0 Field Activities

4.1 UXO Survey Requirements and Utility Clearances

The Fill Area at Range 30 site falls within the “Possible Explosive Ordnance Impact Area” shown on Plate 10 of the FTMC Archive Search Report, Maps (USACE, 1998a). Therefore, IT will conduct UXO avoidance activities, including surface sweeps and downhole surveys of soil borings in addition to conducting utility clearances before installing soil borings.

4.1.1 Surface UXO Survey

An UXO sweep will be conducted over areas that will be included in the sampling and surveying activities to identify UXO on or near the surface that may present a hazard to on-site workers during field activities. Low-sensitivity magnetometers will be used to locate surface and shallow-buried metal objects. UXO located on the surface will be identified and conspicuously marked for easy avoidance. UXO personnel requirements, procedures, and detailed descriptions of the geophysical equipment to be used are provided in Chapter 4.0 and Appendices D and E of the approved SAP (IT, 1998a).

4.1.2 Downhole UXO Survey

During the soil boring and downhole sampling activities, a downhole UXO survey will be performed to determine if buried metallic objects are present. UXO monitoring, as described in Chapter 4.0 of the SAP (IT, 1998a), will continue until undisturbed soils are encountered or the borehole has been advanced to 12 feet below ground surface (bgs), whichever is reached first.

4.1.3 Utility Clearances

After the UXO surface survey has cleared the area to be sampled and prior to performing any intrusive sampling, a utility clearance will be performed at all locations where soil and groundwater samples will be collected, using the procedure outlined in Section 4.2.6 of the SAP. The site manager will mark the proposed locations with stakes, coordinate with the FTMC installation to clear the proposed locations for utilities, and obtain digging permits. Once the locations are approved (for both UXO and utility avoidance) for intrusive sampling, the stakes will be labeled as cleared.

4.2 Environmental Sampling

The environmental sampling performed during the site investigation at the Fill Area at Range 30, Parcel 231(7) site will consist of the collection of surface soil samples, subsurface soil samples, groundwater samples, surface water (including seep water) samples, sediment samples, and depositional soil samples for chemical analysis. The placement of sample locations was determined by site physical characteristics noted during a site walk-over, and by review of historical documents pertaining to activities conducted at the site. Sample locations may be revised during the SI based on visual observation and decisions made by the IT site supervisor. The sample locations, media, and rationale are summarized in Table 4-1. The samples will be analyzed for the parameters listed in Section 4.6. The sample designations and QA/QC sample quantities are shown in Tables 4-2, 4-3 and 4-4.

4.2.1 Surface Soil Sampling

Surface soil samples will be collected from 10 soil borings at the Fill Area at Range 30, Parcel 231(7).

4.2.1.1 Sample Locations and Rationale

Surface soil sampling rationale is presented in Table 4-1. Proposed sampling locations are shown in Figure 4-1. Surface soil sample designations, depths, and required QA/QC sample quantities are listed in Table 4-2. The exact soil boring sampling locations will be determined in the field by the on-site geologist based on actual field conditions and results of the geophysical survey.

4.2.1.2 Sample Collection

Surface soil samples will be collected from the upper 1 foot of soil with a hand auger using the methodology specified in Section 4.7 of the SAP. Collected soil samples will be screened (for information only, not to select which sampled is analyzed) using a photoionization detector (PID) in accordance with Section 4.15 of the SAP. Sample containers, sample volumes, preservatives, and holding times for the analyses required in this SFSP are listed in Section 5.0, Table 5-1 of the QAP. Sample documentation and chain of custody will be recorded as specified in Section 4.13 of the SAP. The samples will be analyzed for the parameters listed in Section 4.6 of this SFSP.

Table 4-1

**Site Sampling Rationale
Fill Area at Range 30, Parcel 231(7)
Fort McClellan, Calhoun County, Alabama**

(Page 1 of 2)

Sample Location	Media	Rationale
PPMP-231-GP01	Surface soil Subsurface soil Groundwater	Surface soil, subsurface soil and groundwater samples will be collected near the northernmost corner of the fill area for downgradient coverage to determine if potential site-specific chemicals (PSSC) are present.
PPMP-231-GP02	Surface soil Subsurface soil Groundwater	Surface soil, subsurface soil and groundwater samples will be collected close to the northeastern boundary of the fill area to determine if PSSC are present.
PPMP-231-GP03	Surface soil Subsurface soil Groundwater	Surface soil to be collected from mounded material. Subsurface soil and groundwater samples will be collected at the base of the mounded material.
PPMP-231-GP04	Surface soil Subsurface soil	Surface soil to be collected from mounded material. Subsurface soil and groundwater samples will be collected at the base of the mounded material.
PPMP-231-GP05	Surface soil Subsurface soil	Surface soil and subsurface soil samples will be collected south of the unimproved road near the southwestern boundary of the fill area to determine if PSSC are present.
PPMP-231-GP06	Surface soil Subsurface soil	Surface soil and subsurface soil samples will be collected near the center of the fill area in the wooded area to determine if PSSC are present.
PPMP-231-GP07	Surface soil Subsurface soil	Surface soil and subsurface soil samples will be collected near the eastern boundary of the fill area adjacent to the unimproved road where it exits the fill area to determine if PSSC are present.
PPMP-231-GP08	Surface soil Subsurface soil	Surface soil to be collected from mounded material. Subsurface soil and groundwater sample locations to be at base of mounded materials.
PPMP-231-GP09	Surface soil Subsurface soil	Surface soil to be collected from mounded material. Subsurface soil and groundwater sample locations to be at base of mounded materials.
PPMP-231-GP10	Surface soil Subsurface soil	Surface soil to be collected from mounded material. Subsurface soil and groundwater sample locations to be at base of mounded materials.

Table 4-1

**Site Sampling Rationale
Fill Area at Range 30, Parcel 231(7)
Fort McClellan, Calhoun County, Alabama**

(Page 2 of 2)

Sample Location	Media	Rationale
PPMP-231-SW/SD01	Surface water Sediment	Surface and sediment water samples will be collected from the drainage swale east of the fill area.
PPMP-231-SEP01	Surface water (seep)	A seep water sample will be collected from the seep pond that covers the unimproved road approximately midway of the fill area at the 800-foot elevation line to determine if PSSC are present.
PPMP-231-SEP02	Surface water (seep)	A seep water sample will be collected from the potential seep location near the southeastern boundary of the fill area. This sampling location is contingent on the presence of flow during the SI.
PPMP-231-DEP01	Depositional Soil	A depositional soil sample will be collected near the northeast corner of Range 30 at a location that represents the exit pathway for any surface water and where deposition has taken place to determine if PSSC are present.

Table 4-2

Surface Soil, Subsurface Soil, Depositional Soil and Sediment Sample Designations and QA/QC Sample Quantities
 Fill Area at Range 30, Parcel 231(7)
 Fort McClellan, Calhoun County, Alabama

(Page 1 of 2)

Sample Location	Sample Designation	Sample Depth (ft)	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
PPMP-231-GP01	PPMP-231-GP01-SS-KT0001-REG PPMP-231-GP01-DS-KT0002-REG	0-1 a			PPMP-231-GP01-SS-KT0001-MS PPMP-231-GP01-SS-KT0001-MSD	TCL VOCs, TCL SVOCs, CI Pesticides, PCBs, OP Pesticides, CI Herbicides, TAL Metals, Nitroexplosives
PPMP-231-GP02	PPMP-231-GP02-SS-KT0003-REG PPMP-231-GP02-DS-KT0004-REG	0-1 a				TCL VOCs, TCL SVOCs, CI Pesticides, PCBs, OP Pesticides, CI Herbicides, TAL Metals, Nitroexplosives
PPMP-231-GP03	PPMP-231-GP03-SS-KT0005-REG PPMP-231-GP03-DS-KT0006-REG	0-1 a				TCL VOCs, TCL SVOCs, CI Pesticides, PCBs, OP Pesticides, CI Herbicides, TAL Metals, Nitroexplosives
PPMP-231-GP04	PPMP-231-GP04-SS-KT0007-REG PPMP-231-GP04-DS-KT0008-REG	0-1 a				TCL VOCs, TCL SVOCs, CI Pesticides, PCBs, OP Pesticides, CI Herbicides, TAL Metals, Nitroexplosives
PPMP-231-GP05	PPMP-231-GP05-SS-KT0009-REG PPMP-231-GP05-DS-KT0012-REG	0-1 a	PPMP-231-GP05-SS-KT0010-FD	PPMP-231-GP05-SS-KT0011-FS		TCL VOCs, TCL SVOCs, CI Pesticides, PCBs, OP Pesticides, CI Herbicides, TAL Metals, Nitroexplosives
PPMP-231-GP06	PPMP-231-GP06-SS-KT0013-REG PPMP-231-GP06-DS-KT0014-REG	0-1 a	PPMP-231-GP06-DS-KT0015-FD			TCL VOCs, TCL SVOCs, CI Pesticides, PCBs, OP Pesticides, CI Herbicides, TAL Metals, Nitroexplosives
PPMP-231-GP07	PPMP-231-GP07-SS-KT0016-REG PPMP-231-GP07-DS-KT0017-REG	0-1 a				TCL VOCs, TCL SVOCs, CI Pesticides, PCBs, OP Pesticides, CI Herbicides, TAL Metals, Nitroexplosives
PPMP-231-GP08	PPMP-231-GP08-SS-KT0018-REG PPMP-231-GP08-DS-KT0019-REG	0-1 a				TCL VOCs, TCL SVOCs, CI Pesticides, PCBs, OP Pesticides, CI Herbicides, TAL Metals, Nitroexplosives
PPMP-231-GP09	PPMP-231-GP09-SS-KT0020-REG PPMP-231-GP09-DS-KT0021-REG	0-1 a				TCL VOCs, TCL SVOCs, CI Pesticides, PCBs, OP Pesticides, CI Herbicides, TAL Metals, Nitroexplosives
PPMP-231-GP10	PPMP-231-GP10-SS-KT0022-REG PPMP-231-GP10-DS-KT0023-REG	0-1 a				TCL VOCs, TCL SVOCs, CI Pesticides, PCBs, OP Pesticides, CI Herbicides, TAL Metals, Nitroexplosives
PPMP-231-DEP01	PPMP-231-DEP01-DEP-KT0024-REG	0-1				TCL VOCs, TCL SVOCs, CI Pesticides, PCBs, OP Pesticides, CI Herbicides, TAL Metals, Nitroexplosives

Table 4-2

**Surface Soil, Subsurface Soil, Depositional Soil and Sediment Sample Designations and QA/QC Sample Quantities
Fill Area at Range 30, Parcel 231(7)
Fort McClellan, Calhoun County, Alabama**

(Page 2 of 2)

Sample Location	Sample Designation	Sample Depth (ft)	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
PPMP-231-SW/SD01	PPMP-231-SW/SD01-SD-KT1001-REG	0-0.5				TCL VOCs, TCL SVOCs, Cl Pesticides, PCBs, OP Pesticides, Cl Herbicides, TAL Metals, Nitroexplosives, TOC, Grain Size

* Actual sample depth selected for analysis will be at the discretion of the onsite geologist and will be based on field observation.

- Cl - Chlorinated.
- MS/MSD - Matrix spike/matrix spike duplicate.
- N - Nitroaromatic.
- OP - Organophosphorus.
- QA/QC - Quality assurance/quality control.
- SVOC - Semivolatile organic compound.
- TAL - Target analyte list.
- TCL - Target compound list.
- TOC - Total organic carbon.
- VOC - Volatile organic compound.

Table 4-3

**Groundwater Sample Designations and QA/QC Sample Quantities
Fill Area at Range 30, Parcel 231(7)
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Designation	Sample Depth (ft)	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
PPMP-231-GP01	PPMP-231-GP01-GW-KT3001-REG	a			PPMP-231-GP01-GW-KT3001-MS PPMP-231-GP01-GW-KT3001-MSD	TCL VOCs, TCL SVOCs, Cl Pesticides, PCBs, OP Pesticides, Cl Herbicides, Nitroexplosives TAL Metals
PPMP-231-GP02	PPMP-231-GP02-GW-KT3002-REG	a	PPMP-231-GP02-GW-KT3003-FD	PPMP-231-GP02-GW-KT3004-FS		TCL VOCs, TCL SVOCs, Cl Pesticides, PCBs, OP Pesticides, Cl Herbicides, Nitroexplosives TAL Metals
PPMP-231-GP03	PPMP-231-GP03-GW-KT3005-REG	a				TCL VOCs, TCL SVOCs, Cl Pesticides, PCBs, OP Pesticides, Cl Herbicides, Nitroexplosives TAL Metals

*Actual sample depth will depend on where sufficient water is encountered to collect a water sample.

Cl - Chlorinated.

MS/MSD - Matrix spike/matrix spike duplicate.

N - Nitroaromatic.

OP - Organophosphorus.

QA/QC - Quality assurance/quality control.

SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

VOC - Volatile organic compound.

Table 4-4

**Surface Water and Seep Water Sample Designations and QA/QC Sample Quantities
Fill Area at Range 30, Parcel 231(7)
Fort McClellan, Calhoun County, Alabama**

Sample Location	Sample Designation	Sample Depth (ft)	QA/QC Samples			Analytical Suite
			Field Duplicates	Field Splits	MS/MSD	
PPMP-231-SEP01	PPMP-231-SEP01-SW-KT2001-REG	N/A	a	a	a	TCL VOCs, PCBs, TCL SVOCs, CI Pesticides, CI Herbicides, OP Pesticides, Nitroexplosives, TAL
PPMP-231-SEP02	PPMP-231-SEP02-SW-KT2002-REG	N/A				TCL VOCs, PCBs, TCL SVOCs, CI Pesticides, CI Herbicides, OP Pesticides, Nitroexplosives, TAL
PPMP-231-SW/SD01	PPMP-231-SW/SD01-SW-KT2004-REG	N/A	a	a	a	TCL VOCs, PCBs, TCL SVOCs, CI Pesticides, CI Herbicides, OP Pesticides, Nitroexplosives, TAL Metals

^aQA/QC sample quantities not shown in this table are figured with the water QA/QC samples shown in Table 4-3.

^bQA/QC sample quantities not shown in this table are figured with the soil QA/QC samples shown in Table 4-2.

CI - Chlorinated.

MS/MSD - Matrix spike/matrix spike duplicate.

N - Nitroaromatic.

OP - Organophosphorus.

QA/QC - Quality assurance/quality control.

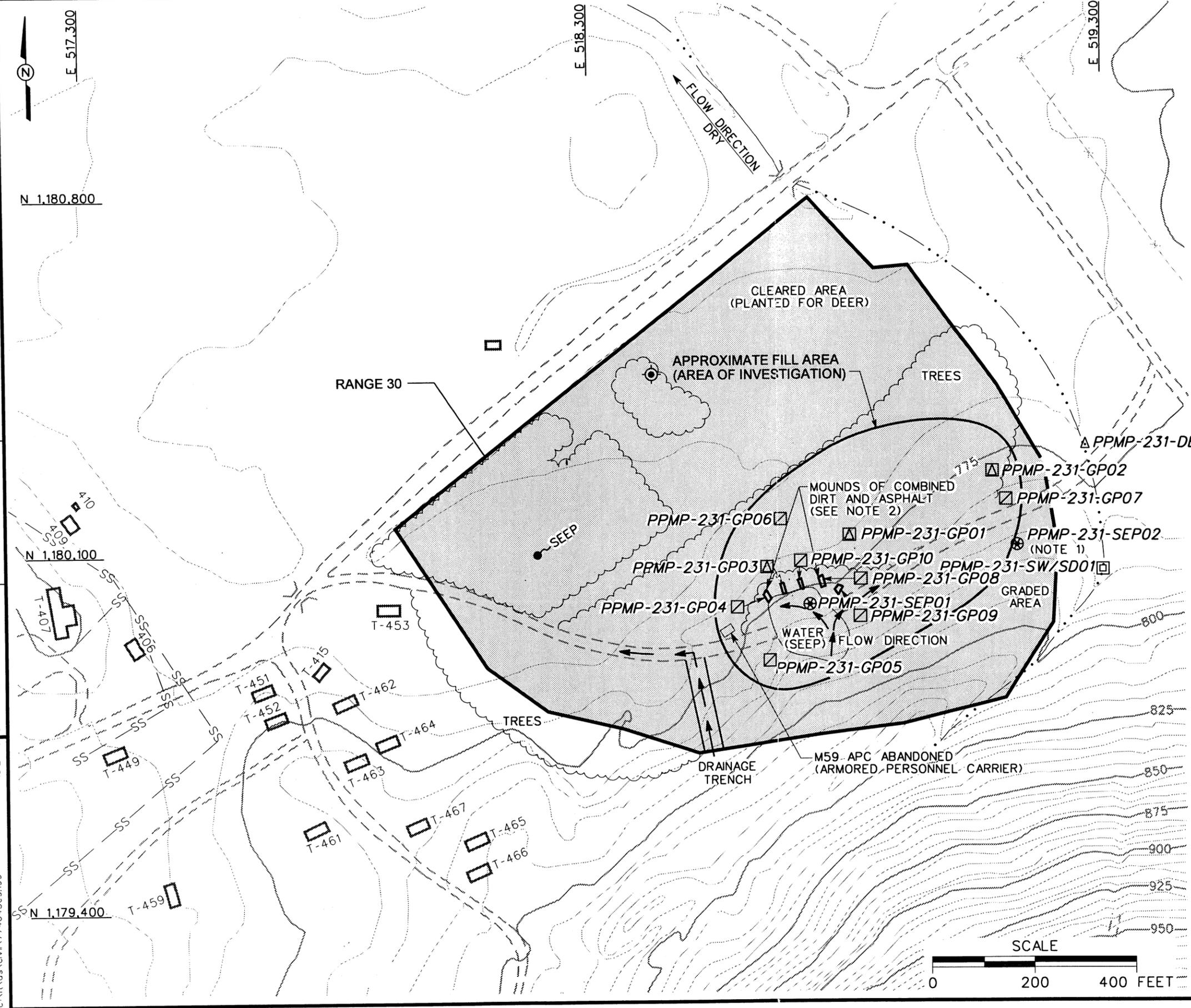
SVOC - Semivolatile organic compound.

TAL - Target analyte list.

TCL - Target compound list.

VOC - Volatile organic compound.

DWG. NO.: ...774645es.199
 PROJ. NO.: 774645
 INITIATOR: C. SHORT
 PROJ. MGR.: J. YACOB
 DRAFT. CHCK. BY:
 ENGR. CHCK. BY: A. MAYILA
 STARTING DATE: 08/03/98
 DATE LAST REV.:
 DRAWN BY: D. BILLINGSLEY
 DRAWN BY:
 16 DEC 98
 13:21:49
 c:\n\ds\civil\774645es.199
 mcraft



LEGEND

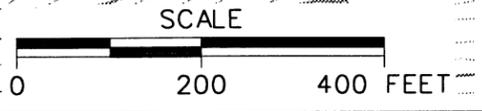
	UNIMPROVED ROADS AND PARKING
	PAVED ROADS AND PARKING
	BUILDING
	TOPOGRAPHIC CONTOURS
	TREES / TREELINE
	PARCEL BOUNDARY
	BRIDGE
	CULVERT WITH HEADWALL
	SURFACE DRAINAGE / CREEK
	MANMADE SURFACE DRAINAGE FEATURE
	FENCE
	SANITARY SEWER
	STORM DRAINAGE LINE
	ABANDONED MONITORING WELL
	PROPOSED SURFACE WATER/SEDIMENT SAMPLE
	PROPOSED SEEP WATER SAMPLE
	PROPOSED SURFACE AND SUBSURFACE SOIL SAMPLE
	PROPOSED GROUNDWATER, SURFACE AND SUBSURFACE SOIL SAMPLE
	PROPOSED DEPOSITIONAL SOIL SAMPLE

NOTE:

1. APPROXIMATE AREA WHERE THIRD SEEP WAS NOTED IN MARCH 1998 SITE RECONNAISSANCE. POTENTIAL THIRD SEEP SAMPLING LOCATION.
2. SURFACE SOIL SAMPLES WILL BE COLLECTED AT THE MOUNDS. SUBSURFACE SOIL SAMPLES WILL BE COLLECTED AT THE BASE OF THE MOUNDS.

FIGURE 4-1
PROPOSED SAMPLE LOCATIONS
FILL AREA AT RANGE 30
PARCEL 231(7)

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



4.2.2 Subsurface Soil Sampling

Subsurface soil samples will be collected from 10 soil borings at Parcel 231(7).

4.2.2.1 Sample Locations and Rationale

Subsurface soil samples will be collected from the same soil borings as the surface soil samples. Subsurface soil samples will be collected from the soil borings indicated by specific symbols on Figure 4-1. Subsurface sampling rationale is presented in Table 4-1. Subsurface soil sample designations, depths, and required QA/QC sample quantities are listed in Table 4-2. The exact soil boring sampling locations will be determined in the field by the on-site geologist based on actual field observations.

4.2.2.2 Sample Collection

Subsurface soil samples will be collected from soil borings at a depth greater than 1 foot below the ground surface in the unsaturated zone. The soil borings will be advanced and soil samples will be collected using the direct-push soil sampling procedures specified in Section 4.7 of the SAP.

Soil samples will be collected continuously for the first 12 feet, or until either groundwater or the refusal is reached. Subsurface soil samples collected from soil borings installed near the mounded areas containing dirt and asphalt will be collected at the base of the mounded area. A detailed lithological log will be recorded by the on-site geologist for each borehole. At least one subsurface sample from each borehole will be selected for analysis. The collected subsurface soil samples will be field screened using a PID in accordance with Section 4.15 of the SAP to measure samples exhibiting elevated readings above background (readings in ambient air). Typically, the sample showing the highest reading will be selected and sent to the laboratory for analysis. If none of the samples indicate elevated readings above background using the PID, the deepest interval from the soil boring will be submitted for analyses. Subsurface soil samples will be selected for analyses from any depth interval if the on-site geologist suspects PSSC at the interval. Site conditions such as lithology may also determine the actual sample depth interval submitted for analyses. More than one subsurface soil sample will be collected if field measurements and observations indicate a possible layer of PSSC and/or additional sample data would provide insight for determining the existence of any PSSC. Any additional subsurface samples will be collected at the discretion of the on-site geologist.

Sample documentation and chain-of-custody will be recorded as specified in Section 4.13 of the SAP. Sample containers, sample volumes, preservatives, and holding times for the analyses

required in this SFSP are listed in Section 5.0, Table 5-1 of the QAP. The samples will be analyzed for the parameters listed in Section 4.6 of this SFSP.

4.2.3 Groundwater Sampling

Groundwater samples will be collected from direct-push temporary wells installed at the Fill Area at Range 30. Direct-push temporary wells will be installed in three soil borings to collect the groundwater samples for chemical analysis.

4.2.3.1 Sample Locations and Rationale

Three groundwater samples will be collected from direct-push temporary wells during the SI. Groundwater samples will be collected from the direct-push temporary wells installed at locations shown on Figure 4-1. Groundwater sampling rationale is presented in Table 4-1. The groundwater sample designations and required QA/QC sample quantities are listed in Table 4-3. The exact sampling locations will be determined in the field by the on-site geologist, based on actual field observations.

4.2.3.2 Sample Collection

Groundwater samples will be collected in accordance with the procedures specified in Section 4.7.1.1 of the SAP. Direct-push temporary wells will be completed in soil borings advanced to the water table surface (to a depth where sufficient water is encountered) to collect a groundwater sample.

At direct-push temporary well locations, where either refusal is reached before encountering water or direct-push temporary wells do not yield sufficient groundwater for laboratory analysis, conventional drilling methods will be utilized to install temporary monitoring wells. Temporary monitoring wells will be completed as specified in the addendum to Appendix C of the SAP, Section C.5.7 (IT, 1998c).

Sample documentation and chain-of-custody will be recorded as specified in Section 4.13 of the SAP. Sample containers, sample volumes, preservatives, and holding times for the analyses required in this SFSP are listed in Section 5.0, Table 5-1, of the QAP. The samples will be analyzed for the parameters listed in Section 4.6 of this SFSP.

4.2.4 Surface Water Sampling

Three surface water samples will be collected during the SI at the Fill Area at Range 30. Two of the surface water samples will be collected from seeps in the Fill Area. One surface water/seep

sample is contingent on the presence of water at the time of the SI. One sample will be collected from the seep that covers the midway point of the road, near the mounded areas containing dirt and asphalt, that crosses Range 30. The other seep sample will be collected near the southeastern boundary of the Fill Area as shown at the location designated in Figure 4-1.

The surface water sample will be collected from the drainage feature located near the eastern boundary of the parcel.

4.2.4.1 Sample Locations and Rationale

The surface water sampling rationale is listed in Table 4-1. The surface water sample designations and required QA/QC sample quantities are in Table 4-4. The exact sampling locations will be determined in the field based on drainage pathways and actual field observations.

4.2.4.2 Sample Collection

Surface water samples will be collected in accordance with the procedures specified in Section 4.9.1.3 of the SAP. Samples collected from seeps will be collected in accordance with the sampling procedures provided for surface water samples. Sample documentation and chain-of-custody will be recorded as specified in Section 4.13 of the SAP. Sample containers, sample volumes, preservatives, and holding times for the analyses required in this SFSP are listed in Section 5.0, Table 5-1 of the QAP. The samples will be analyzed for the parameters listed in Section 4.6.

4.2.5 Sediment Sampling

One sediment sample will be collected near the creek, which flows east of the Fill Area. The sediment sample will be collected at the same location as the surface water samples described in Section 4.3.3.

4.2.5.1 Sample Locations and Rationale

The tentative location for the sediment sample is shown in Figure 4-1. Sediment sampling rationale are presented in Table 4-1. Sediment sample designations and required QA/QC sample requirements are listed in Table 4-2. The actual sediment sample will be collected at the discretion of the ecological sampler based on the drainage pathways and actual field observations.

4.2.5.2 Sample Collection

The sediment sample will be collected in accordance with the procedures specified in Section 4.8.1.2 of the SAP. Sample documentation and COC will be recorded as specified in Section 4.11 of the SAP. Sample containers, sample volumes, preservatives and holding times for the analyses required in this SFSP are listed in Section 5.0, Table 5-1 of the QAP. The sediment samples will be analyzed for the parameters listed in Section 4.5 of this SFSP.

4.2.6 Depositional Soil Sampling

One depositional soil sample will be collected during the SI at the Fill Area at Range 30.

4.2.6.1 Sample Location and Rationale

One depositional soil sample will be collected at the northern corner of the Fill Area boundary. The sampling rationale is listed in Table 4-1. The proposed tentative sampling location is shown on Figure 4-1. The depositional soil sample designation and required QA/QC sample quantities are listed in Table 4-3. The actual depositional soil sample point selected will be at the discretion of the ecological sampler based on the drainage pathways, actual field observations.

4.2.6.2 Sample Collection

The depositional soil sample will be collected in accordance with the procedures for surface soil sample collection specified in Section 4.9.1.1 of the SAP. Sample documentation and chain of custody will be recorded as specified in Section 4.13 of the SAP. Sample containers, sample volumes, preservatives, and holding times for the analyses required in the SFSP are listed in Section 5.0, Table 5-1, of the QAP. The samples will be analyzed for the parameters listed in Section 4.6.

4.3 Decontamination Requirements

Decontamination will be performed on sampling and nonsampling equipment to prevent cross contamination between sampling locations. Decontamination of sampling equipment will be performed in accordance with the requirements presented in Section 4.10.1.1 of the SAP. Decontamination of nonsampling equipment will be performed in accordance with the requirements presented in Section 4.10.1.2 of the SAP.

4.4 Surveying of Sample Locations

Sampling locations will be marked with pin flags, stakes, and/or flagging and will be surveyed using either GPS or conventional civil survey techniques, as necessary to obtain the required level of accuracy. Horizontal coordinates will be referenced to the Alabama State Plane Coordi-

nate System, 1983 North American Datum (NAD83). Elevations will be referenced to the National Geodetic Vertical Datum of 1929 or the North American Vertical Datum of 1988 (soon to be established on site).

Horizontal coordinates for soil, sediment, and surface water locations will be recorded using a GPS to provide accuracy within 1 meter. Temporary wells will be surveyed to an accuracy of 0.1 foot for horizontal coordinates and 0.01 feet for elevations, using survey-grade GPS techniques and/or conventional civil survey techniques, as required.

Procedures to be used for GPS surveying are described in Section 4.3 of the SAP. Conventional land survey requirements are presented in Section 4.19 of the SAP.

4.5 Analytical Program

Samples collected at locations specified in Chapter 4.0 will be analyzed for various physical and chemical properties. The on-site sample coordinator will provide sampling containers, preservatives, and will coordinate sampling procedures with the field sampling crews in accordance with Table 5-1 in the QAP. The specific suite of analyses to be performed is based on the PSSC historically at the site and EPA, ADEM, FTMC, and USACE requirements. Target analyses for the sample collected from the Fill Area at Range 30, Parcel 231(7), include the following list of parameters:

- Target Compound List Volatile Organic Compounds - Method 5035/8260B
- Target Compound List Semivolatile Organic Compounds - Method 8270C
- Target Analyte List Metals - Method 6010B/7000
- Chlorinated Pesticides - Method 8081A
- Polychlorinated Biphenyls - Method 8082
- Organophosphorus Pesticides - Method 8141A
- Chlorinated Herbicides - Method 8151A
- Nitroexplosives – Method 8330.

The samples will be analyzed using EPA SW-846 methods, including Update III Methods where applicable, as presented in Table 4-5 in this SFSP and Table 6-1 in the QAP. Data will be reported and evaluated in accordance with CESAS Level B criteria (USACE, 1994) and the stipulated requirements for the generation of definitive data (Section 3.1.2 of the QAP).

Chemical data will be reported via hard copy data packages by the laboratory using CLP-like forms. These packages will be validated in accordance with EPA National Functional Guidelines by Level III criteria.

Table 4-5

Analytical Samples - Fill Area at Range 30, Parcel 231(7)
Fort McClellan, Calhoun County, Alabama

Parameters	Analysis Method	Sample Matrix	TAT Needed	Field Samples			QA/QC Samples ^a					Quanterra	QA Lab
				No. of Sample Points	No. of Events	No. of Field Samples	Field Dups (10%)	Splits w/ QA Lab (5%)	MS/MSD (5%)	Trip Blank (1/ship)	Eq. Rinse (1/wk/matrix)	Total No. Analysis	Total No. Analysis
Fill Area at Range 30 - Parcel 231(7): 6 water matrix (3 groundwater, 1 surface water, and 2 seep water), 22 soil matrix (10 surface, 10 subsurface, 1 sediment, and 1 depositional soil)													
TCL VOCs	8260B	water	normal	6	1	6	1	1	1	1	1	11	1
TCL SVOCs	8270C	water	normal	6	1	6	1	1	1	1	1	10	1
Cl Pesticides	8081A	water	normal	6	1	6	1	1	1	1	1	10	1
PCBs	8082	water	normal	6	1	6	1	1	1	1	1	10	1
OP Pesticides	8141A	water	normal	6	1	6	1	1	1	1	1	10	1
Cl Herbicides	8151A	water	normal	6	1	6	1	1	1	1	1	10	1
Total TAL Metals	6010B/7000	water	normal	6	1	6	1	1	1	1	1	10	1
Nitroexplosives	8330	water	normal	6	1	6	1	1	1	1	1	10	1
TCL VOCs	8260B	soil	normal	22	1	22	2	1	1	1	1	27	1
TCL SVOCs	8270C	soil	normal	22	1	22	2	1	1	1	1	27	1
Cl Pesticides	8081A	soil	normal	22	1	22	2	1	1	1	1	27	1
PCBs	8082	soil	normal	22	1	22	2	1	1	1	1	27	1
OP Pesticides	8141A	soil	normal	22	1	22	2	1	1	1	1	27	1
Cl Herbicides	8151A	soil	normal	22	1	22	2	1	1	1	1	27	1
TAL Metals	6010B/7000	soil	normal	22	1	22	2	1	1	1	1	27	1
Nitroexplosives	8330	soil	normal	22	1	22						22	0
TOC		sediment	normal	1	1	1						1	0
Grain Size		sediment	normal	1	1	1						1	0

Fill Area at Range 30 Subtotal:	226	22	15	15	1	15	294	15
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^aField duplicate, QA split, and MS/MSD samples were calculated as a percentage of the field samples collected per site and were rounded to the nearest whole number. Trip blank samples will be collected in association with water matrix samples for VOC analysis only. Assumed four field samples per day to estimate trip blanks. Equipment blanks will be collected once per event whenever sampling equipment is field decontaminated and re-used. They will be repeated weekly for sampling events that are anticipated to last more than 1 week. Assumed 20 field samples will be collected per week to estimate number of equipment blanks.

Ship samples to: Quanterra Environmental Services
5815 Middlebrook Pike
Knoxville, Tennessee 37921
Attn: John Reynolds
Tel: 423-588-6401
Fax: 423-584-4315

USACE laboratory split samples are shipped to:

USACE South Atlantic Division Laboratory
Attn: Sample Receiving
611 South Cobb Drive
Marietta, Georgia 30060-3112
Tel: 770-919-5270

TCL - Target compound list. SVOC - Semivolatile organic compound. PCB - Polychlorinated biphenyl. TAL - Target analyte list. MS/MSD - Matrix spike/matrix spike duplicate.
VOC - Volatile organic compound Cl - Chlorinated. OP - Organophosphorus. QA - Quality assurance. TOC - Total organic carbon.

4.6 Sample Preservation, Packaging, and Shipping

Sample preservation, packaging, and shipping will follow requirements specified in Section 4.13.2 of the SAP.

Completed analysis request/chain of custody records will be secured and included with each shipment of coolers to:

Sample Receiving
Quanterra Environmental Services
5815 Middlebrook Pike
Knoxville, Tennessee 37921
Telephone: (423) 588-6401.

Field split samples collected for USACE will be shipped to:

Sample Receiving
Attn: USACE South Atlantic Division Laboratory
611 South Cobb Drive
Marietta, Georgia 30060
Telephone: (770) 919-5270.

4.7 Investigation-Derived Waste Management and Disposal

Investigation-derived waste (IDW) will be managed and disposed of as outlined in Appendix D of the SAP. The IDW expected to be generated from the field sampling at FTMC will consist of purge water from temporary well development and sampling activities, decontamination fluids, spent well materials, and personal protective equipment. IDW will be stored inside the fenced area surrounding Buildings 335 and 336 while awaiting final disposal.

4.8 Site-Specific Health and Safety

Safety and health requirements for this SI are provided in the SSHP for the Fill Area at Range 30, Parcel 231(7). The SSHP attachment will be used in conjunction with the SHP.

5.0 Project Schedule

The project schedule for the SI activities will be provided by the IT project manager to the Base Realignment and Closure Cleanup Team on a monthly basis.

6.0 References

Environmental Science and Engineering, Inc. (ESE), 1998, *Final Environmental Baseline Survey, Fort McClellan, Alabama*, prepared for U.S. Army Environmental Center, Aberdeen Proving Ground, Maryland, January.

Fort McClellan (FTMC), 1997, *Fort McClellan Comprehensive Reuse Plan*, prepared under contract to the Calhoun County Commission, November.

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