INTERNATIONAL TECHNOLOGY CORPORATION

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April 13, 1999

IT-MC-CK05-0121
Project No. 774645

Mr. Ellis Pope
U.S. Army Corps of Engineers
Mobile District
Attn: CESAM-EN-GE (Pope)
109 Joseph Street
Mobile, Alabama 36628-0001

Contract: Contract No. DACA21-96-D-0018/CK005
Ft. McClellan, Alabama

Subject: Replacement Pages for Volume 1 of 3, Text, Tables, and Figures, Final UST Summary Report, April 1999

Dear Mr. Pope:

I am enclosing two sets of revised pages for Volume 1 of 3, Text, Tables, and Figures, Final UST Summary Report, April 1999. Please remove the binder cover, binder spine and referenced pages of the Draft UST Report and replace them with the final versions. The attachment lists the revised items included for the replacement in the document.

I will distribute the replacement items for the Final UST Report according to the distribution list and number of sets indicated below. If you have questions or need further information, please contact me at (770) 729-3900.

Sincerely,

Jeanne A. Yacoub, P.E.
Project Manager

Attachments

Lisa Kingsbury, Ft. McClellan (5 copies)
Bart Reedy, EPA Region IV (1 copy)
Chris Johnson, ADEM (2 copies)
Project Files (2 copies)

Attachment 1

The following are replacement pages for insertion into the Final UST Summary Report, April 1999.

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bc: S. Moran
A. Mayila
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Final UST Summary Report

Fort McClellan,
Calhoun County, Alabama

Prepared for:

Department of the Army
Mobile District, Corps of Engineers
109 St. Joseph Street
Mobile, Alabama

Prepared by:

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Delivery Order CK005
Contract No. DACA21-96-D-0018

IT Project No. 774645

April 1999

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List of Acronyms

ADEM	Alabama Department of Environmental Management
AST	aboveground storage tank
bls	below land surface
Braun	Braun Intertec Corporation
BTEX	benzene, toluene, ethyl benzene, and xylene
CDTF	Chemical Defense Training Facility
E&E	Ecology and Environment, Inc.
EBS	environmental baseline survey
EDR	Environmental Data Resources, Inc.
EPA	U.S. Environmental Protection Agency
FTMC	Fort McClellan
GSA	General Services Administration
IT	IT Corporation
MCL	maximum contaminant level
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MTBE	methyl tertiary butyl ether
ND	not detected
NFA	no further action
ng/kg	nanograms per kilogram
ng/L	nanograms per liter
OMRA	Ordinance Maintenance Repair Area
PAH	polynuclear aromatic hydrocarbon
PID	photoionization detector
ppb	parts per billion
ppm	parts per million
ppmv	parts per million vapors
RBCA	risk-based corrective action
SAP	sampling and analysis plan
SEMS, Inc.	Southern Environmental Management & Specialties, Inc.
SHP	safety and health plan
TCLP	toxicity characteristic leaching procedure
Theta	Theta Engineering, Inc.

List of Acronyms *(Continued)*

TPH	total petroleum hydrocarbon
TRPH	total recoverable petroleum hydrocarbon
UST	underground storage tank
UTES	Unit Training Equipment Site
VAH	volatile aromatic hydrocarbons
VECP	value engineering change proposal
VOC	volatile organic compound
Weston	Roy F. Weston, Inc.
yd^3	cubic yards

Executive Summary

IT Corporation (IT) was retained by U.S. Army Corps of Engineers(USACE)–Mobile District, under Contract DACA-21-96-D0018, Delivery Order CK005, to conduct a record review of all past investigations/closures related to underground storage tanks (UST) at Fort McClellan (FTMC). The purpose of the record review was to determine the adequacy of previous UST activities with respect to current Alabama Department of Environmental Management (ADEM) tank closure guidelines.

The record review consisted of two tasks:

- Searching available databases/information for documentation on FTMC UST closure reports and investigations. The databases/information searched were the FTMC UST Compliance Records, ADEM UST Division records, Environmental Data Resources (a federal database) and the FTMC Environmental Baseline Survey.

- Reviewing information retrieved to determine adequacy of past investigations/closure reports related to USTs.

A total of 157 individual USTs at 79 UST areas were identified during the investigation. A UST area is defined as an area with one or more USTs on the same parcel. Fifty-five UST's at 33 UST areas are currently active at FTMC. A total of 48 UST closure reports pertaining to 49 USTs were retrieved during the database search. Information from the closure reports and database search was used to prepare tables that summarize the known USTs at FTMC with respect to the following information:

- Tank size and contents
- The date tank was closed
- Whether tank was removed or closed in place
- Depth to groundwater
- Sampling information
- Location of active tanks.

The available closure reports were reviewed to determine their adequacy with respect to current ADEM tank closure guidelines. If a closure report was considered to be inadequate, a recommendation for additional assessment work was prepared.

Based on the review of the available information, 28 of the 79 identified UST areas do not require environmental assessments. Twenty-five of these 20 UST areas are currently being addressed as site investigations associated with Base Realignment and Closure activities at FTMC. Fifty-one UST areas have been identified which require either additional assessments to qualify the areas for closure or sampling for property transfer reasons. Soils beneath all active USTs will be sampled to determine current environmental conditions at the UST areas prior to property transfer. Prior to sampling at active tanks, a site walk will be necessary to determine if replacement tanks were placed in the same tank excavation as the removed tanks. If the replacement tank was placed in the same excavation, the scope of work outlined in Chapter 6.0 may be reduced.

Five UST sites were identified that have previously been issued no further action (NFA) letters by ADEM. The five sites with NFA letters are: Building 238 (Parcel 2[7]); Building 503 (Parcel 9[7]); Building 1997 (Parcel 52[7]); Building 2109 (Parcel 21[7]); and Building 3138 (Parcel 24[7]). The FTMC EBS references four additional areas: Buildings 202/215, 251, 888, and 1077, as receiving NFA letters. These letters were not obtained. IT concurs with the NFA letters for five of the UST areas: Building 503 (Parcel 9[7]); Building 888 (Parcel 11[7]); Building 1077 (Parcel 15[7]); Building 1997 (Parcel 52[7]); and Building 2109 (Parcel 22[7]). However, additional samples will be collected at three of these locations for property transfer reasons due to the presence of active USTs. Additional assessment work is scheduled at Buildings 202/215 (Parcel 1[7]) and Building 3138 (Parcel 24[7]) as part of another project. Additional work is recommended for property transfer reasons at Building 238 (Parcel 2[7]) and Building 251(Parcel 3[7]). One additional UST was potentially identified at Building 2278. The presence of this UST has not been confirmed during this investigation. It is recommended that a visual inspection of this area be conducted to determine if this tank is present. Based on the visual inspection, additional work may be recommended in the future.

Seven buildings with UST's, but without parcel numbers were identified. Three of the buildings contained small quantities of petroleum product and were not assigned parcel numbers. Each of these tanks was closed in accordance with ADEM requirements and replaced. It is recommended that additional work be conducted at these locations for property transfer reasons. One building with a UST but without a parcel number is the Maintenance Shop associated with the Alabama National Guard complex. A closure report has been completed for two tanks that were removed at this location. Based on the information provided in the closure report, additional assessment work is recommended.

The remaining three UST locations are Building 1689, Building 1693 and Building 3179. One UST was removed from Building 1693 and one UST was removed from Building 3179. Excavation work occurred at Building 1689; however, a UST was not found. Additional work is recommended for each of these locations.

A proposed total of 329 subsurface soils and 87 groundwater samples will be collected at 51 UST areas. These samples will determine whether a UST area can qualify for closure, as well as provide data useful in any planned corrective measures and/or real estate transaction decisions. IT will prepare either UST closure reports/addendums to closure reports or assessments of environmental conditions prior to property transfer for 51 UST area upon conclusion of fieldwork and data.

1.0 Introduction

The following underground storage tank (UST) summary report has been prepared by IT Corporation (IT) for the U.S. Army Corps of Engineers (USACE) - Mobile District, under Contract No. DACA21-96-D-0018, Delivery Order No. CK005. This report presents data, information, and recommendations to obtain closure at petroleum USTs sites at Fort McClellan (FTMC), Calhoun County, Alabama.

The purpose of this investigation was to review available records and other information of past UST investigations and closure reports and determine the adequacy of previous activities. Based on the results of the review, a scope of work to collect additional information to fill data gaps pertaining to UST closures and property transfers at FTMC was prepared.

1.1 UST Summary Report Objectives

The objectives of this report are:

- Conduct a site reconnaissance to identify UST sites which can be visually detected.
- Interview person(s) knowledgeable of site history to identify site features and site activities.
- Review site records, i.e., closure reports, UST investigations, and available drawings.
- Contact state environmental officials to review readily available public records.
- Review state and federal environmental databases for areas which identify USTs at FTMC.
- Determine the adequacy of previous activities.
- Develop a scope of work to collect additional information required to fill data gaps pertaining to UST closures.

1.2 Referenced Material

Environmental Science and Engineering, Inc. (ESE) conducted an environmental baseline survey (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. In general, UST areas were identified as sites where additional evaluation is needed to determine the presence or absence of chemical contaminants at the sites.

Closure reports were reviewed and pertinent data summarized to generate Table 1-1. The table lists all known USTs that are currently located, have been historically located, or may be potentially located at FTMC. Table 1-1 provides the Parcel Number, building number, and other pertinent information about each UST site.

Table 1-1

UST Closure Data Summary
Fort McClellan, Calhoun County, Alabama

Site Description	Parcel No.	Tank Contents	Size (gl)	Date Closed	Tank Rmv'ed	Piping Rmv'ed	DTW	HC Odor	Sampled	TPH (ppm)	Notes
UST Building 202/215 DEH	1(7)PS/PR	waste oil	2000	5/13/94	no-filled	no	5'-8'	no	soil/water	6000	Soil contamination not determined
	1(7)PS/PR	waste oil	2500	**Active**	-	-	-	-	-	-	installed in 1993
UST GSA Motor Pool, Building 238	2(7)PS/PR	waste oil	2000	4/27/94	yes	yes	~9.0'	yes	soil/water	110	low levels TPH. NFA
	2(7)PS/PR	waste oil	2500	**Active**							installed 1994
Telephone Exchange, Building 251	3(7)PS/PR	diesel	600	5/16/94	yes	no	4.5'	yes	soil/water	5800	cracked tank
UST POL Point GSA Area, Building 265	4(7)PS	gasoline	12,000	1991	**Active**				soil/water		3 tanks leaked
	4(7)PS	gasoline	12,000	1991	**Active**				soil/water		Groundwater contamination
	4(7)PS	gasoline	12,000	1991	**Active**				soil/water		Semi-annual monitoring; IT Data
	4(7)PS	gasoline	12,000	3/25/91	**Active**		4'-6'		soil/water		for 3-years; IT Data
	4(7)PS	diesel	12,000	3/25/91	**Active**		4'-6'		soil/water		8 active tanks no CRs
	4(7)PS	diesel	12,000	1991	**Active**				soil/water		IT Data, PI report & Secondary report
	4(7)PS	diesel	12,000	4/5/91	**Active**		4'-6'		soil/water		IT Data, PI report & Secondary report
	4(7)PS	diesel	12,000	1991	**Active**				soil/water		IT Data, PI report & Secondary report
	4(7)PS	unknown	12,000	2/5/91	yes	yes	4'-6'		soil/water		IT Data, PI report & Secondary report
	4(7)PS	unknown	12,000	2/9/91	yes	yes	4'-6'		soil/water		IT Data, PI report & Secondary report
	4(7)PS	unknown	12,000	2/12/91	yes	yes	4'-6'		soil/water		IT Data, PI report & Secondary report
	4(7)PS	unknown	12,000	2/27/91	yes	yes	4'-6'		soil/water		IT Data, PI report & Secondary report
	4(7)PS	unknown	12,000	2/28/91	yes	yes	4'-6'		soil/water		IT Data, PI report & Secondary report
	4(7)PS	unknown	12,000	2/28/91	yes	yes	4'-6'		soil/water		IT Data, PI report & Secondary report
	4(7)PS	unknown	12,000	3/5/91	yes	yes	4'-6'		soil/water		IT Data, PI report & Secondary report
	4(7)PS	unknown	12,000	3/6/91	yes	yes	4'-6'		soil/water		IT Data, PI report & Secondary report
Former OMRA, Building 326	5(7)PS	gasoline	500	4/18/91	yes	uk	uk		soil	530	No closure report - IT Data
	5(7)PS	diesel	500	4/18/91	yes	uk	uk		soil	530	No closure report - IT Data
Recycling Center, Building 338	6(7)PS/PR	waste oil	2000	5/5/94	no-filled	yes	uk	no	soil	4100	soil removed from trench
	6(7)PS/PR	waste oil	2500	**Active**							installed 1994
Consolidated Maintenance, Building 350	7(7)PS	diesel	10,000	**Active**							installed 1991
	7(7)PS	waste oil	2500	**Active**							installed 1995
UTES #1, Pelham Range, Building 8406	8(7)PS	diesel	10,000	**Active**							installed in 1994
	8(7)PS	waste oil	600	**Active**							installed in 1994
Recreation Building, Building 503	9(7)PS	heating oil	20,000	5/13/94	no-filled	no	>20.0'	no	soil	10	NFA from ADEM
	9(7)PS	heating oil	20,000	**Active**							installed in 1994
Waste Chemical Storage Area, Building 598	10(7)PS(P)	diesel	3,000	2/26/91	yes	uk	uk	no	soil	120	no closure report - IT Data
UST Building 888 Motor Pool	11(7)PS/PR	waste oil	2000	4/30/94	yes	yes	5.0'	yes	soil/water	8,100	soil contamination, GW shows lead

Table 1-1

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Fort McClellan, Calhoun County, Alabama

Site Description	Parcel No.	Tank Contents	Size (gl)	Date Closed	Tank Rmv'ed	Piping Rmv'ed	DTW	HC Odor	Sampled	TPH (ppm)	Notes
UST Building 894 Motor Pool	12(7)PS/PR	Mogas	6000	2/20/91	yes	uk	uk		soil	5,300	no closure report - IT Data
	12(7)PS/PR	diesel	6000	2/20/91	yes	uk	uk		soil	5,300	no closure report - IT Data
UST Gym and Pool, Building 1012	13(7)PS	heating oil	5000	10/16/96	yes	yes	>5.0'	no	no	na	closure report available
	13(7)PS	heating oil	5000	Active							installed 10/17/96
Boiler Plant #3, Building 1076	14(7)PS	diesel	15,000	1991	uk	uk	uk	uk	uk	uk	no closure report/possible release
	14(7)PS	diesel	15,000	1991	uk	uk	uk	uk	uk	uk	no closure report/possible release
	14(7)PS	diesel	15,000	Active							installed in 1991
	14(7)PS	diesel	15,000	Active							installed in 1991
WAC Museum, Building 1077	15(7)PS/PR	heating oil	1000	Oct-89	yes		~10'		soil/water	1,200	aka 167 NFA from ADEM?
Former Gas Station at Motor Pool Area 1300	16(7)PS	Mogas	5000	3/9/91	yes		UK		soil	3800	no closure report - IT Data
Building 1394	16(7)PS	diesel	5000	3/9/91	yes		UK		soil	3800	no closure report - IT Data
UST Building 1696 Motor Pool	17(7)PS/PR	waste oil	2000	4/29/94	no/filled	yes	>15.5'	yes	soil	1,200	piping leaked
	17(7)PS/PR	waste oil	2500	Active							installed in 1994
UST Building 1697 Motor Pool	18(7)PS/PR	waste oil	2000	5/2/94	no-filled	yes	>15.5'	yes	soil	4200	pipe line leak
Former Gas Station, Building 1694	19(7)PS	Mogas	10,000	2/9/91	yes	uk	uk		yes	1,100	no closure report
	19(7)PS	diesel	10,000	2/9/91	yes	uk	uk		yes	1,100	no closure reports - IT Data
UST Autocraft Shop (assoc. w/Parcel 100)	20(7)PS/PR	waste oil	600	4/27/94	yes	yes	~7.0	yes	soil/water	71,000	Further assessment needed
	20(7)PS/PR	waste oil	2500	Active							installed in 1994
Base Service Station, Building 2109	21(7)PS/PR	gasoline	10,000	1991	yes	uk	12'-16'		soil/water	980	quarterly groundwater
	21(7)PS/PR	gasoline	10,000	1991	yes	uk	12'-16'		soil/water	980	sampling program
	21(7)PS/PR	diesel	10,000	1991	yes	uk	12'-16'		soil/water	980	for
	21(7)PS/PR	diesel	10,000	1991	yes	uk	12'-16'		soil/water	980	three years
	21(7)PS/PR	gasoline	10,000	Active							installed in 1991
	21(7)PS/PR	gasoline	10,000	Active							installed in 1991
	21(7)PS/PR	diesel	10,000	Active							installed in 1991
	21(7)PS/PR	diesel	10,000	Active							installed in 1991
Base Service Station, Building 2109	22(7)PS/PR	waste oil	1000	4/5/94	yes	no piping	>5.0'	no	soil	70	NFA
	22(7)PS/PR	waste oil	2500	Active							installed in 1995
Boiler Plant #2, Building 2278	23(7)PS	diesel	25K	Active							upgraded or replaced in 1991
	23(7)PS	diesel	25K	Active							requires further investigation
UST Building 3138/Motor Pool Area 3100	24(7)PS	waste oil	2000	4/4/94	yes	yes	>15.0'	no	soil	12,000	pipe trench 12,300 ppm TPH
	24(7)PS	waste oil	2500	Active							installed in 1995
UST Building 3138/Motor Pool Area 3100	25(7)PS	diesel	10,000	Active							EBS report, ESE, 1998

Table 1-1

UST Closure Data Summary
Fort McClellan, Calhoun County, Alabama

Site Description	Parcel No.	Tank Contents	Size (gl)	Date Closed	Tank Rmv'ed	Piping Rmv'ed	DTW	HC Odor	Sampled	TPH (ppm)	Notes
Boiler Plant #1, Building 3176	26(7)PS/PR	diesel	550	12/16/96	no/filled	yes	>5.0'	no	no	na	tank replaced
	26(7)PS/PR	diesel	550	Active							installed 11/8/96
	26(7)PS/PR	diesel	18,000	1991	CIP	uk	2'-5'		soil/water	751	PI report & Secondary report
	26(7)PS/PR	diesel	18,000	1991	CIP	uk	2'-5'		soil/water	751	PI report & Secondary report
	26(7)PS/PR	diesel	18,000	Active							
	26(7)PS/PR	diesel	18,000	Active							
UST Building 3196/3148 Motor Pool	27(7)PS/PR	diesel	10,000	Active							only 1 tank here, installed 89 or 90
	28(7)PS/PR	waste oil	2000	5/5/94	no-filled	yes	6.0'	no	soil	9000	pipe line leak, tank area good
	28(7)PS/PR	waste oil	2500	Active							installed in 1995
UST Building 3294/3299 Motor Pool Area 3200	29(7)PS/PR	diesel	10000	1986	yes	uk	5'-7'		soil/water	2,000	PI report & Secondary report
	29(7)PS/PR	diesel	10000	1990	yes	uk	5'-7'		soil/water	2,000	PI report & Secondary report
UST Building 3298 Motor Pool	30(7)PS/PR	waste oil	2000	5/5/94	no-filled	yes	>15.5'	yes	soil	775	
	30(7)PS/PR	waste oil	2500	Active							installed in 1994
Ammunition Supply Point at Building 4407	31(7)PS	heating oil	1000	9/7/94	yes	yes	>10.0'	yes	soil	2480	pinholes in tank
Former Tar Plant/Temporary Transformer Storage Building 4437	32(7)PS	heating oil	2500	3/5/91	yes	uk	uk		soil	10,000	no closure report - IT Data
Building S-55	33(7)PS	heating oil	4,000	3/20/91	yes	uk	uk		soil	170	no closure report - IT Data
Fitness Center, Building 128	34(7)PS	heating oil	4000	4/17/96	yes	yes	~12.0	yes	soil	854	
	34(7)PS	heating oil	4000	Active							installed in 1996
Field House, Building 130	35(7)PS	heating oil	2500	4/11/96	yes	yes	~10.0'	no	no	na	
	35(7)PS	heating oil	1000	Active							installed in 1996
Administration, Building 141	36(7)PS	heating oil	2500	8/6/96	yes	yes	>5.0'	no	no	na	
	36(7)PS	heating oil	2500	Active							installed in 1996
Administration, Building 143	37(7)PS	heating oil	4000	8/26/96	yes	yes	>10.0'	no	no	na	
	37(7)PS	heating oil	4000	Active							installed in 1996
Bivouac Area B-44	38(7)PS	heating oil	1000	3/14/96	yes	yes	>10'	no	no	na	
Clothing Building 273	39(7)PS	heating oil	1000	3/7/91	yes	uk	uk		soil	160	no closure report - IT Data
Noble Army Hospital, Building 292	40(7)PS	diesel	8000	1996	yes	no	>10'	yes	soil	4850	strong diesel odor, hole in tank
	40(7)PS	diesel	8000	Active							installed in 1996
General Purpose, Building 303	41(7)PS	heating oil	3000	4/29/96	yes	yes	~6.0'	yes	soil	179	
	41(7)PS	heating oil	3000	Active							installed in 1996
Recycling Center, Building 338	42(7)PS	heating oil	2500	3/5/96	yes	yes	8.0'	yes	soil	128	soil contamination not determined
Building 796	43(7)PS	heating oil	1000	2/13/96	yes	yes	>10'	yes	soil	193	
Building 1201	44(7)PS	heating oil	1000	2/12/96	yes	yes	>10'	yes	soil only	13000	
Building 1202	45(7)PS	heating oil	1000	2/12/96	yes	yes	>5'	yes	soil only	1056	

Table 1-1

UST Closure Data Summary
Fort McClellan, Calhoun County, Alabama

Site Description	Parcel No.	Tank Contents	Size (gl)	Date Closed	Tank Rmv'ed	Piping Rmv'ed	DTW	HC Odor	Sampled	TPH (ppm)	Notes
Decon Facility, Building 1271	46(7)PS	heating oil	2500	2/28/96	yes	yes	~5.0'	yes	soil only	2780	
	46(7)PS	heating oil	3000	3/12/96	no-filled	yes	~5.0'	no	no	na	
UST Autocraft Shop, Building 1800 (Assoc. w/Parcel 100)	47(7)PS	heating oil	2000	10/31/96	yes	yes	>10.0'	no	no	na	tank replaced
	47(7)PS	heating oil	2500	**Active**							installed 10/29/96
Bowling Alley, Building 1928	48(7)PS	heating oil	1000	7/23/96	yes	yes	>10.0'	no	no	na	
	48(7)PS	heating oil	1000	**Active**							installed in 1996
Dental Clinic, Building 1929	49(7)PS	heating oil	1500	8/22/96	yes	yes	>10.0'	no	no	na	
	49(7)PS	heating oil	1000	**Active**							installed in 1996
PX, Building 1965	50(7)PS	heating oil	3000	3/12/96	no/filled	yes	>20.0'	no	no	na	
Post Office, Building 1966	51(7)PS	heating oil	1000	12/16/96	no/filled	yes	>10.0'	no	no	na	
	51(7)PS	heating oil	1000	**Active**							installed 10/29/96
UST Building 1997, 1800/1900 Motor Pool	52(7)PS	heating oil	2500	10/24/96	yes	yes	>10.0'	no	soil	ND	
	52(7)PS	heating oil	2500	**Active**							installed 10/28/96
	52(7)PS	diesel/MS	5000	12/3/92	yes	partially	>10.0'	no	no	na	ADEM NFA
Barracks, Building 3131	54(7)PS	heating oil	20K	3/21/96	yes	yes	~11.5'	no	no	na	
Headquarters, Building 3161	55(7)PS	heating oil	1000	2/27/96	yes	yes	UK	no	no	na	
Community Club, Building 3212	56(7)PS	heating oil	2500	12/16/96	no/filled	yes	>10.0'	no	no	na	
	56(7)PS	heating oil	2500	**Active**							installed 10/24/96
Recreation Center, Building 3213	57(7)PS	fuel oil	4000	10/23/96	yes	yes	>10.0'	no	no	na	tank cracked upon removal
Chapel, Building 3293	58(7)PS	heating oil	4000	2/29/96	yes	yes	UK	no	no	na	
CDTF, Building 4482	59(7)PS	heating oil	5000	uk	uk	uk	uk	uk	uk		
Building 162	63(7)PS	heating oil	2500	5/20/96	yes	yes	>10'	no	no	na	
UTES #1, Pelham Range Building 8406	65(7)PS/PR(P)	waste oil	1000	uk	yes	uk	uk	uk	uk		tank replaced, soil sampled
Boiler Plant #4, Building 1876	101(7)PS	diesel	500	11/12/96	yes	yes	>5.0'	no	no	na	
	101(7)PS	diesel	500	**Active**							installed 11/12/96
	101(7)PS	diesel	50,000	**Active**							installed in 1991 (lined)
	101(7)PS	diesel	50,000	**Active**							installed in 1991 (lined)
UST Former Gas Station, Building 1594, Motor Pool Area 1500	132(7)PS	gasoline	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown
	132(7)PS	diesel	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown
UST Former Gas Station, Building 1494, Area 1400	133(7)PS	gasoline	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown
	133(7)PS	diesel	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown
UST Former Gas Station, Building 1594A, Area 1500	134(7)PS	gasoline	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown
	134(7)PS	diesel	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown
Former Gas Station, Building 594, Motor Pool Area 500	135(7)PS	gasoline	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown

Table 1-1

UST Closure Data Summary
Fort McClellan, Calhoun County, Alabama

Site Description	Parcel No.	Tank Contents	Size (gl)	Date Closed	Tank Rmv'ed	Piping Rmv'ed	DTW	HC Odor	Sampled	TPH (ppm)	Notes
UST Former Gas Station, Building 694, Motor Pool Area 600	136(7)PS	diesel	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown
UST Former Gas Station, Building 2094, Motor Pool Area 2000	137(7)PS	gasoline	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown
	137(7)PS	diesel	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown
UST Former Gas Station, Building 1294, Former Motor Pool Area 1000	139(7)PS	gasoline	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown
	139(7)PS	diesel	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown
UST Former Gas Station, Building 1094, Former Motor Pool Area 1200	140(7)PS	gasoline	10,000	uk	uk	uk	uk	uk	uk		installed 1941, status unknown
	140(7)PS	diesel	10,000	uk	uk	uk	uk	uk	uk		installed 1941, status unknown
WAC Museum, Building 1077	167(7)PS	heating oil	1000	8/14/96	yes	yes	6'-10'	no	no		Table 6-1 says tank was leaking
UST Building 3138, Motor Pool Area 3100	212(7)PS	heating oil	5000	10/21/96	yes	yes	>10.0'	no	no	na	
	212(7)PS	heating oil	3000	**Active**							installed 10/22/96
UST Former Gas Station, Building 3794	238(7)PS	gasoline	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown
	238(7)PS	diesel	10,000	uk	uk	uk	uk	uk	uk		installed in 1941, status unknown
Building 1338	502(7)	gasoline	150	10/16/96	yes	yes	>5.0'	no	no	na	
	502(7)	gasoline	500	**Active**							installed 11/18/96
Building 1689	503(7)	uk	uk	uk	uk	uk	uk	uk	soil	580,000	excavation didn't reveal tank.
Building 1693	504(7)	uk	uk	2/1/91	yes	uk	uk	uk	soil	2,000	IT Data
Building 3179	505(7)	uk	1,400	1991	uk	uk	uk	uk	no		IT Data
Pump Station, Building 3691	506(7)	gasoline	150	12/16/96	no/filled	yes	>5.0'	no	no	na	
	507(7)	gasoline	150	**Active**							installed in 1996
Pump Station, Building 5700	507(7)	gasoline	150	10/8/96	yes	yes	>5.0'	no	no	na	
	507(7)	gasoline	150	**Active**							installed in 1996
Maintenance Shop OMS No. 10	508(7)	diesel	6000	8/30/94	yes	yes	>10.0'	no	soil	158	
	508(7)	gasoline	4000	8/30/94	yes	yes	>10.0'	no	soil	31.8	

UST - underground storage tank
UK - unknown
TPH - total petroleum hydrocarbon compound
PI - peliminary investigation report
NFA - no further action
EBS - environmental baseline study
CIP - closed in place
ADEM - Alabama Department of Environmental Management

Appendix A provides all available Alabama Department of Environmental Management (ADEM) UST Closure Reports for Fort McClellan. The closure reports are presented in numerical order, by Parcel Number. For some of the UST sites only the UST Closure Report Form was obtained.

Table 1-2 lists all USTs that were active at the time this report was prepared. This list was obtained from Mr. Nolan Lee Jaye, environmental engineer with Bregman & Company, Inc. Mr. Jaye is a contract employee who handles FTMC UST compliance issues. The table provides the tank locations by building numbers, tank capacity, construction material, contents, and the year the tank was installed or brought into compliance.

Table 1-3 lists the UST inventory by parcel numbers, and Table 1-4 cross-references the UST inventory by building numbers. Other information such as, tank capacities, tank contents, installation dates, and removal/closure dates (if performed) is also listed on Table 1-4.

Appendix B is a copy of the ADEM UST Closure Site Assessments Guidance Manual - Section III, May 1995.

Appendix C provides copies of preliminary and secondary investigation reports (Ecology and Environment, Inc. [E&E], 1991, 1992).

Appendix D summarizes analytical data collected during tank removals that, to the best of our knowledge, has not been presented in any closure reports. The laboratory data was obtained from IT's central archived files in Pittsburgh, Pennsylvania. The documentation reviewed provides information that normally would be presented in a closure report.

Table 1-2

Active Underground Storage Tanks
(as of 4/21/98[a])
Fort McClellan, Calhoun County, Alabama

Site Description	Parcel No.	Tank Location Building Number	Capacity (gallons)	Construction Material	Tank Contents	Year Installed
Fitness Center, Building 128	34(7)PS	128	4,000	FRP	Heating	1996
Field House, Building 130	35(7)PS	130	1,500	FRP	Heating	1996
Administration, Building 141	36(7)PS	141	2,500	FRP	Heating	1996
Administration, Building 143	37(7)PS	143	4,000	FRP	Heating	1996
UST, Buildings 202/215 DEH	1(7) PS/PR	215	2,500	FRP	Used Oil	1994
UST, GSA, Motor Pool, Building 238	2(7) PS/PR	238	2,500	FRP	Used Oil	1994
UST, POL Point GSA Area, Building 265	4(7) PS/PR	265-1	12,000	FRP	Gasoline	1982, 1991[b]
		265-2	12,000	FRP	Gasoline	1982, 1991[b]
		265-3	12,000	FRP	Gasoline	1982, 1991[b]
		265-4	12,000	FRP	Gasoline	1991
		265-5	12,000	FRP	Diesel	1991
		265-6	12,000	FRP	Diesel	1982, 1991[b]
		265-7	12,000	FRP	Diesel	1991
		265-8	12,000	FRP	Diesel	1982, 1991[b]
Noble Army Hospital, Building 294	40(7) PS	294	8,000	FRP	Diesel	1996
General Purpose, Building 303	41(7) PS	303	3,000	FRP	Heating	1996
Recycling Center, Building 338	42(7) PS	338	2,500	FRP	Used Oil	1994
Consolidated Maintenance, Building 338	7(7) PS	350-1	10,000	FRP	Diesel	1991
		350-2	2,500	FRP	Used Oil	1994
Recreational Building, Building 503	9(7) PS	503	20,000	FRP	Diesel	1994
UST Gym and Pool, Building 1012	13(7) PS	1012	5,000	FRP	Heating	1996
Boiler Plant No. 3, Building 1076	14(7) PS	1076-A	15,000	FRP	Diesel	1991
		1076-B	15,000	FRP	Diesel	1991
Building 1338	502(7)	1338	500	FRP	Gasoline	1996
UST Building 1696 Motor Pool	17(7) PS/PR	1696	2,500	FRP	Used Oil	1994
UST Autocraft Shop (associated w/Parcel 100)	20 (7) PS/PR	1800-A	2,500	FRP	Used Oil	1994
		1800-B	2,500	FRP	Heating	1996
Boiler Plant No. 4, Building 1876	101(7) PS	1876-A	50,000	Steel	Diesel	1975, 1991[b]
		1876-B	50,000	Steel	Diesel	1975, 1991[b]
		1876-C	500	FRP	Diesel	1996
Bowling Alley, Building 1928	48(7) PS	1928	1,000	FRP	Heating	1996
Dental Clinic, Building 1929	49(7) PS	1929	1,500	FRP	Heating	1996
Post Office, Building 1966	51(7) PS	1966	1,000	FRP	Heating	1996
UST Building 1997, 1800/1900 Motor Pool	52(7) PS	1997	2,500	FRP	Heating	1996
Base Service Station, Building 2109	21(7) PS/PR	2109-1	10,000	FRP	Gasoline	1991
		2109-2	10,000	FRP	Gasoline	1991
		2109-3	10,000	FRP	Gasoline	1991
		2109-4	10,000	FRP	Gasoline	1991
		2109-5	2,500	FRP	Used Oil	1994
Boiler Plant No. 2, Building 2278	23(7) PS	2278-A	25,000	FRP	Diesel	1984, 1991[b]
		2278-B	25,000	FRP	Diesel	1984, 1991[b]

Table 1-2

Active Underground Storage Tanks
(as of 4/21/98[a])
Fort McClellan, Calhoun County, Alabama

Site Description	Parcel No.	Tank Location Building Number	Capacity (gallons)	Construction Material	Tank Contents	Year Installed
UST Building 3138, Motor Pool Area 3100	24(7) PS	3138-A	10,000	FRP	Diesel	1987, 1991[b]
		3138-B	2,500	FRP	Used Oil	1994
		3138-C	3,000	FRP	Heating	1996
UST, Buildings 3196/3148, Motor Pool	28(7) PS/PR	3148	2,500	FRP	Used Oil	1994
Boiler Plant No. 1, Building 3176	26(7) PS/PR	3176-A	18,000	FRP	Diesel	1991
		3176-B	18,000	FRP	Diesel	1991
		3176-C	500	FRP	Diesel	1996
UST, Buildings 3196/3148, Motor Pool	27(7) PS	3196	10,000	FRP	Diesel	1989, 1991[b]
Community Club, Building 3212	56(7) PS	3212	2,500	FRP	Heating	1996
UST Building 3298, Motor Pool	30(7) PS/PR	3298	2,500	FRP	Used Oil	1994
Pump Station, Building 3691	506(7)	3691	500	FRP	Gasoline	1996
Pump Station, Building 5700	507(7)	5700	500	FRP	Gasoline	1996
UTES No. 1, Pelham Range, Building 8427	8(7) PS/PR	8427-A	10,000	FRP	Diesel	1995
		8427-B	600	FRP	Used Oil	1996

[a]Information provided by Mr. Nolan Lee Jaye - Bregman & Company, Inc.
[b]Date that the tank was brought into compliance.

Table 1-3

UST Inventory by Parcel Number
Fort McClellan, Calhoun County, Alabama

Site Description	Parcel Number	Number of USTs
UST Buildings 202/215 (DEH)	1(7)PS/PR	2
UST GSA Motor Pool, Building 238	2(7)PS/PR	2
Telephone Exchange, Building 251	3(7)PS/PR	1
POL Point, GSA Area Building 265	4(7)PS/PR	16
Building 326, (former OMRA)	5(7)PS	2
Recycling Center Building 338, (former OMRA)	6(7)PS/PR	2
Consolidated Maintenance, Building 350	7(7)PS	2
UTES #1, Pelham Range, Building 8406	8(7)PS/PR	2
Recreation Building, Building 503	9(7)PS	2
Waste Chemical Storage Area (former motor pool area), Building 598	10(7)PS (P)	1
UST Building 888, Motor Pool	11(7)PS/PR	1
UST Building 894, Motor Pool	12(7)PS/PR	2
UST Gym & Pool, Building 1012	13(7)PS	2
Boiler Plant #3, Building 1076	14(7)PS	4
WAC Museum, Building 1077	15(7)PS/PR	1
Former Gas Station, Building 1394 Motor Pool Area 1300	16(7)PS	2
UST Building 1696 Motor Pool	17(7)PS/PR	2
UST Building 1697 Motor Pool	18(7)PS/PR	1
Former Gas Station Building 1694 Motor Pool	19(7)PS	2
UST Autocraft Shop, Building 1800 (associated w/Parcel 100)	20(7)PS/PR	2
Base Service Station, Building 2109	21(7)PS/PR	8
Base Service Station, Building 2109	22(7)PS/PR	2
Boiler Plant #2, Building 2278	23(7)PS	2
Building 3138 Motor Pool Area 3100	24(7)PS/PR	2
Building 3138 Motor Pool Area 3100	25(7)PS	1
Boiler Plant #1, Building 3176	26(7)PS/PR	6
UST Building 3196/3148 Motor Pool	27(7)PS	1
UST Building 3196/3148 Motor Pool	28(7)PS/PR	2
UST Building 3294/3299 Motor Pool Area 3200	29(7)PS/PR	2
UST Building 3298 Motor Pool	30(7)PS/PR	2
Ammunition Supply Point at Building 4407	31(7)PS	1

Table 1-3

UST Inventory by Parcel Number
Fort McClellan, Calhoun County, Alabama

Site Description	Parcel Number	Number of USTs
Former Tar Plant/Temporary Transformer Storage Building 4437	32(7)PS	1
Building S-55. Building Removed	33(7)PS	1
Fitness Center, Building 128	34(7)PS	2
Field House, Building 130	35(7)PS	2
Administration, Building 141	36(7)PS	2
Administration, Building 143	37(7)PS	2
Bivouac Area B-44	38(7)PS	1
Clothing, Building 273. Building Removed.	39(7)PS	1
Noble Army Hospital, Building 292	40(7)PS	2
General Purpose, Building 303	41(7)PS	2
Recycling Center, Building 338. Old Maintenance Area.	42(7)PS	1
Building 796. Building Removed.	43(7)PS	1
Building 1201. Building Removed.	44(7)PS	1
Building 1202. Building Removed.	45(7)PS	1
Decon Facility, Building 1271	46(7)PS	2
UST Autocraft Shop, Building 1800	47(7)PS	2
Bowling Alley, Building 1928	48(7)PS	2
Dental Clinic, Building 1929	49(7)PS	2
PX, Building 1965	50(7)PS	1
Post Office, Building 1966	51(7)PS	2
UST Building 1997, 1800/1900 Motor Pool	52(7)PS	3
Barracks, Building 3131	54(7)PS	1
Headquarters, Building 3161	55(7)PS	1
Community Club, Building 3212	56(7)PS	2
Recreation Center, Building 3213	57(7)PS	1
Chapel, Building 3293	58(7)PS	1
CDTF, Building 4482	59(7)PS	1
Building 162	63(7)PS	1
UTES #1, Pelham Range, Building 8406	65(7)PS/PR	1

Table 1-3

UST Inventory by Parcel Number
Fort McClellan, Calhoun County, Alabama

Site Description	Parcel Number	Number of USTs
Boiler Plant #4, Building 1876	101(7)PS	4
UST Former Gas Station, Building 1594, Motor Pool Area 1500. Building Removed.	132(7)PS	2
UST Former Gas Station, Motor Pool Area 1400, Building 1494. Building Removed.	133(7)PS	2
UST Former Gas Station, Building 1594A, Area 15. Building Removed	134(7)PS	2
Former Gas Station, Building 594, Motor Pool Area 500. Building Removed.	135(7)PS	1
Former Gas Station, Building 694, Motor Pool Area 600. Building Removed.	136(7)PS	1
UST Former Gas Station, Building 2094, Former Motor Pool Area 2000, now the go-cart track. Building Removed.	137(7)PS	2
Former Gas Station, Building 1094, Former Motor Pool Area 1000. Building Removed.	139(7)PS	2
Former Gas Station, Building 1294, Former Motor Pool Area 1200. Building Removed.	140(7)PS	2
WAC Museum, Building 1077	167(7)PS	1
Building 3138 Motor Pool, Area 3100	212(7)PS	2
UST Former Gas Station, Building 3794. Building Removed.	238(7)PS	2
Pump Station at Building 1338	502(7)	2
Building 1689	503(7)	1
Building 1693	504(7)	1
Building 3179	505(7)	1
Pump Station at Building 3691	506(7)	2
Pump Station at Building 5700	507(7)	2
Maintenance Shop OMS No. 10	508(7)	2

Adapted table reproduced based on Table 5.1-1 of the EBS report prepared by Environmental Science & Engineering, Inc.

Table 1-4

UST Inventory by Building Number
Fort McClellan, Calhoun County, Alabama

Building Number	Parcel Number	Building Description	Volume (gallons)	UST Contents	Date Installed	Date Closed or Removed	Status or Comments
128	34(7)PS	Fitness Center	4,000	Heating Oil	1978	1996	Tank was replaced.
130	35(7)PS	Field House	1,000	Heating Oil	1975	1996	Tank was replaced with a 2,5000-gallon tank.
141	36(7)PS	Administration	2,500	Heating Oil	1972	1996	Tank was replaced.
143	37(7)PS	Administration	4,000	Heating Oil	1976	1996	Tank was replaced.
162	63(7)PS	Personnel	2,500	Heating Oil	1977	1996	
S-55	33(7)PS	Building Demolished	4,000	Heating Oil	1978	1991	
B-44	38(7)PS	Bivouac Area	1,000	Heating Oil	1980	1996	
202/215	1(7)PS/PR	DEH	2,000	Waste Oil	1982	1994	Tank was replaced with a 2,500-gallon tank.
238	2(7)PS/PR	GSA Motor Pool	2,000	Waste Oil	1982	1994	Tank was replaced with a 2,500-gallon tank.
251	3(7)PS/PR	Telephone Exchange	600	Diesel	unknown	1994	
265	4(7)PS/PR	POL Point	12,000	Gasoline	1942	1991	Tank was replaced.
265	4(7)PS/PR	POL Point	12,000	Gasoline	1942	1991	Tank was replaced.
265	4(7)PS/PR	POL Point	12,000	Gasoline	1942	1991	Tank was replaced.
265	4(7)PS/PR	POL Point	12,000	Gasoline	1942	1991	Tank was replaced.
265	4(7)PS/PR	POL Point	12,000	Diesel	1942	1991	Tank was replaced.
265	4(7)PS/PR	POL Point	12,000	Diesel	1942	1991	Tank was replaced.
265	4(7)PS/PR	POL Point	12,000	Diesel	1942	1991	Tank was replaced.
265	4(7)PS/PR	POL Point	12,000	Diesel	1942	1991	Tank was replaced.
273	39(7)PS	Clothing, Bldg. Removed	1,000	Heating Oil	1978	1991	

Table 1-4

UST Inventory by Building Number
Fort McClellan, Calhoun County, Alabama

Building Number	Parcel Number	Building Description	Volume (gallons)	UST Contents	Date Installed	Date Closed or Removed	Status or Comments
292/294	40(7)PS	Noble Army Hospital	8,000	Heating Oil	1978	1996	Tank was replaced.
303	41(7)PS	General Purpose	3,000	Heating Oil	1978	1996	Tank was replaced.
326	5(7)PS	Motor Pool (former ORMA)	500	Diesel	1975	1991	
326	5(7)PS	Motor Pool (former ORMA)	500	Gasoline	1975	1991	
338	6(7)PS/PR	Recycling Center	2,000	Waste Oil	1982	1994	Tank was replaced with a 2,500-gallon tank.
338	42(7)PS/PR	Recycling Center	2,500	Heating Oil	unknown	1996	
350	7(7)PS	Consolidated Maintenance	2,500	Waste Oil	1995		
350	7(7)PS	Consolidated Maintenance	10,000	Diesel	1991		
503	9(7)PS	Recreation Bldg.	20,000	Heating Oil	1978	1994	Tank was replaced.
594	135(7)PS	Former Gas Station	10,000	Gasoline	1941		Status is unknown.
598	10(7)PS(P)	Waste Chemical Storage Area (former motor pool area)	3,000	Diesel	unknown	1991	
694	136(7)PS	Former Gas Station	10,000	Diesel	1942	1986	Status is unknown.
796	43(7)PS	Building Demolished	1,000	Heating Oil	1976	1996	
888	11(7)PS/PR	Motor Pool	2,000	Waste Oil	1982	1994	
894	12(7)PS/PR	Building Demolished	6,000	Diesel	1968	1991	
894	12(7)PS/PR	Building Demolished	6,000	Gasoline	1968	1991	
1012	13(7)PS	Gym & Pool	5,000	Heating Oil	1977	1996	Tank was replaced.
1076	14(7)PS	Boiler Plant #3	15,000	Diesel	1953	1991	Tank was replaced.
1077	167(7)PS	WAC Museum	1,000	Heating Oil	1987	1996	
1077	15(7)PS/PR	WAC Museum	1,000	Heating Oil	1977	1990	

Table 1-4

UST Inventory by Building Number
Fort McClellan, Calhoun County, Alabama

Building Number	Parcel Number	Building Description	Volume (gallons)	UST Contents	Date Installed	Date Closed or Removed	Status or Comments
1094	139(7)PS	Former Gas Station	10,000	Diesel	1941		Status is unknown.
1094	139(7)PS	Former Gas Station	10,000	Gasoline	1941		Status is unknown.
1201	44(7)PS	Building Demolished	1,000	Heating Oil	1978	1996	
1202	45(7)PS	Building Demolished	1,000	Heating Oil	1978	1996	
1271	46(7)PS	Decon Facility	3,000	Heating Oil	1979	1996	
1271	46(7)PS	Decon Facility	2,500	Heating Oil	1979	1996	
1294	140(7)PS	Former Gas Station	10,000	Diesel	1941		Status is unknown.
1294	140(7)PS	Former Gas Station	10,000	Gasoline	1941		Status is unknown.
1338	502(7)	Sewage Pump Station	150	Gasoline	NA	1996	Tank was replaced with a 500-gallon tank.
1394	16(7)PS	Building Demolished	5,000	Diesel	1942	1991	
1394	16(7)PS	Building Demolished	5,000	Gasoline	1942	1991	
1494	133(7)PS	Former Gas Station	10,000	Diesel	1941		Status is unknown.
1494	133(7)PS	Former Gas Station	10,000	Gasoline	1941		Status is unknown.
1594	132(7)PS	Former Gas Station	10,000	Diesel	1941		Status is unknown.
1594	132(7)PS	Former Gas Station	10,000	Gasoline	1941		Status is unknown.
1594A	134(7)PS	Former Gas Station	10,000	Diesel	1941		Status is unknown.
1594A	134(7)PS	Former Gas Station	10,000	Gasoline	1941		Status is unknown.
1689	503(7)	unknown	unknown	unknown	unknown	unknown	Suspected UST - No Tanks Found.
1693	504(7)	unknown	unknown	unknown	unknown	1991	
1694	19(7)PS	Former Gas Station	10,000	Diesel	1942	1991	
1694	19(7)PS	Former Gas Station	10,000	Gasoline	1942	1991	

Table 1-4

UST Inventory by Building Number
Fort McClellan, Calhoun County, Alabama

Building Number	Parcel Number	Building Description	Volume (gallons)	UST Contents	Date Installed	Date Closed or Removed	Status or Comments
1696	17(7)PS	Motor Pool	2,000	Waste Oil	1982	1994	Tank was replaced with a 2,500-gallon tank.
1697	18(7)PS/PR	Motor Pool	2,000	Waste Oil	1982	1994	
1800	20(7)PS/PR	Autocraft Shop	600	Waste Oil	unknown	1994	Tank was replaced with a 2,500-gallon tank.
1800	47(7)PS	Autocraft Shop	2,000	Heating Oil	1976	1996	Tank was replaced with a 2,500-gallon tank.
1876	101(7)PS	Boiler Plant #4	500	Diesel	1975	1996	Tank was replaced.
1876	101(7)PS	Boiler Plant #4	50,000	Diesel	1975		
1876	101(7)PS	Boiler Plant #4	50,000	Diesel	1975		
1928	48(7)PS	Bowling Alley	1,000	Heating Oil	1978	1996	Tank was replaced with 1,000-gallon tank.
1929	49(7)PS	Dental Clinic	1,500	Heating Oil	1976	1996	Tank was replaced.
1965	50(7)PS	PX	3,000	Heating Oil	NA	1996	
1966	51(7)PS	Post Office	1,000	Heating Oil	1977	1996	Tank was replaced.
1997	52(7)PS	Motor Pool	2,500	Heating Oil	1972	1996	Tank was replaced.
1997	52(7)PS	Motor Pool	5,000	Diesel	unknown	1992	
2094	137(7)PS	Former Gas Station	10,000	Gasoline	1941		Status is unknown.
2094	137(7)PS	Former Gas Station	10,000	Diesel	1941		Status is unknown.
2109	21(7)PS/PR	Base Service Station	10,000	Gasoline	1968	1991	Tank was replaced.
2109	21(7)PS/PR	Base Service Station	10,000	Gasoline	1968	1991	Tank was replaced.
2109	21(7)PS/PR	Base Service Station	10,000	Diesel	1968	1991	Tank was replaced.
2109	21(7)PS/PR	Base Service Station	10,000	Diesel	1968	1991	Tank was replaced.
2109	22(7)PS/PR	Base Service Station	1,000	Waste Oil	1968	1994	Tank was replaced with a 2,500-gallon tank.
2278	23(7)PS	Boiler Plant #2	25,000	Heating Oil	1984	1991	Tank was replaced.

Table 1-4

UST Inventory by Building Number
Fort McClellan, Calhoun County, Alabama

Building Number	Parcel Number	Building Description	Volume (gallons)	UST Contents	Date Installed	Date Closed or Removed	Status or Comments
2278	23(7)PS	Boiler Plant #2	25,000	Heating Oil	1984	1991	Tank was replaced.
3131	54(7)PS	Barracks	20,000	Heating Oil	1980	1996	
3138	212(7)PS	Motor Pool	5,000	Heating Oil	1978	1996	Tank was replaced with a 3,000-gallon tank.
3138	24(7)PS	Motor Pool	2,000	Waste Oil	1978	1994	Tank was replaced with a 2,500-gallon tank.
3138	25(7)PS	Motor Pool	10,000	Diesel	NA	1991	
3148	28(7)PS/PR	Motor Pool	2,000	Waste Oil	1982	1994	Tank was replaced with a 2,500-gallon tank.
3161	55(7)PS	Headquarters	1,000	Heating Oil	1980	1996	
3176	26(7)PS/PR	Boiler Plant #1	18,000	Diesel	1953	1991	Tank was replaced.
3176	26(7)PS/PR	Boiler Plant #1	18,000	Diesel	1953	1991	Tank was replaced.
3176	26(7)PS/PR	Boiler Plant #1	550	Diesel	1953	1996	Tank was replaced.
3179	505(7)	unknown	1,400	Gasoline	unknown	1991	
3196	27(7)PS/PR	Motor Pool	10,000	Diesel	1986		
3212	56(7)PS	NCO Club	2,500	Heating Oil	1973	1996	Tank was replaced.
3213	57(7)PS	Recreation Center	4,000	Heating Oil	1980	1996	
3293	58(7)PS	Chapel	4,000	Heating Oil	1980	1996	
3299	29(7)PS/PR	Motor Pool	10,000	Diesel	1953	1986	Tank was replaced.
3299	29(7)PS/PR	Motor Pool	10,000	Diesel	1986	1990	
3298	30(7)PS/PR	Motor Pool	2,000	Waste Oil	1982	1994	Tank was replaced with a 2,500-gallon tank.
3691	506(7)	Sewage Pump Station	150	Gasoline	unknown	1996	Tank was replaced.
3794	238(7)PS	Former Gas Station	10,000	Diesel	1941		Status is unknown.
3794	238(7)PS	Former Gas Station	10,000	Gasoline	1941		Status is unknown.

Table 1-4

UST Inventory by Building Number
Fort McClellan, Calhoun County, Alabama

Building Number	Parcel Number	Building Description	Volume (gallons)	UST Contents	Date Installed	Date Closed or Removed	Status or Comments
4407	31(7)PS	Ammo Supply Point	1,000	Heating Oil	unknown	1994	
4437	32(7)PS	Temp. Transformer Storage Area	2,500	Heating Oil	1975	1991	
4482	59(7)PS	CDTF	5,000	Heating Oil	1941		Status is unknown.
8427	8(7)PS/PR	UTES #1, Pelham Range	10,000	Diesel	1995		
8427	8(7)PS/PR	UTES #1, Pelham Range	600	Waste Oil	1996		
8406	65(7)PS	UTES #1, Pelham Range	1,000	Waste Oil	unknown	unknown	Tank was replaced.
5700	507(7)	Sewage Pump Station	150	Gasoline	unknown	1996	Tank was replaced with a 500-gallon tank.
OMS #10	508(7)	Alabama Army National Guard	6,000	Diesel	unknown	1994	
OMS #10	508(7)	Alabama Army National Guard	4,000	Gasoline	unknown	1994	

Data based on available closure reports and from the EBS Tables 5.1-2 and 6-1

2.0 ADEM UST Guidelines

The ADEM, has in place federal and state regulations for the permanent closure of USTs. The following is a summary of the UST Closure Site Assessment from the ADEM Guidance Manual - Section III, May 1995. A copy of the ADEM UST Closure Site Assessments Guidance Manual-Section III, May 1995 is presented in Appendix B.

Specific requirements for closure notification, required closure practices, and which UST systems must undertake a closure assessment are outlined in ADEM Administrative Code R. 335-6-15-.37 through 40. To comply with UST closure requirements the UST owner can perform either of the following two types of site assessment; (1) tank closure by removal or (2) tank closure without removal (closed in place).

2.1 Tank Closure by Removal

In general, soil samples shall be collected from the sides and base of the tank excavation pit and the bottom of the piping trenches. Side samples should be collected from the lowest one-third of the tank diameter. One sample per 10 lineal feet shall be collected from the base of the piping trenches. Where the groundwater elevation is above the level where soil samples are normally required to be collected, soil samples are not required to be collected below the groundwater. Instead, soil samples should be collected just above the groundwater elevation from the excavation pit walls and excavated soil piles as appropriate. Groundwater samples must always be collected when groundwater is above the level where soil samples are normally collected.

Soil samples shall be analyzed for the presence of total petroleum hydrocarbons (TPH) or the sum of benzene, toluene, ethyl benzene, and total xylenes (BTEX) and/or polynuclear aromatic hydrocarbons (PAH). Where applicable, soils should be analyzed for lead.

Information on the elevation of the groundwater table may be obtained from a boring located adjacent to the tank pit or from a nearby location. The base of the excavation pit may be extended downward to obtain groundwater information. If approved by the ADEM prior to use, groundwater elevation data may be obtained from topographical features which provide surface indication of the groundwater table. This data must be substantiated by literature values.

- Where the analytical results of all the required soil samples collected from the tank excavation pit and/or piping trench have a TPH concentration of less than or equal to 10 parts per million (ppm) or are below detection limits for the constituents of concern, the ADEM may consider the investigation to be complete and no further action (NFA) will be required at that time.

- Where the analytical results of all the required soil samples collected from the tank excavation pit and/or piping trench have a TPH concentration of less than or equal to 100 ppm and where the seasonal high groundwater table is 5 feet or greater below the tank excavation pit and/or piping trench, the ADEM may consider the investigation to be complete and NFA will be required at that time.

- Where the analytical results of any or all the required soil samples collected from the tank excavation pit and/or piping trench have a TPH concentration of greater than 10 ppm or exceed detection limits for constituents of concern and where the seasonal high groundwater table is less than 5 feet below the bottom of the tank excavation pit and/or piping trench or where standing water in the excavation pit or piping trench is indicative of the groundwater elevation, groundwater samples must be collected at a minimum of one upgradient and three downgradient locations just outside the tank perimeter of the excavation unless directed to do otherwise by the ADEM. Groundwater samples shall be analyzed according to the product released.

- Where the analytical results of any or all the required soil samples collected from the tank excavation pit and/or piping trench have a TPH concentration of greater than 100 ppm or exceed the detection limits for constituents of concern and where the seasonal high groundwater table is 5 feet or greater below the bottom of the tank excavation pit and/or piping trench, the ADEM will not require groundwater samples during the closure assessment. However, the ADEM may require further assessment at a later date which could include groundwater sampling.

2.2 Tank Closure Without Removal (Closed in Place)

For tanks closed in place, the procedure for closure is similar as above but soil samples are collected through the use of soil borings. Soil samples should be collected from just outside the perimeter of the original tank excavation. One sample is collected from each side of the tankhold. Within each boring, samples are collected at a depth approximately even with the depth of the lowest one-third of the tank diameter and at a depth approximately 5 feet below the base of the tank. One sample per 10 lineal feet shall be collected from a depth of approximately 1 foot below the base of the piping. Where the groundwater elevation is above the levels where soil samples are normally required to be collected, soil samples are not required. Instead, soil samples should be collected just above the groundwater table from borings and excavated soil piles as appropriate. Also,

groundwater samples must always be collected when groundwater is above the level where soil samples are normally collected.

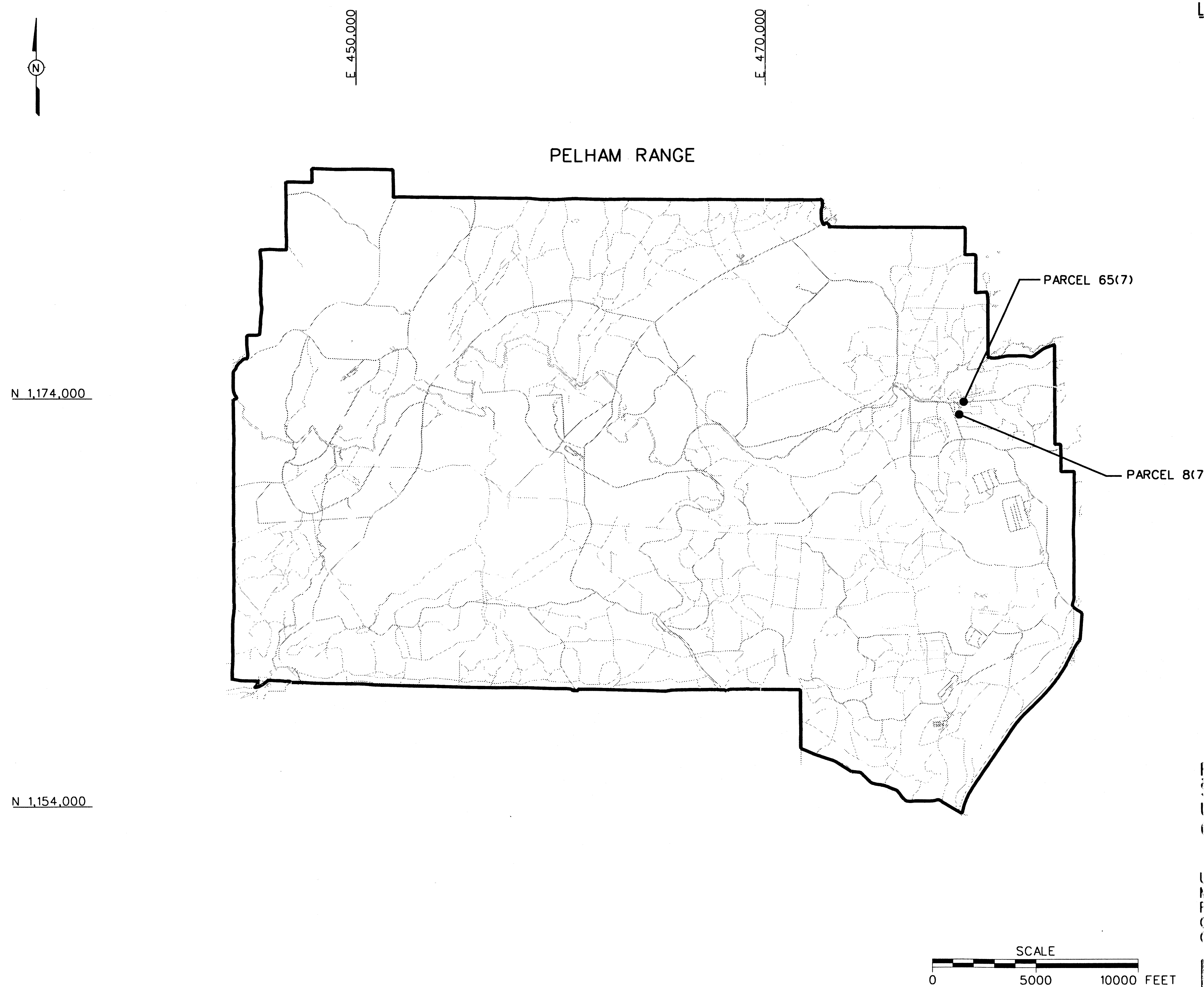
Analyze soil samples for the presence of TPH or BTEX and/or PAH. Where applicable, soils should be analyzed for lead.

Determine the elevation of the groundwater table. Information on the elevation of the groundwater table may be obtained from a boring located adjacent to the tank pit or from a nearby location. If approved by the ADEM prior to use, groundwater elevation data may be obtained from topographical features which provide surface indication of groundwater table. This data must be substantiated by literature values. At least one groundwater sample shall be obtained from the boring used to determine the groundwater table. Groundwater samples shall be analyzed for parameters identified in item III.3.3 (Appendix B) according to the type of product released.

- Where the analytical results of all the required soil samples collected from the tank and/or piping have a TPH concentration of less than or equal to 10 ppm or are below detection limits for the constituents of concern, the ADEM may consider the investigation to be complete and no further action will be required at that time.

- Where the analytical results of all the required soil samples collected from the tank and/or piping have a TPH concentration of less than or equal to 100 ppm **and** where the seasonal high groundwater table is 5 feet or greater below the tank and/or piping, the ADEM may consider the investigation to be complete and no further action will be required at that time.

- Where the analytical results of any or all the required soil samples collected from the tank and/or piping have a TPH concentration of greater than 10 ppm or exceed detection limits for constituents of concern **and** where the seasonal high groundwater table is less than 5 feet below the bottom of the tank and/or piping, groundwater samples must be collected at a minimum of one upgradient and three downgradient locations just outside the tank perimeter of the excavation unless directed to do otherwise by the ADEM. Groundwater samples shall be analyzed according to the type product released.



LEGEND

● LOCATIONS OF PARCELS

FIGURE 1-2
SITE LOCATION MAP
UST's BASE WIDE PARCELS
ON PELHAM RANGE

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

INTERNATIONAL
TECHNOLOGY
CORPORATION

STARTING DATE: 06/04/98	DATE LAST REV.:	DRAFT. CHCK. BY:	INITIATOR: K. ROBERTS	DWG. NO.: ...es.094
DRAWN BY: D. BILLINGSLEY	DRAWN BY:	ENGR. CHCK. BY: A. MAYILA	PROJ. MGR.: J. YACOUB	PROJ. NO.: 774645

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3.0 Site Description by Parcel Number

The following is a background summary of the USTs located at each parcel and recommendations for the necessary work to be conducted to obtain closure at each UST area. Available copies of UST Closure Reports and /or ADEM UST Closure Report Forms are presented in Appendix A. Figures 1-1 and 1-2 depict UST locations Basewide. Figures 2-1 and 2-2 show UST areas requiring additional assessment.

3.1 UST Buildings 202/215 (DEH) Parcel 1(7)

Background. Building 215 is known as the DEH compound. Building 202 is also tracked under this parcel number. One 2,000-gallon waste oil UST and associated piping was closed in place on May 13, 1994. A 2,500-gallon UST was reportedly installed as its replacement. Three soil borings were drilled, one on each accessible side of the UST, during closure activities. The piping run was located under two former railroad spurs and was flushed, sealed at both ends, and abandoned in place. The closure report prepared by Braun Intertec Corporation (Braun) documents TPH concentrations at 6,000 ppm for the stockpiled soils. Depth to groundwater, determined from four monitoring wells installed at the site, ranged from 5 to 8 feet in depth. Groundwater samples were collected from the four monitoring wells and analyzed for volatile organic compounds (VOC), total lead, and PAHs. Approximately 5 cubic yards (yd^3) of contaminated soils were removed and transported to the base landfill for thin spreading. According to the FTMC environmental baseline survey (EBS), this site obtained a no further action (NFA) with the understanding that the land and property owners would not change (ADEM, 1995). The 2,500 gallon waste oil tank is currently in use. The UST Closure Site Assessment Report is presented in Appendix A, Attachment 1.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.2 UST GSA Motor Pool, Building 238, Parcel 2(7)

Background. Building 238 is known as the General Services Administration (GSA) Motor Pool Area. In May 1994, a 2,000-gallon waste oil UST was removed and replaced with a 2,500-gallon UST. Approximately 35 feet of pipe was excavated and removed

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E 510,000

E 530,000

N 1,174,000

N 1,154,000

LEGEND:

● LOCATIONS OF PARCELS

FORT McCLELLAN MAIN POST

CHOCCOLOCCO CORRIDOR

PARCEL 16(7)
PARCEL 140(7)
PARCEL 46(7)
PARCEL 15(7)
PARCEL 167(7)
PARCEL 14(7)
PARCEL 13(7)
PARCEL 139(7)
PARCEL 40(7)
PARCEL 39(7)
PARCEL 23(7)
PARCEL 1(7)
PARCEL 2(7)
PARCEL 33(7)
PARCEL 3(7)
PARCEL 238(7)
PARCEL 22(7)
PARCEL 37(7)
PARCEL 36(7)
PARCEL 29(7)
PARCEL 30(7)
PARCEL 56(7)
PARCEL 58(7)
PARCEL 54(7)
PARCEL 27(7)
PARCEL 28(7)
PARCEL 55(7)
PARCEL 57(7)
PARCEL 63(7)
PARCEL 35(7)
PARCEL 34(7)
PARCEL 25(7)
PARCEL 212(7)
PARCEL 24(7)
PARCEL 26(7)
PARCEL 21(7)
PARCEL 20(7)
PARCEL 47(7)
PARCEL 52(7)
PARCEL 51(7)
PARCEL 19(7)
PARCEL 18(7)
PARCEL 17(7)
PARCEL 50(7)
PARCEL 101(7)
PARCEL 49(7)
PARCEL 132(7)
PARCEL 134(7)
PARCEL 133(7)
PARCEL 48(7)
PARCEL 137(7)
PARCEL 11(7)
PARCEL 12(7)
PARCEL 4(7)
PARCEL 41(7)
PARCEL 43(7)
PARCEL 5(7)
PARCEL 59(7)
PARCEL 7(7)
PARCEL 31(7)
PARCEL 6(7)
PARCEL 136(7)
PARCEL 32(7)
PARCEL 42(7)
PARCEL 135(7)
PARCEL 45(7)
PARCEL 10(7)
PARCEL 44(7)
PARCEL 9(7)
PARCEL 38(7)

HWY. NO. 21

ANNISTON JACKSONVILLE

SCALE
0 2000 4000 FEET

FIGURE 1-1
SITE LOCATION MAP
UST's BASE WIDE PARCELS
ON MAIN POST

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

INTERNATIONAL TECHNOLOGY CORPORATION

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J. YACOUB
A. MAXILA
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E 510,000

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N

LEGEND:

● LOCATIONS OF PARCELS

NOTE:

1. ADDITIONAL ASSESSMENT IS ALSO REQUIRED AT SEVEN UST AREAS LISTED ON TABLE 6-1 THAT DO NOT HAVE ASSIGNED PARCEL NUMBERS.

N 1,174,000

FORT McCLELLAN MAIN POST

CHOCCOLOCCO CORRIDOR

PARCEL 9(7)
PARCEL 167(7)
PARCEL 14(7)
PARCEL 40(7)
PARCEL 39(7)
PARCEL 23(7)
PARCEL 33(7)
PARCEL 3(7)
PARCEL 37(7)
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PARCEL 56(7)
PARCEL 57(7)
PARCEL 58(7)
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PARCEL 54(7)
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PARCEL 35(7)
PARCEL 34(7)
PARCEL 25(7)
PARCEL 212(7)
PARCEL 26(7)
PARCEL 63(7)
PARCEL 21(7)
PARCEL 48(7)
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PARCEL 18(7)
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PARCEL 101(7)
PARCEL 49(7)
PARCEL 50(7)
PARCEL 22(7)
PARCEL 2(7)
PARCEL 59(7)
PARCEL 43(7)
PARCEL 31(7)
PARCEL 7(7)
PARCEL 32(7)
PARCEL 45(7)
PARCEL 44(7)
PARCEL 38(7)

NO. 21
HWY.
ANNISTON JACKSONVILLE

N 1,154,000

SCALE
0 2000 4000 FEET

FIGURE 2-1
SITE LOCATION MAP
UST's REQUIRING ADDITIONAL ASSESSMENTS ON MAIN POST

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

INTERNATIONAL TECHNOLOGY CORPORATION

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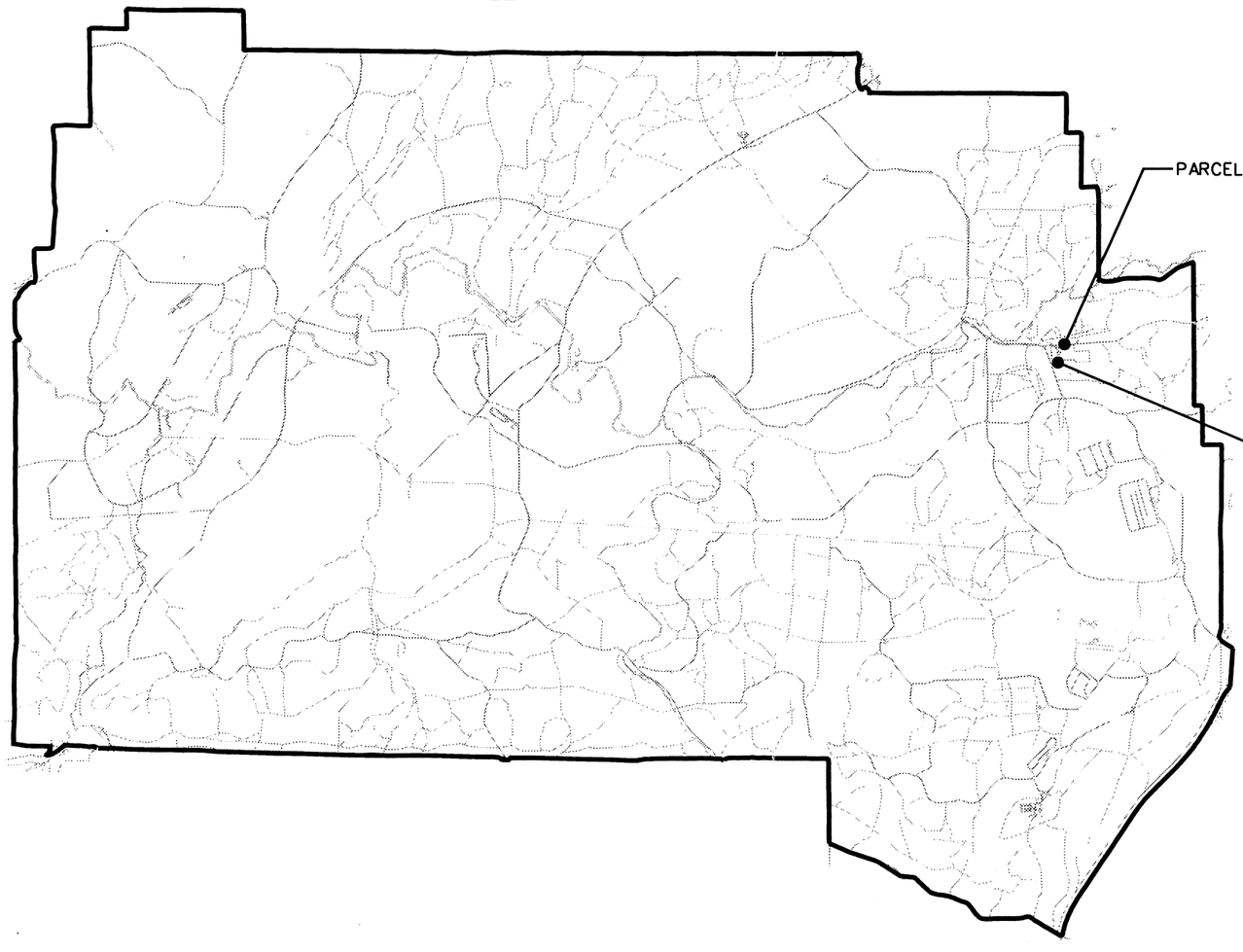
E 450,000

E 470,000

N 1,174,000

N 1,154,000

PELHAM RANGE



LEGEND

● LOCATIONS OF PARCELS

SCALE

0 5000 10000 FEET

FIGURE 2-2
SITE LOCATION MAP
UST's REQUIRING ADDITIONAL
ASSESSMENTS ON PELHAM RANGE

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

INTERNATIONAL TECHNOLOGY CORPORATION

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ENGR. CHCK. BY: A. MAYILA
PROJ. MGR.: J. YACOUB
INITIATOR: K. ROBERTS
DWG. NO.: ...ses.099
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from the site. Samples from the pipe trench were not collected. The closure report prepared by Braun documents TPH concentrations at 110 ppm for stockpiled soils. Depth to groundwater, determined from four monitoring wells installed at the site, was approximately 9 feet. Groundwater samples were collected and analyzed for VOCs, total lead, and PAHs. Groundwater was encountered within the tank excavation and a notable hydrocarbon odor was documented in the closure report. Approximately 5 yd^3 of contaminated soils were removed and transported to the base landfill for thin spreading. According to the FTMC EBS, this site obtained a NFA with the understanding that the land and property owners would not change (ADEM, 1995). The UST Closure Site Assessment Report is presented in Appendix A, Attachment 2. A copy of the ADEM NFA letter can be found in Appendix E.

Recommendation. TPH concentrations detected during tank closure were over the state maximum contaminant levels (MCL) of 100 ppm. To determine current environmental conditions at the UST area prior to property transfer it is recommended that one soil boring be completed with soil sampling and analysis.

A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead. Tank compliance records (i.e., inventory records, tank tightness reports) should be reviewed for the UST currently in use at this location.

3.3 Telephone Exchange, Building 251, Parcel 3(7)

Background. Building 251 is known as the Telephone Exchange. This location had one 600-gallon diesel UST which was removed but not replaced in 1994. This UST was used as a backup fuel supply for an emergency generator. The UST Closure Site Assessment Report is presented in Appendix A, Attachment 3. Approximately 100 feet of product piping was closed without removal. Underground utilities prohibited pipe trench samples from the middle 50 feet of the pipe run. Notes indicated that the piping was purged of product but did not reference whether the piping was capped. The closure report noted that upon removal the center seam of the UST appeared to be cracked around the entire circumference. The closure report documents soil TPH concentrations of 5,800 ppm. Depth to groundwater, determined from four monitoring wells installed at the site, was approximately 4.5 feet in depth. Groundwater samples were collected and analyzed for BTEX and PAHs. Approximately 6 yd^3 of contaminated soils were removed during closure activities. The method of soil disposal was not noted. According to the FTMC

EBS, this site obtained a NFA with the understanding that the land and property owners would not change (ADEM, 1995).

Recommendation. A copy of the ADEM NFA letter was not obtained. Due to the shallow depth to groundwater, concentrations of TPH detected during tank closure, and the condition of the tank upon removal, further assessment is recommended. IF the NFA letter can be verified then one additional round of groundwater sampling is recommended to determine if contaminants have leached into the shallow groundwater table. The monitoring wells installed during closure activities, if they are still present and their integrity has not been compromised, could be used for groundwater sampling. Groundwater would be sampled and analyzed for BTEX, PAH, and lead.

3.4 POL Point GSA Area, Building 265, Parcel 4[7]

Background. A tank farm containing gasoline and diesel refueling stations for base vehicles is located near Building 265. According to a secondary investigation report prepared by E&E, 16 USTs were formerly located at this fueling station. As many as 20 USTs have historically been documented at this site. Currently, eight 12,000-gallon USTs are located at the site with 4 containing unleaded gasoline and 4 containing diesel fuel.

A preliminary investigation report (ESE, 1991) and a secondary investigation report were prepared by E&E (E&E, 1992). Both reports have been copied and are presented in Appendix C. The reports document the existence of soils containing substantial levels of total recoverable petroleum hydrocarbons (TRPH). However, groundwater does not appear to have been significantly affected by petroleum constituents. Apparently, the former fuel line system leaked, thereby generating the highest level of TRPH contamination within the subsurface soils at a depth of 3 to 6 feet. Overall, the full extent of petroleum affected soils is still uncertain (E&E 1992). E&E recommended that the soils be left in place for natural biodegradation, and that a semiannual program of groundwater sampling and analysis be implemented.

Reportedly, the site underwent 3 years of semiannual monitoring and sampling. Lead levels were relatively low in all the monitoring wells after five sampling events. According to Mr. Nolan Lee Jaye, the site no longer is required to perform the semiannual monitoring.

Closure reports were not available for review to determine the adequacy of past work. However, IT has obtained information relating to the UST removals which occurred in early 1991. Apparently, the site has undergone some degree of soil remediation associated with UST-related construction. IT collected soil samples from soil borings and from within the tank excavation. The sampling procedures generally followed ADEM's UST Closure Site Assessments Guidance. Appendix D is a table which was generated from analytical data obtained from IT's archived files. Soil samples were analyzed for total lead by U.S. Environmental Protection Agency (EPA) Method 7421, for TPH by Method 9071 and for BTEX by Method 8020. Soil analytical results for total lead ranged from 2 to 29 ppm, while TPH concentrations ranged from not detected (ND) to 55,000 ppm. BTEX values were generally low, with the exception of sample ID No. C4405 which had a total BTEX value of 9,900 micrograms per kilogram (ppb).

According to file records, three USTs were removed and replaced by IT during March and April 1991. Eight inactive USTs were removed during February and March 1991. Petroleum contaminated soils were thermally treated on location to below 100 ppm TPH.

Since the tank removal and preliminary investigation, the Taylor Corporation has performed UST-related retrofitting and construction work at this site. Twenty compliance monitoring wells were installed across the site. Soil samples were collected during the removal and replacement of the UST-related piping in 1991. Contaminated soils were excavated from the pipeline trench and analyzed for TPH. Concentrations ranged from 22 ppm to 23,000 ppm. During July 1992, an ADEM field inspector visited the site and granted approval for leaving contaminated soils in place (FTMC, 1992a). The UST-related construction activities were completed during the spring of 1992.

A secondary investigation report was prepared by E&E for this parcel number and submitted in September 1992. The purpose of this investigation was to determine the lateral and vertical extent of soil and groundwater contamination, as outlined by ADEM Rule 335-15-28. Three additional shallow monitoring wells were installed to delineate the lateral extent of groundwater contamination.

Aquifer testing was completed during the secondary investigation. The results of the tests indicated that the shallow aquifer beneath the site is characterized by relatively low permeability. Based on slug test results, the average estimated conductivity (K) value is 4.64×10^{-2} feet per day. Depth to groundwater measured in the monitoring wells ranged

from approximately 4 to 5.5 feet below land surface (bls). Based on potentiometric surface elevations, the groundwater flow direction in the shallow zone is in a northern direction toward Cane Creek, located approximately 400 feet north-northwest of the site. Based on the hydraulic gradient and the average estimated K value calculated from the slug test results, the estimated horizontal groundwater flow velocity is approximately 0.0045 feet per day or 1.65 feet per year.

The secondary investigation report concludes that site soils contain substantial levels of TPH while groundwater does not appear to have been significantly affected by petroleum constituents (ESE, 1992). E&E recommended the implementation of a semiannual program of groundwater sampling and analysis.

According to Mr. Nolan Lee Jaye, this site underwent approximately 3 years of semi-annual monitoring which has recently been discontinued. It is unknown if a formal NFA has been received from ADEM for this site.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.5 Building 326 (Former Ordinance Motor Repair Area), Parcel 5(7)

Background. Building 326 was a motor pool and was formerly known as the Ordinance Motor Repair Area (OMRA). The EBS documents that two 500-gallon USTs, one diesel and one gasoline, were removed in 1991. Closure reports are not on file. The two tanks were removed by IT on April 18, 1991. A summary of soil analytical results and copies of soil analysis certificates are presented in Appendix D. Soil samples were collected from the excavation and analyzed for TPH, total lead, TCLP lead, and BTEX. Analytical results indicate that total lead concentrations ranged from 15 to 26 ppm, while concentration for TCLP lead were below detection limits. TPH concentrations ranged from 140 to 530 ppm. The depth to groundwater was not referenced in the field notes reviewed.

Recommendations. To determine if the site is eligible for closure under current ADEM regulations, the depth to water needs to be determined either physically by installing a boring adjacent to the tank pit, or from a nearby location. If approved by the

ADEM, groundwater elevation data may be obtained from topographical features which provide surface indications of the groundwater table.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.6 Recycling Center, Building 338, Parcel 6(7)

Background. Building 338 is known as the recycling center. Documents reviewed for this location include two tank closure reports. According to the EBS, one heating oil tank which was removed and not replaced is tracked under Parcel Number 42(7). Additionally, two waste oil tanks (one closed and replaced) are tracked under this parcel.

A closure report prepared by Braun documents that one 2,000-gallon waste oil tank was closed in place by filling the tank with concrete slurry on May 5, 1994. A copy of the closure report can be found in Appendix A, Attachment 4. Only one soil boring was drilled due to the location of the UST, the existing building, overhead power lines and underground utilities. The depth to water was not determined during the tank closure. Product piping was removed and product odor was noted from the pipe trench. The pipe trench was backfilled on April 28, 1994. Soil samples were collected and analyzed for TPH. Soil analytical results indicated concentrations of 4,100 ppm TPH in the samples collected from the pipe trench. Approximately 3 yd^3 of contaminated soils were removed and thin-spread at the FTMC Landfill. One 2,500-gallon waste oil tank installed in 1994 remains at this location.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.7 Consolidated Maintenance Building, Parcel 7(7)

Background. Building 350, the Consolidated Maintenance Building, has two USTs associated with it. One 10,000-gallon diesel tank was installed in 1991 and one 2,500-gallon waste oil tank was installed in 1995. Information regarding environmental reporting has not been reviewed for this parcel. The USTs are reported to have met all ADEM requirements and have been tank tightness tested within the last 5 years.

Recommendation. Tank compliance records (i.e., inventory records, tank tightness reports) should be reviewed.

To determine current environmental conditions at the UST area prior to property transfer, it is recommended that two soil borings be completed with soil sampling and analysis. A maximum of four samples should be collected and analyzed for BTEX, PAH, and lead.

3.8 Unit Training Equipment Site (UTES) No. 1, Pelham Range, Building 8424, Parcel 8(7)

Background. Building 8427, located at Pelham Range, has two active USTs. One 10,000-gallon diesel and one 600-gallon waste oil were installed in 1994. Information regarding environmental reporting has not been reviewed for this parcel. The USTs are reported to have met all ADEM requirements and have been tank tightness tested within the last 5 years.

Recommendation. Tank compliance records (i.e., inventory records, tank tightness reports) should be reviewed. To determine current environmental conditions of the UST area prior to property transfer, it is recommended that two soil borings be completed with soil sampling and analyses. A maximum of four soil samples should be collected and analyzed for BTEX, PAH and lead.

3.9 Recreation Building, Building 503, Parcel 9(7)

Background. Building 503 is known as the Recreation Building. This location has one active 20,000-gallon heating oil tank. This tank was installed in 1994 following the closure of one 20,000-gallon heating oil tank. The tank was closed in place on May 13, 1994. The UST Closure Report prepared by Braun was reviewed and provided the following information. Approximately 25 feet of piping was capped at both ends and abandoned in place. Three soil borings were installed, one on each accessible side of the UST, to a depth of 10 feet. The interior of the tank was accessed and appeared to be in good condition. Soil samples were submitted for TPH and lead analyses. TPH concentrations of 10 ppm and lead concentrations of 24 ppm were documented. The depth of groundwater was determined to be greater than 20 feet bls during the excavation for the newer tank. Notable product odor was not detected within the excavation and soils were not removed for disposal. The closure report does not mention the disposition of the

product piping. ADEM granted an NFA for this tank closure. The ADEM NFA letter can be found in Appendix E.

Recommendation. Further investigation is not required at this time. Tank compliance records (i.e., inventory records, tank tightness reports) should be reviewed for the active tank. To determine current environmental conditions at the UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead.

3.10 Waste Chemical Storage Area, Building 598, Parcel 10(7)

Background. Building 598 is known as the Waste Chemical Storage Area. According to the EBS, suspected USTs at this location contain diesel and waste oil; however, the site visit did not show evidence of USTs. Documentation was reviewed for one 3,000-gallon diesel tank, which was removed on February 26, 1991 by IT. Six soil borings were drilled around the perimeter of the tank prior to the tank closure. Analytical results for soil samples submitted for analysis are presented in Appendix D. During tank removal activities soil samples were collected from the walls and bottom of the excavation. A reference to the depth to groundwater was not noted. TPH analysis for the soils collected during the tank closure activities ranged from ND to 120 ppm.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.11 UST Building 888, Motor Pool, Parcel 11(7)

Background. This location contained one 2,000-gallon waste oil UST. The tank and product lines were removed from this area on April 30, 1994. This tank was not replaced. Soil samples were collected during tank removal activities and analyzed for TPH and total lead. Groundwater was encountered at approximately 5 feet below land surface (bls). Elevated concentrations of TPH (greater than 100 ppm) were detected in the soil samples collected. The analysis of soil samples collected from the side walls and the base of the excavation showed TPH concentrations ranging from 750 ppm to 8,100 ppm and

total lead ranging from 5.3 ppm to 24 ppm. Approximately 9 yd^3 of contaminated soils were removed and transported to the base landfill for thin spreading.

Four monitoring wells were installed and one round of groundwater sampling was completed. Neither VOCs nor PAHs were detected in any of the wells. Lead was detected in MW-2. Based upon the groundwater flow direction, it was determined that MW-2 was hydraulically upgradient. The closure report concluded that a petroleum release had occurred and that the vertical and horizontal extent of the contamination in the soil had not been determined (Braun, 1995). According to the FTMC EBS, this site obtained a NFA from ADEM (December 4, 1995).

Recommendation. A copy of the ADEM NFA letter was not obtained. Further environmental assessment is not warranted at this time.

3.12 UST Building 894, Motor Pool, Parcel 12(7)

Background. At Building 894, two USTs were removed in 1991 at the approximate location of the current aboveground storage tanks (AST). A closure report is not currently on file. Documentation was reviewed on two 6,000-gallon tanks, one containing gasoline and the other diesel. Both tanks were removed on February 20, 1991 by IT. Six soil borings were drilled around the perimeter of the tanks prior to the tank closure. During tank removal activities, soil samples were collected from the walls and bottom of the excavation. Reference to the depth to groundwater was not noted. Analytical results for soil samples submitted for analyses are presented in Appendix D. The analytical results for TPH ranged from ND to 5,300 ppm. Contaminated soils were excavated and transported for thermal treatment. The extent of excavation and the amount of soil that was removed for thermal treatment is unknown. Soil samples collected at 18 to 20 feet bls contained significant TPH concentrations.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.13 UST Gym and Pool, Building 1012, Parcel 13(7)

Background. Building 1012 is known as the Gym and Pool Building. This location currently has one 5,000-gallon heating oil tank, which was installed following the removal of one 5,000-gallon heating oil tank in October 1996. The EBS documents that a closure report does not exist for this site. However, upon further investigation, IT discovered and reviewed a closure report for this tank (Appendix A, Attachment 7). It must be noted that this closure report, prepared by Southern Environmental Management & Specialties (SEMS, Inc.), included a total of 12 UST closures.

During this tank closure, the depth to groundwater was determined to be deeper than 5 feet below the bottom of the tank by excavating an additional 5 feet below the base of the tank pit. Groundwater was not encountered. A notable product odor was not found in the excavation and the removed UST appeared to be in good condition. The product piping was also removed during the closure activities. Soil sampling was not performed. Soil was not removed from the site for disposal. The soil was used as backfill during the installation of the newer tank.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.14 Boiler Plant No. 3, Building 1076, Parcel 14(7)

Background. Boiler Plant Number 3 (Building 1076) currently has two active 15,000-gallon diesel tanks. The tanks were installed following the removal of two 15,000-gallon diesel tanks in 1991. Closure reports were not available for review. The EBS describes this site as containing two heating oil tanks. The active UST tank database (Table 1-2) obtained from the FTMC references diesel storage.

Recommendation. A full closure assessment should be performed for this location and submitted to ADEM. Tank compliance records (i.e., inventory records, tank tightness reports) should be reviewed for the active tanks.

3.15 WAC Museum, Building 1077, Parcel 15(7)

Background. Building 1077 is known as the WAC Museum. The facility does not currently have any USTs; however, two USTs have historically been associated with the site, one of which is tracked under Parcel Number 167(7)PS. A 1,000-gallon heating oil tank removed in 1989 is covered under this parcel number.

In October 1989, a 1,000-gallon heating oil tank was taken out of service. Soil samples collected during closure activities detected TPH concentrations ranging from 10 to 1,200 ppm. Four monitoring wells were installed as part of a preliminary investigation (See Appendix C). Depth to groundwater ranged from 6 to 10 feet bls. Based on the groundwater elevations, groundwater flow direction is toward Cave Creek, located approximately 400 feet northeast of the site. Soil samples collected during monitoring well installation exhibited TRPH concentrations in excess of 100 ppm. Groundwater samples collected from monitoring wells MW1-1 and MW1-3 were analyzed for BTEX, PAHs, and lead. Wells MW1-2 and MW1-4 were sampled and analyzed for BTEX only. Detectable concentrations of lead were present in the groundwater samples collected from wells MW1-1 and MW1-3. The lead concentration present in the sample collected from MW1-3 slightly exceeded the 20 ppb ADEM MCL. Neither BTEX nor PAHs were detected in any of the groundwater samples collected at the site during the preliminary investigation. The report concludes that no further action be taken at this site.

Recommendation. Further environmental assessment is not proposed at this time. It could not be confirmed that this site had received a formal NFA from ADEM.

3.16 Former Gas Station, Building 1394 Motor Pool Area 1300, Parcel 16(7)

Background. Building 1394 was part of Motor Pool Area 1300. Building foundation or evidence suggesting a building foundation was identified. The EBS documents that two-5,000 gallon USTs, one diesel, and one gasoline, were removed in 1991. A closure report is not on file. The two tanks and associated piping were removed by IT on March 9, 1991. Soil samples were collected from the excavation and analyzed for TPH, total lead, and BTEX. Analytical results indicate that total lead concentrations ranged from 0.96 to 30 ppm. TPH concentrations ranged from ND to 3,800 ppm (see Appendix D). The depth to groundwater was not referenced in the field notes reviewed.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.17 UST Building 1696 Motor Pool, Parcel 17(7)

Background. Building 1696 contains one active 2,500-gallon waste oil tank. This tank was installed following the closure of one 2,000-gallon waste oil tank in 1994. The tank was closed in place and the product line removed on April 29, 1994. The UST closure report prepared by Braun. Approximately 7 feet of piping was removed. One soil sample was collected for analysis from the piping trench. One soil boring was performed on the one accessible side of the UST. The boring was installed to a depth of 15.5 feet to determine the depth to groundwater. Groundwater was not encountered within this boring. One soil sample was collected for chemical analysis from a depth of 7.5 feet bls. The interior of the tank was accessed and appeared to be in good condition. Soils samples were collected and submitted for analysis. TPH concentrations of 1,200 ppm were documented from the piping trench. Product odor was noted within the piping trench. Approximately two yd^3 of contaminated soils were stockpiled and sampled for analysis. The stockpiled soil exhibited a TPH concentration of 1,550 ppm. The closure report does not document the disposition of the soil removed.

Recommendation. The closure report and assessment are incomplete with respects to the total number of borings performed and the analysis of the soil. Soil samples should be collected from each side and in close proximity of the original tank excavation. At each boring, samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter and at approximately 5 feet below the bottom of the tank.

Tank compliance records (i.e. inventory records, tank tightness reports) should be reviewed for the active tank. To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH and lead.

3.18 UST Building 1697 Motor Pool, Parcel 18(7)

Background. Building 1697 formerly contained one 2,000-gallon waste oil tank. The tank was closed in place and the product lines were removed on May 2, 1994. The tank was not replaced. A closure report, prepared by Braun, was reviewed for the site and is included in Appendix A, Attachment 9.

Depth to groundwater was determined by drilling a soil boring to 15.5 feet bls approximately 70 feet west of the UST basin. Groundwater was not encountered in the borehole. A product odor was detected during the closure. Soil was not removed from the site. Soil samples were not collected from each accessible side of the UST (east, south, and west sides) and the pipe trench. Soils were sampled and analyzed for TPH and total lead. The sample collected from the pipe trench indicated high concentrations of TPH (4,200 ppm). TPH concentrations in the east and south samples were not detectable. The closure report concluded that a petroleum release had occurred and that the vertical and horizontal extent of contamination in the soil had not been determined.

Recommendation. One additional confirmatory sample should be collected in the area of the pipeline trench to determine the concentrations of BTEX, PAH, and lead since the closure activities.

3.19 Former Gas Station, Building 1694 Motor Pool, Parcel 19(7)

Background. Building 1694 was a former gas station. This location had two USTs which were removed in 1991. Closure reports are not currently on file. Documentation was reviewed on two 10,000-gallon tanks, one containing gasoline and the other diesel, which were removed on February 9, 1991 by IT. Six soil borings were drilled prior to the tank closure around the perimeter of the tanks. Soil samples were submitted for analysis and the analytical results are presented in Appendix D. During tank removal activities, soil samples were collected from the walls and bottom of the excavation. The samples were submitted for lead, total lead, TCLP, TPH, and BTEX analyses. The depth to groundwater was not noted. Soils samples collected and analyzed for TPH during the tank closure activities ranged from ND to 1,100 ppm. The extent of excavation and the amount of soils removed for thermal treatment are unknown. Soil samples collected at 18 to 20 feet bls contained significant TPH concentrations.

Recommendation. It is proposed that four soil borings be drilled around the former perimeter of the tank. Soil samples should be collected at a depth of 5 feet below the bottom of a typical 10,000-gallon tank installation depth. The soil samples should be analyzed for BTEX and PAH. If groundwater is encountered, then four groundwater samples are required. A report would be submitted with new and existing data to ADEM for review.

3.20 UST Autocraft Shop, Building 1800, Parcel 20(7)

Background. Building 1800 is the Autocraft Shop. This location currently has two active tanks: one 2,500-gallon waste oil tank; and one 2,500-gallon heating oil tank. The heating oil tanks are tracked under Parcel Number 47(7). During April 1994, one 600-gallon waste oil tank and associated piping was removed and replaced with a 2,500-gallon waste oil tank. A closure report, prepared by Braun, was reviewed for this site and is included in Appendix A, Attachment 10. Soil samples were collected from all sides of the UST and the piping trench and analyzed for TPH and total lead. With the exception of the northern side samples, TPH concentrations were detected in all samples. The highest TPH concentrations (71,000 ppm) were detected from the piping trench. The closure report notes that waste oil leaked through an unsealed joint near the center of the piping run. Four monitoring wells were installed at the site. Depth to water is approximately 7 feet bls. One round of groundwater sampling was completed. Samples were sent to an analytical laboratory to be analyzed for VOCs, lead, and PAHs. Fluorene was detected in two monitoring wells and total lead was detected in one monitoring well. The closure report concluded that a petroleum release had occurred onsite and that the vertical and horizontal extent of contamination within the soil had not been determined.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.21 Base Service Station, Building 2109, Parcel 21(7)

Background. Building 2109 is adjacent to the base service station. This location houses a tank farm consisting of four 10,000-gallon USTs. This location also has a 1,000-gallon UST containing waste oil, which is tracked under Parcel Number 22(7). In November 1989, one of the tanks failed a tank tightness test. Analysis of soil samples

from soil borings installed around the tank in December 1989 by E&E detected TRPHs at concentrations ranging from 20 to 980 ppm (FTMC, 1990). The four tanks were removed and replaced in early 1990. Two tanks currently contain gasoline and two contain diesel fuel. See Appendix C for preliminary and secondary investigation reports.

A secondary investigation was completed in September 1991. In order to delineate the vertical and horizontal extent of contamination documented at the site, nine additional shallow and two deep monitoring wells were installed. Groundwater samples were collected from the most recently installed wells. The depth to groundwater measured in the monitoring wells ranged from approximately 12 to 16 feet bls. The potential for groundwater flow in the shallow aquifer is in a radial pattern away from the center of the site, generally northeast, northwest, and south. Lithologic logs maintained during monitoring well installation indicate that the surface of the underlying bedrock forms a structural mound in the center of the site and may be influencing the direction of groundwater flow at the site. Based on the results of a specific capacity test, there does not appear to be any significant hydraulic connection between the shallow and deep aquifer zones. Groundwater samples collected from wells that yielded enough water were analyzed for BTEX, PAHs, and lead. Six wells exceeded the ADEM MCL for benzene. Detectable concentrations of lead were present in groundwater samples collected. With the exception of low MTBE levels detected in a sample collected from deep well MW3-8D (screened at 47.5 feet bls), no other analyzed parameters were detected in the deep well samples.

The secondary investigation concluded that the site soils contained low levels of TRPH, while significant levels of petroleum-related compounds are present in the groundwater. However given the existing conditions, the potential for rapid contaminant migration laterally within the aquifer zone appears to be limited. The secondary investigation proposed that a quarterly program of groundwater sampling and analysis be implemented to closely monitor groundwater quality in both the shallow and deeper aquifers.

The EBS references that this site has undergone 3 years of quarterly groundwater sampling. According to Mr. Nolan Lee Jaye, the site no longer is required to perform the quarterly sampling. Quarterly monitoring reports were not available for review.

Recommendation. Further environmental assessment is not required at this time. A copy of the ADEM NFA can be found in Appendix E.

To determine current environmental conditions at the UST area prior to property transfer, it is recommended that one soil boring be completed at each active tank. A maximum of two soil samples from each boring should be collected and analyzed for BTEX, PAH, and lead.

3.22 Base Service Station, Building 2109, Parcel 22(7)

Background. Building 2109 is adjacent to the base service station. In addition to the four USTs discussed above under Parcel Number 21(7), this location also had a 1,000-gallon waste oil UST. The tank was removed and replaced with a 2,500-gallon UST. The EBS also references the removal of a 500-gallon waste oil tank. A closure report, prepared by Braun (see Appendix A, Attachment 11) states that one 1,000-gallon UST was removed on April 5, 1994. A notable product odor was not detected. Soil samples were collected from the side walls of the excavation and analyzed for TPH only. Groundwater was not encountered and the excavation was backfilled without collecting groundwater samples. The tank appeared to be in good condition upon removal. TPH concentrations from the stockpiled soils were 60 ppm. Ten yd^3 of contaminated soil were removed from the site and transported to the base landfill for thin spreading. The closure report concluded that a petroleum release had occurred onsite and the vertical and horizontal extent of contamination in the soil had not been determined.

Recommendation. Based on data available from nearby Parcel Number 21(7), the depth to groundwater varies across the site from approximately 12 to 16 feet bls. A typical 1,000-gallon tank has a radius of 4 feet and installed approximately 2 to 3 feet below grade. That would indicate that the bottom of the tank is at approximately 7 feet below the surface. This depth would meet the closure requirement of groundwater being more than 5 feet below the base of the excavation, thus groundwater samples are not required. Based on the report, a significant amount of soils were excavated for a tank of this size. Since TPH concentrations from the stockpiled soils were less than 100 ppm, it doesn't appear that the UST significantly impacted the soils at the site. The only requirement omitted during the closure activities was the collection of soil samples for lead analysis. Further assessment is not recommended at this time.

To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and

analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead.

3.23 Boiler Plant No. 2, Building 2278, Parcel 23(7)

Background. Building 2278 is Boiler Plant No. 2. According to the EBS, two 25,000-gallon heating oil tanks were replaced in 1991. The list of active USTs (Table 1-2) indicates that the tanks located at this building contain diesel fuels. The USTs were reported to have leaked. A closure report or any other additional data was not available for review.

Recommendation. Due to the lack of environmental data for either soil or groundwater, the impact from leakage of USTs on the surrounding subsurface can not be determined. Additional work required for closure of the tanks referenced above includes completing at least one soil boring on each side and in close proximity of the original tank excavations. At each boring, samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter and approximately 5 feet below the base of the tank. If the groundwater elevation is determined to be less than 5 feet below the base of the tank, groundwater samples should be collected at a minimum of one upgradient and three downgradient locations just outside the perimeter of the original tank excavation. Both soil and groundwater samples should be analyzed for BTEX and PAH. The results should be submitted to ADEM for review.

To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring with soil sampling and analyses be completed at each active tank. If the active tanks were installed in the excavations constructed to remove the original tanks, this work will not have to be conducted. A maximum of two soil samples should be collected from each boring and analyzed for BTEX, PAH, and lead.

3.24 Building 3138, Motor Pool Area 3100, Parcel 24(7)

Background. Building 3138 has three active tanks, two of which have been replaced and, as referenced in the EBS report, are tracked under three different parcel numbers (Parcel Numbers: 24(7), 25(7), and 212(7).

Parcel Number 24(7) covers one 2,000-gallon waste oil tank which was removed on April 4, 1994. The closure report, prepared by Braun Intertec, is presented in Appendix A, Attachment 12. This tank was replaced with a 2,500-gallon UST. A closure report was reviewed for the removed tank and associated piping. Soil samples were collected from all sides of the excavation, the base of the pit, and the piping trench. The samples were analyzed for TPH and total lead. The results from the samples collected from all sides of the excavation pit were at or below detection limits for TPH. High concentrations (12,300 ppm) of TPH were detected in the piping trench, but significantly decreased in a second sample collected two feet deeper in the same location (5 ppm). The soil sample collected at the base of the pit also showed elevated levels of TPH; however, an additional soil sample collected 3 feet below the base sample showed a decreased level of TPH. Groundwater was not encountered during the UST closure. The closure report indicates that two yd^3 of contaminated soils were removed from the excavation. However, the soils were used as top soil fill materials during the installation of the new UST. The closure report concluded that a petroleum release had occurred onsite and the vertical and horizontal extent of contamination in the soil had not been determined (Braun, 1995). The report stated that the extent of soil contamination decreased considerably with depth and distance.

According to the closure report a new fiberglass tank was installed in the excavation. Pea gravel was used for backfill up to 1 foot below the top of the tank. The soils removed during the excavation process were used as topsoil over the excavated area. According to the EBS, this site has received a no further action from ADEM. A copy of the ADEM NFA letter can be found in Appendix E.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.25 Building 3138, Motor Pool Area 3100, Parcel 25(7)

Background. Building 3138 contains one active 10,000-gallon diesel UST. Table 5.1 of the EBS indicates that this tank was replaced in 1996; however, the list of active tanks received from the base indicates that the tank was installed in 1987 and upgraded in 1991. A closure report is not on file.

Recommendation. Tank compliance records (i.e., inventory records, tank tightness reports) should be reviewed for the currently active tank. To determine the current environmental condition at the UST area prior to property transfer, it is recommended that one boring be completed with soil sampling and analysis. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead.

3.26 Boiler Plant No. 1, Building 3176, Parcel 26(7)

Background. Building number 3176 is known as Boiler Plant Number 1. This location currently has three active and three closed-in-place USTs associated with it.

Two 18,000-gallon USTs used to store diesel fuel were replaced in 1991 after tank tightness tests failed. A closure report was not available for review, although, a preliminary investigation report was prepared and submitted in March 1991 (E&E, 1991) (see Appendix C). Four monitoring wells were installed at the site. The depth to groundwater in the wells ranged from approximately 2 to 5 feet bls. Generally, the water level elevation data indicates that there is a potential for groundwater flow from the tank area towards the northwest. The groundwater flow direction was not well defined due to dramatic differences in water levels between the wells. During the monitoring well installation, additional soil samples were collected. Analysis of the soil samples indicated that two of the samples exceeded the 100 ppm TPH threshold for ADEM. Each of these samples were located within 5 feet of the water table. One soil sample, collected during the installation of the monitoring wells, exhibited the highest level of TPH concentration at 751 ppm.

Groundwater samples collected from two of the monitoring wells were analyzed for BTEX, PAHs, and lead. The two remaining wells were sampled and analyzed for BTEX only. The two wells sampled for lead indicated lead concentrations of 22 and 16 ppb. The sample with the higher concentration slightly exceeded the ADEM MCL of 20 ppb. The preliminary investigation concluded that a secondary investigation be conducted at the site. However, ADEM cleared this site, and a secondary investigation did not occur, according to the EBS.

The Boiler Plant also has one 550-gallon diesel UST used to fuel a backup generator. This tank was closed in place and replaced in December 1996. A closure report was prepared by SEMS, Inc. and is included in Appendix A, Attachment 7. There are not any

indications in the closure report that any environmental impact had occurred with the use of this tank. A product odor was not noted and soil was not removed. Groundwater was determined to be 5 feet deeper than the base of the excavation.

Recommendation. Significant contamination was not found although the shallow water table is susceptible to contamination from surface activities on and around the site. To determine the current environmental condition at the three active USTs prior to property transfer, it is proposed that three soil borings (one at each tank location) be completed with soil sampling and analysis. A maximum of two soil samples per boring should be collected and analyzed for BTEX, PAH, and lead.

3.27 UST Buildings 3196/3148 Motor Pool, Parcel 27(7)

Background. Building 3196 is a motor pool. One active 10,000-gallon diesel UST is located at this site. The tank was installed in 1986 with further compliance work completed in 1991. Neither a closure report nor additional environmental data is associated with this site.

Recommendation. The tank's compliance records should be reviewed (i.e., tank tightness records, inventory records, etc.) for the currently active tank. To determine the current environmental condition at the UST area prior to property transfer, it is recommended that one boring be completed with soil sampling and analysis. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead.

3.28 UST Buildings 3196/3148 Motor Pool, Parcel 28(7)

Background. Building 3148 is a motor pool. In 1994, a 2,000-gallon waste oil UST was closed in place and replaced by a 2,500-gallon UST. A closure report was prepared by Braun and is presented in Appendix A, Attachment 13. Three soil borings were completed with soil sampling on three accessible sides of the tank area and in the area of the aboveground piping run. The soil samples were analyzed for TPH and total lead. The three soil samples collected from around the tank area contained non detectable to low level concentrations of TPH. The area around the aboveground piping had been impacted by surface spills over time. TPH concentrations from the soil sample collected from the piping run were 9,000 ppm. A review of the closure report indicates that asphalt

was inadvertently included in the soil sample and may have resulted in this increased concentration of TPH. Groundwater was encountered at 6 feet below the land surface but groundwater samples were not collected.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.29 UST Buildings 3294/3299, Motor Pool Area 3200, Parcel 29(7)

Background. Building 3299 is located adjacent to Motor Pool Area 3200. This location formerly contained a 10,000-gallon diesel UST that was reportedly installed in 1953. The tank was closed in place or removed in 1986 and was replaced with a 10,000-gallon UST. A closure report was not available for review. After a leak was discovered in 1989, the replacement tank was removed in 1990 (Roy F. Weston, Inc. [Weston] 1990). Analysis of samples collected from soil borings in January 1990 detected TRPH concentrations ranging from approximately 80 to 2,000 ppm (FTMC, 1990).

A preliminary investigation which included the installation of four monitoring wells was completed in March 1991 (see Appendix C). Depth to groundwater in the wells ranged from approximately 5.5 to 7 feet bls. Based on the water level elevations, the potential for groundwater flow is towards the northeast, towards Remount Creek, located approximately 90 feet east of the site. Based on the direction of groundwater flow and the close proximity of the creek, a potential for groundwater discharge into the creek exists. Soil samples were collected during the monitoring well installation and analyzed for TPH. The highest concentration of TPH detected (2,718 ppm) was obtained from soils collected at MW5-4 at a depth just above the water table (5.0 to 6.5 feet bls).

Groundwater from two of the monitoring wells were sampled and analyzed for BTEX, PAHs, and lead. The remaining two wells were sampled for BTEX only. Analytical results for the two wells sampled for lead showed lead concentrations of 8.1 and 9.3 ppb. However, these concentrations were below the 20 ppb ADEM MCL. Benzene was detected in one sample at a concentration of 8.3 ppb. PAHs were not detected in any of the samples collected. The preliminary investigation concluded that petroleum contamination has occurred in both groundwater and soils at the site and recommended that a secondary investigation be conducted.

A secondary investigation was completed at the site in September 1992. Three additional soil borings and two additional wells were installed as part of this investigation. A hydrologic investigation estimated the hydraulic conductivity (K) of the shallow aquifer to be 0.505 feet per day, which is indicative of relatively low permeabilities. Based on the hydraulic gradient and the average hydraulic conductivities calculated from the slug test results, the average horizontal flow velocity in the shallow aquifer zone was approximately 0.035 feet per day or 12.7 feet per year. Soil samples collected exhibited detectable concentrations of TRPH. However, none of the TRPH concentrations exceeded the ADEM MCL of 100 ppm. Groundwater samples were collected and analyzed for lead, BTEX, and PAHs. Lead and benzene were detected only in one groundwater sample each. The secondary report concluded that the vertical and horizontal extent of petroleum impacted soils and groundwater has been determined. Both the soil and groundwater contamination appear to be generally localized around the perimeter of the formerly leaking UST area. Surface water samples collected from Remount Creek do not indicate that the creek has been affected. Groundwater contaminant levels at the site appear to be decreasing. In addition, the migration potential of any compounds present in the groundwater would be extremely limited. The report concludes NFA at this site with regards to this former UST area.

Recommendation. The EBS states that ADEM feels that this site warrants further evaluation before transfer. Specifically, ADEM is concerned with the change in land use from a motor pool to a residential classification. Due to the relatively low concentrations of contaminants, the lateral extent, and the amount of time elapsed since leakage occurred, this site does not justify any additional assessment.

3.30 UST Building 3298 Motor Pool, Parcel 30(7)

Background. Building 3298 is located north of Building 3299. This location contained a 2,000-gallon waste oil UST, which was closed in place and replaced by a 2,500-gallon UST in 1994. A closure report was prepared by Braun and is included in Appendix A, Attachment 14. Soil samples were collected on all sides of the former UST and analyzed for TPH and total lead. Soil borings were used to determine the depth of groundwater. Groundwater was not encountered at a depth of 15.5 feet bls. High TPH concentrations (775 ppm) were detected in the soil sample collected south of the tank at a depth of 5 to 7.5 feet bls. Groundwater was not sampled. Ten yd^3 of contaminated soils were excavated during the closure event. A soil sample from the excavated soils

indicated a TPH concentration of 2,900 ppm. The contaminated soils were transferred to the base landfill for thin spreading. The closure report concluded that a petroleum release had occurred onsite and that the vertical and horizontal extent of contamination in the soil had not been determined (Braun, 1995). In 1995, this location has, reportedly, received an NFA from ADEM with the understanding that the land use and property owners would not change (ADEM, 1995). A copy of the ADEM NFA letter was not obtained.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.31 Ammunition Supply Point at Building 4407, Parcel 31(7)

Background. Building 4407 is known as the Ammunition Supply Point. The EBS report (Section 5.1.1.3) states that a 1,000-gallon No. 2 heating oil tank was removed from this location and that a closure report was not on file. Table 6-1 of the EBS references a 1,000-gallon heating oil tank closed in place in 1991. Table 5.1-2 of the EBS identified a 1,000-gallon heating oil tank closed during 1994 without a closure report. These tanks were not identified during this file review. However, a closure report was reviewed for one 1,000-gallon diesel tank excavated and removed on September 7, 1994. The closure report, prepared by Charter South Inc. and presented in Appendix A, Attachment 15, documents that a notable mild diesel odor was found during the excavation. Groundwater was determined to be at approximately 10 feet bls. Soil samples were collected and analyzed from all four sides and bottom of the excavation. Upon excavation of the tank, pinholes were noted at both ends of the bottom of the tank. The excavation was not backfilled. The aboveground piping was removed. It appears from the report that the tank pit was over excavated and resampled in an attempt to recover all soils containing over 100 ppm TPH. TPH concentrations of the excavated soils ranged from 347 to 2,480 ppm. Approximately 45 yd^3 of contaminated soils were removed from the excavation and stockpiled for further disposition. The report notes that approval was pending for the soil to be disposed at the landfill.

Recommendation. Additional assessment is required at this facility since groundwater sampling was not completed during the tank closure activities. Groundwater samples should be collected at a minimum of one upgradient and three downgradient locations just outside the perimeter of the excavation. Groundwater samples should be analyzed for BTEX, PAH, and lead.

3.32 Former Tar Plant/Temporary Transformer Storage Building 4437, Parcel 32(7)

Background. Building 4437 is known as the Former Tar Plant/Temporary Transformer Storage building. The EBS references one 2,500-gallon UST used for the storage of heating oil at this location. This tank was reportedly closed in 1991. A closure report is not on file. IT has reviewed archived information related to the UST removal. The tank was removed by IT on March 5, 1991. Six soil borings were drilled and sampled around the perimeter of the tank in December 1990. The preliminary analytical data indicated that elevated levels of TPH, total lead, and BTEX existed within the subsurface soils (see Appendix D). During the tank closure activities, soil samples were collected from the four walls and from the bottom center of the excavation. The samples were analyzed for TPH, total lead, TCLP lead, and BTEX (see Table 1-3). Analytical results indicate that total lead concentrations ranged from 7.2 to 19 ppm while TCLP lead was below detection limits. With the exception of 1.3 ppb ethyl benzene and 3.4 ppb total xylenes detected in the sample collected from the east wall, TPH and BTEX concentrations were below detection limits. It appeared from analytical results that as much as 10,000 ppm TPH was recorded in samples collected. Contaminated soils were over excavated from the tank pit and incinerated.

Recommendation. The depth to groundwater was not referenced in the field notes reviewed. To determine if the site is eligible for closure under current ADEM regulations, the depth to water needs to be determined either physically by installing a boring adjacent to the tank pit or from a nearby location. If approved by the ADEM, groundwater elevation data maybe obtained from topographical features which provide surface indications of the groundwater table.

It is proposed that one soil boring be drilled to a depth which would be five feet deeper than the bottom of a typical 2,500-gallon tank installation depth. Confirmatory soil samples should be collected and analyzed for BTEX, PAH, and lead. If the depth of water is determined to be greater than 5 feet below the bottom of the former tank, a report could be submitted with new and existing data to the ADEM for review. If water is not encountered in the boring, the site could be eligible for closure without additional assessment.

3.33 Building S-55, Parcel 33(7)

Background. Building S-55 has been demolished. This location formerly housed one 4,000-gallon heating oil UST, reportedly closed in 1991. A closure report is not on file. IT has reviewed archived information related to the UST removal. The tank was removed by IT on March 20, 1991. Six soil borings were drilled around the perimeter of the tank in December 1990. The preliminary analytical data indicated that TPH and total lead compounds existed within the subsurface soils (see Appendix D). During the tank excavation, soil samples were collected from the four walls and from the bottom center of the excavation. The samples were analyzed for TPH, total lead, TCLP lead, and BTEX (see Table 1-3). Analytical results indicate that total lead concentrations ranged from 8.6 to 12 ppm while TCLP lead was below detection limit. TPH concentrations were detected from two soil samples. The east and south walls of the excavation had TPH concentrations of 170 and 140 ppm, respectively. BTEX concentrations were below detection limits. It appears, based on the field notes and analytical data, that some samples were documented with as much as 36,000 ppm TPH. In general, the analytical results indicate that a minimal amount of contaminated soil existed at this facility.

Recommendation. The depth to groundwater was not referenced in the field notes reviewed. To determine if the site is eligible for closure under current ADEM regulations, the depth to water needs to be determined either physically by a boring located adjacent to the tank pit or from a nearby location. If approved by the ADEM, groundwater elevation data may be obtained from topographical features which provide surface indications of the groundwater table.

It is proposed that one soil boring be performed with soil sampling to a depth which would be 5 feet deeper than the bottom of a typical 4,000-gallon tank installation depth. Confirmatory soil samples should be analyzed for BTEX and PAH. If the depth to water is determined to be greater than 5 feet below the bottom of the former tank, a report could be submitted with new and existing data to ADEM for review. If water is not detected in the boring, the site could be eligible for closure without additional assessment. If groundwater is detected, four groundwater samples should be collected.

3.34 Fitness Center, Building 128, Parcel 34(7)

Background. Building 128 is known as the Fitness Center. This location housed one 4,000-gallon heating oil UST, which was removed and replaced with another 4,000-gallon UST during 1996. The closure report, prepared by Theta Engineering, Inc.(Theta), (presented in Appendix A, Attachment 16) documented that a mild heating oil, product odor, was detected within the excavation. Examination of the removed tank noted one hole on the northeast end of the tank bottom. The depth to groundwater was estimated to be approximately 12 feet bls. This estimate was from topographical features within the area. The size of the tank removed, 5.5 by 24 feet, would put the bottom of this tank within 5 feet of the estimated groundwater depth. Soil samples were collected and field screened for organic vapors. Contaminated soils were excavated and stockpiled. Stockpiled soils were sampled and analyzed for TPH. Results from TPH analysis indicated concentrations of 854 ppm. Groundwater samples were not collected. Soils not exhibiting evidence of contamination were used to backfill the excavation. Approximately 16 yd^3 of contaminated soils were stockpiled to await thermal volatilization.

Attached to this closure report was justification for not obtaining closure samples. The following is the referenced attachment:

- The subject UST formerly contained heating oil for use at the tank location. Consequently, the UST was not regulated by the Alabama Department of Environmental Management. Theta prepared a value engineering change proposal (VECP) to guide closure of non-regulated tanks (Theta, 1996). The VECP was submitted on December 1, 1995 and approved by the Base on February 22, 1996.

  In accordance with the VECP, soil not exhibiting visual or olfactory evidence of contamination would be considered non-contaminated and could be used to backfill the tank pit. Soil exhibiting visual and/or olfactory evidence of contamination was field screened using a photoionization detector (PID). Soils exhibiting a PID reading of 20 parts per million vapors (ppmv) or less were considered non-contaminated. Waste characterization samples were collected of soil exhibiting evidence of contamination. UST closure samples were collected only if all soil exhibiting evidence of petroleum contamination was not over excavated.

Recommendation. Additional work required for the 4,000-gallon heating oil tank closure referenced above includes at least one soil sample to be collected from each side

and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since the groundwater elevation has been reported to be at approximately 12 feet in depth, groundwater samples should be collected at a minimum of one upgradient and three downgradient locations just outside the perimeter of the original tank excavation. Both soil and groundwater samples should be analyzed for BTEX, PAH, and lead. The above data would be submitted to ADEM for review.

To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead. If the active tank was installed in the excavation constructed to remove the previous tank, this work does not have to be conducted.

3.35 Field House, Building 130, Parcel 35(7)

Background. Building 130 is known as the Field House. This location housed one 1,000-gallon heating oil UST, which was removed and replaced with a 2,500-gallon UST in 1996. A closure report, prepared by Theta, was reviewed and is included in Appendix A, Attachment 17. A product odor was not detected within the excavation. The removed tank appeared to be in good condition. The depth to groundwater was estimated to be approximately 10 feet bls. This estimate was obtained from extending the excavation depth an additional 5 feet. Soil samples were collected and field screened for organic vapors. Groundwater samples were not collected. Evidence of contamination was not observed. Excavated soils were returned to the excavation upon completion of the closure activities. Attached to this closure report was justification for not obtaining closure samples.

Recommendation. Additional work recommended for the tank closure referenced above include collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since the groundwater elevation has been reported to be at approximately ten feet in depth, groundwater samples must be collected at a minimum of one upgradient and three downgradient locations just outside the perimeter of the original tank excavation. Both soil and groundwater samples

should be analyzed for BTEX, PAH, and lead. The above data would be submitted to ADEM for review.

To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead. If the active tank was installed in the excavation constructed to remove the previous tank, this work does not have to be conducted.

3.36 Administrative Building, Building 141, Parcel 36(7)

Background. Building 141 is known as the Administrative Building. This location formerly housed one 2,500-gallon heating oil UST, which was removed and replaced in 1996 with another 2,500-gallon UST. A closure report prepared by Theta was reviewed and is included in Appendix A, Attachment 18. Product odor was not detected within the excavation. The removed tank appeared to be in good condition. The depth to groundwater was estimated to be greater than 5 feet below the base of the excavation. This estimate was obtained from extending the excavation depth an additional 5 feet. Soil samples were collected and field screened for organic vapors. Groundwater samples were not collected. Evidence of contamination was not observed. Excavated soils were returned to the excavation upon completion of the closure activities. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

Recommendation. Additional work recommended for the tank closure referenced above include at least one soil sample to be collected from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Soil samples should be analyzed for BTEX, PAH, and lead. The above data would be submitted to ADEM for review.

To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead. If the active tank was installed in the excavation constructed to remove the previous tank, the work does not have to be conducted.

3.37 Administrative Building, Building 143, Parcel 37(7)

Background. Building 143 is known as the Administrative Building. This location formerly housed one 4,000-gallon heating oil UST, which was removed and replaced with another 4,000-gallon UST in 1996. A closure report, prepared by Theta was reviewed and is included in Appendix A, Attachment 19. Product odor was not detected within the excavation. The removed tank appeared to be in good condition. The depth to groundwater was estimated to be greater than five feet deeper than the bottom of the tank. This estimate was obtained from extending the excavation depth an additional five feet. Soil samples were collected and field screened for organic vapors. Groundwater samples were not collected. Evidence of contamination was not observed. Excavated soils were returned to the excavation upon completion of the tank removal. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

Recommendation. Additional work recommended for the tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Soil samples should be analyzed for BTEX, PAH, and lead. The above data would be submitted to ADEM for review.

To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead. If the active tank was installed in the excavation constructed to remove the previous tank, this work does not have to be conducted.

3.38 Bivouac Area, B-44, Parcel 38(7)

Background. Building B-44 is known as the Bivouac Area. This location housed one 1,000-gallon heating oil UST, which was removed but not replaced in 1996. A closure report, prepared by Theta, was reviewed and is included in Appendix A, Attachment 20. Product odor was not detected within the excavation. The removed tank appeared to be in good condition. The depth to groundwater was estimated to be greater than 5 feet deeper than the bottom of the tank. This estimate was obtained from extending the

excavation depth an additional five feet. Soil samples were collected and field screened. Groundwater samples were not collected. Evidence of contamination was not observed. Excavated soils were returned to the excavation upon completion of closure activities. Attached to this closure report was justification for not obtaining closure samples (see section 3.34).

Recommendation. Additional work recommended for the tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples shall should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Soil samples should be analyzed for BTEX, PAH, and lead. The above data would be submitted to ADEM for review.

3.39 Clothing Building, Building 273, Parcel 39(7)

Background. Building 273 has been demolished but was formerly known as the Clothing Building. The EBS documents that one 1,000-gallon heating oil UST was removed in 1991 and that a closure report was not on file. The tank was removed by IT on April 7, 1991. Six soil borings were advanced and soil samples collected for analysis in December 1990. The soil analytical results indicated that leakage from the UST had impacted the subsurface soils (see Appendix D). Following the tank removal, soil samples were collected from the excavation and analyzed for TPH, total lead, TCLP lead, and BTEX (see Table 1-3). Analytical results indicate that total lead concentrations ranged from 14 to 40 ppm while TCLP lead was below detection limit. TPH concentrations ranged from ND to 160 ppm. A sample from the bottom of the excavation was not collected. The depth to groundwater was not referenced in the field notes reviewed. To determine if the site is eligible for closure under current ADEM regulations, the depth to water needs to be determined either physically by a boring located adjacent to the tank pit or from a nearby location. If approved by the ADEM, groundwater elevation data may be obtained from topographical features which provide surface indications of the groundwater table.

Recommendation. It is proposed that one soil boring be drilled and soil samples collected to a depth which would be 5 feet deeper than the bottom of a typical 1,000-gallon tank installation depth. Soil samples should be analyzed for BTEX and PAH. If

the depth to water is determined to be greater than 5 feet below the bottom of the former tank, a report will be submitted with new and existing data to ADEM for review. If water is not observed in the boring, the site could be eligible for closure without additional assessment.

3.40 Noble Army Hospital, Building 292, Parcel 40(7)

Background. Building 292 is known as the Nobel Army Hospital. Tables 5.1-2 and 6-1 of the EBS reference the facility as having one 8,000-gallon heating oil tank, which was removed and replaced in 1996. The list of active USTs track this tank(s) under Building 294. A closure report prepared by Theta was reviewed and is included in Appendix A, Attachment 21. The closure report references the removal and replacement of one 8,000-gallon heating oil UST for Building 294. A strong diesel odor was detected during this tank removal. Groundwater was determined to be greater than five feet below the base of the tank. This estimate was determined by extending the depth of the excavation an additional five feet. Upon the tanks removal, a one-foot (in length) hole was noted on the top west end of the tank. The product piping was purged of product, capped, and left in place. Soils exhibiting evidence of contamination were segregated from non-contaminated soils and stockpiled for treatment by thermal volatilization. The excavated soils (approximately 492 yd^3) were sampled and analyzed for TPH. TPH concentrations were detected at 528 ppm. Soil samples collected for TPH analyses during closure assessment activities ranged from 56 ppm to 4,850 ppm. Groundwater sampling was not performed. The closure report contains a site map which references the location, depth, and TPH concentrations of samples collected. In general, the eastern and southern sides of the tank exhibited TPH concentrations greater than 1,000 ppm. Additional assessments have not been reviewed. Based on the closure report, it appears that the vertical and horizontal extent of petroleum contamination has not been defined.

Recommendation. Due to the concentrations documented during the UST closure, additional assessment is recommended. It is proposed that four soil samples should be collected from two borings (two samples from each boring) in areas that exceeded 100 ppm TPH. A maximum of two samples should be collected for analysis within each boring. Soil samples should be analyzed for BTEX, PAH, and lead. The above data would then be compared to the data collected during the closure assessment to determine the extent and concentration of contamination within the subsurface soils. A report will be submitted to ADEM for review in an attempt to achieve closure.

To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead. If the active tank was installed in the excavation constructed for the previous tank, this work does not have to be conducted.

3.41 General Purpose, Building 303, Parcel 41(7)

Background. Building 303 is known as the General Purpose Building. This location houses a 3,000-gallon heating oil UST, which was removed and replaced with a second 3,000-gallon UST in 1996. A closure report, prepared by Theta, was reviewed and is included in Appendix A, Attachment 22. The closure report documented that a mild heating oil, product odor, was detected within the excavation. An examination of the removed tank noted that it was in good condition. The depth to groundwater was estimated to be approximately 6 feet bls. This depth was determined by extending the depth of the excavation. Soil samples were collected and field screened for organic vapors. Contaminated soils were excavated and stockpiled. Stockpiled soils were sampled and analyzed. TPH concentrations of 179 ppm were detected. Groundwater samples were not collected. Soils not exhibiting evidence of contamination were used to backfill the excavation. Approximately 24 yd^3 of contaminated soils were stockpiled to await thermal volatilization. Soils not exhibiting evidence of contamination were transported to the Base Borrow Pit as per the closure report. Attached to this closure report was justification (see Section 3.34) for not obtaining closure samples.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.42 Recycling Center, Building 338, Parcel 42(7)

Background. Building 338 is the known as the Recycling Center. This location housed a 2,500-gallon heating oil UST, which was removed on March 5, 1996. A waste oil tank is also tracked at this building under Parcel Number 6(7). A closure report prepared by Theta Engineering Inc. was reviewed and is included in Appendix A, Attachment 23. Groundwater was determined to be less than 5 feet below the bottom of the tank at approximately 8 feet in depth. A notable product odor was found within the

excavation and was described as mild. Water began to fill the excavation but the excavation was backfilled before significant accumulation occurred. The excavation was backfilled on March 21, 1996. The product piping associated with this tank was also removed. The piping trench was backfilled on March 5, 1996. Soil exhibiting evidence of contamination was excavated and stockpiled. Approximately 3.5 yd^3 of contaminated soils were stockpiled. One sample was collected for analysis of TPH. The analytical results of this sample was 128 ppm from the stockpiled soils. Closure samples were not collected because all contaminated soil was excavated. Soils not exhibiting evidence of contamination were used to backfill the excavation. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.43 Building 796, Parcel 43(7)

Background. Building 796 has been demolished. This location formerly had a 1,000-gallon heating oil UST associated with it. The tank was removed in February 1996. A closure report prepared by Theta was reviewed and is included in Appendix A, Attachment 24. The closure report documented that a mild product odor was detected within the excavation. An examination of the removed tank noted that the tank was in good condition. The depth to groundwater was estimated to be greater than five feet below the base of the excavation. This depth was determined by topographical features. Soil samples were collected and field screened for organic vapors. Contaminated soils were excavated and stockpiled. Stockpiled soils were sampled and analyzed for TPH. Analytical results indicate TPH concentrations of 193 ppm. Groundwater samples were not collected. Soils not exhibiting evidence of contamination were used to backfill the excavation. Approximately 21 yd^3 of contaminated soils were stockpiled to await treatment/disposal. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

Recommendation. Additional work recommended for the 1,000-gallon heating oil tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since it is unknown if the contractor had approval from ADEM to estimate the ground-

water depth with topographical features, and the report did not substantiate the estimate with literature values, it is recommended that one of the soil borings be completed to a depth that would be 5 feet greater than the depth of the former UST. If groundwater is encountered, samples should be collected at a minimum of one upgradient and three downgradient locations just outside the perimeter of the original tank excavation. Both soil and groundwater samples should be analyzed for BTEX and PAH. The above data would be submitted to ADEM for review.

3.44 Building 1201, Parcel 44(7)

Background. Building 1201 has been demolished. This location formerly had a 1,000-gallon heating oil UST associated with it. A closure report, prepared by Theta, was reviewed and is included in Appendix A, Attachment 25. The closure report references the removal of one 1,000-gallon UST in February 1996. A mild diesel odor was detected during this tank removal. Groundwater was determined to be greater than 5 feet below the base of the tank. This depth to water was estimated by extending the depth of the excavation an additional five feet. The tank appeared to be in good condition upon removal. Soils exhibiting evidence of contamination were segregated from non-contaminated soils and stockpiled. The excavated contaminated soils (approximately 26.4 yd^3) were sampled and analyzed for TPH. Analytical results indicate TPH concentrations were detected at 250 ppm. Soil samples collected and analyzed for TPH during closure assessment activities ranged from 20 ppm to 13,000 ppm. Groundwater sampling was not performed. The closure report contains a site map which references the location, depth, and TPH concentrations of samples collected. In general, only the eastern and western walls of the excavation were sampled and analyzed. The samples collected from the west wall contained the highest concentration. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

Recommendation. Based on the closure report, it appears that the vertical and horizontal extent of petroleum contamination has not been defined. Due to the concentrations documented during the UST closure, additional assessment is recommended. It is proposed that 6 soil samples be collected from three borings (two samples from each boring) in areas that exceeded 100 ppm TPH. A maximum of two samples will be collected for analysis from each boring. Soil samples will be analyzed for BTEX, PAH, and lead. The above data will then be compared to the data collected during the closure assessment to determine the extent and concentration of contamination within the

subsurface soils. A report will be submitted to ADEM for review in an attempt to achieve closure.

3.45 Building 1202, Parcel 45(7)

Background. Building 1202 has been demolished. This location formerly had a 1,000-gallon heating oil UST associated with it. The tank was removed in February 1996. A closure report, prepared by Theta Engineering Inc., was reviewed and is included in Appendix A, Attachment 26. The closure report documented that a mild product odor was detected within the excavation. Examination of the removed tank noted that the tank was in good condition. The depth to groundwater was estimated to be greater than five feet below the base of the excavation. This depth was determined by topographical features. Soil samples were collected and field screened for organic vapors. Contaminated soils were excavated and stockpiled. Stockpiled soils were sampled and analyzed. TPH concentrations of 1,056 ppm were detected. Groundwater samples were not collected. Soils not exhibiting evidence of contamination were used to backfill the excavation. Approximately 23.7 yd^3 of contaminated soils were stockpiled to await treatment/disposal. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

Recommendation. Additional work recommended for the 1,000-gallon heating oil tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since it is unknown whether the contractor had approval from ADEM to estimate the groundwater depth with topographical features, and the report did not substantiate the estimate with literature values, it is recommended that one of the soil borings be completed to a depth that would be five feet greater than the depth of the former UST. If groundwater is encountered, samples should be collected at a minimum of one upgradient and three downgradient locations just outside the perimeter of the original tank excavation. Both soil and groundwater samples should be analyzed for BTEX, PAH, and lead. The above data would be submitted to ADEM for review.

3.46 Decontamination Facility, Building 1271, Parcel 46(7)

Background. Building 1271 is known as the Decontamination Facility. This location had two USTs, which have been closed (one was removed, the other closed in place). Both closure reports were prepared by Theta and are included in Appendix A, Attachment 27.

The first UST, a 2,500-gallon tank used for the storage of heating oil, was removed in February 1996. The closure report documented that a mild product odor was detected within the excavation. An examination of the removed tank noted that it was in good condition. Groundwater was observed flowing into the excavation at approximately five feet bls. Soil samples were collected and field screened for organic vapors. Contaminated soils were excavated and stockpiled. Stockpiled soils were sampled and analyzed for TPH. Analytical results indicated TPH concentrations of 2,780 ppm. Groundwater samples were not collected. Soil not exhibiting evidence of contamination was used to backfill the excavation. Approximately 36.6 yd^3 of soil was stockpiled. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

The second UST, a 3,000-gallon tank used for storage of heating oil, was closed in place in March 1996. Depth to groundwater, determined by a soil boring completed in the vicinity of the tank pit, was approximately 5 feet bls. Groundwater samples were not collected. A tank removal closure sampling flow chart, which shows the decision logic for not obtaining closure samples, was presented in the report.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.47 UST Autocraft Shop, Building 1800, Parcel 47(7)

Background. Building 1800 is known as the Autocraft Shop. This facility housed one 2,000-gallon heating oil UST, which was removed and replaced with a 2,500-gallon UST. A closure report prepared by SEMS, Inc. was reviewed and is included in Appendix A, Attachment 7. Product odor was not detected during this tank removal. Groundwater was determined to be greater than 5 feet below the base of the tank. This estimate was determined by extending the depth of the excavation an additional 5 feet. The tank

appeared to be in good condition upon removal. The excavation was not backfilled. Soils were not excavated for disposal. Soil and groundwater sampling was not performed.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.48 Bowling Alley, Building 1928, Parcel 48(7)

Background. Building 1928 is known as the Bowling Alley. One 1,000-gallon heating oil tank was removed and replaced in 1996. A closure report, prepared by Theta was reviewed and is included in Appendix A, Attachment 28. The closure report documented that a product odor was not detected within the excavation. An examination of the removed tank noted that the tank was in good condition. The depth to groundwater was estimated to be greater than 5 feet below the base of the excavation. This depth was determined by extending the excavation an additional 5 feet. Soil samples were not collected. The report notes that evidence of contamination was not observed. Approximately 116 yd^3 of soils, which included soils excavated for the new tank installation, was transported to the FTMC construction landfill as per the closure report. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

Recommendation. Additional work recommended for the 1,000-gallon heating oil tank closure referenced above include collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since groundwater was not encountered, groundwater sampling is not required. Soil samples should be analyzed for BTEX, PAH, and lead. The above data would then be submitted to ADEM for review. For the active tank, compliance records should be reviewed (i.e., tank tightness records, inventory records etc.).

To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead. If the active tank was installed in the excavation constructed to remove the previous tank, this work does not have to be conducted.

3.49 Dental Clinic, Building 1929, Parcel 49(7)

Background. Building 1929 is the Dental Clinic. One 1,500-gallon heating oil UST was removed and replaced with a 1,000-gallon UST in 1996. A closure report, prepared by Theta, was reviewed and is included in Appendix A, Attachment 29. The closure report documented that a product odor was not detected within the excavation. An examination of the removed tank noted that the tank was in good condition. The depth to groundwater was estimated to be greater than five feet below the base of the excavation. This depth was determined by extending the excavation an additional five feet. Soil samples were not collected. The report notes that evidence of contamination was not observed. Approximately 131 yd^3 of soils, which included soils excavated for the new tank installation, was transported to the FTMC construction landfill as per the closure report. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

Recommendation. Additional work recommended for the 1,000-gallon heating oil tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since groundwater was not encountered, groundwater sampling is not required. Soil samples should be analyzed for BTEX, PAH, and lead. The above data would be submitted to ADEM for review. For the active tank, compliance records should be reviewed (i.e., tank tightness records, inventory records etc.). To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead. If the active tank was installed in the excavation constructed to remove the previous tank, this work does not have to be conducted.

3.50 PX, Building 1965, Parcel 50(7)

Background. Building 1965 is known as the PX Building. A closure report, prepared by Theta, was reviewed and is included in Appendix A, Attachment 30. The report references that one 3,000-gallon heating oil UST was closed in place in 1996. One soil boring was advanced to 20 feet bls with continuous split spoon sampling. Each sample

was field screened with a PID. Evidence of contamination was not detected. Groundwater was determined to be greater than 20 feet bls. Soil and groundwater sampling were not conducted.

Recommendation. Additional work recommended for the heating oil tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since the groundwater elevation has been reported to be greater than 5 feet below the depth of the bottom of the tank, groundwater samples are not required. Soil samples should be analyzed for BTEX, PAH, and lead. The above data would then need to be submitted to ADEM for review.

3.51 Post Office, Building 1960, Parcel 51(7)

Background. Building 1966 is known as the Post Office. A closure report, prepared by SEMS Inc., was reviewed and is included in Appendix A, Attachment 7. The closure report references the closure of one 1,000-gallon heating oil UST and replacement with a second 1,000-gallon UST. The tank was closed in place by filling it with cement grout. Soil samples were collected from soil borings and field screened. Groundwater was determined to be greater than 5 feet below the base of the tank. This was determined during excavation of the new tank. Soil samples did not indicate the presence of contamination.

Recommendation. Additional work recommended for the heating oil tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since the groundwater elevation has been reported to be greater than 5 feet below the depth of the bottom of the tank, groundwater samples are not required. Soil samples should be analyzed for BTEX, PAH, and lead. The above data would be submitted to ADEM for review.

For the active tank, compliance records should be reviewed (i.e., tank tightness records, inventory records etc.). To determine current environmental conditions at the active UST

area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead. If the active tank was placed in the excavation constructed to remove the previous tank, this work does not have to be conducted.

3.52 UST Building 1997, 1800/1900 Motor Pool, Parcel 52(7)

Background. Building number 1997 is part of Motor Pool 1800/1900. Three USTs are associated with this building (one currently active and two closed). The first UST to be closed was a 5,000-gallon diesel tank, which was removed in December 1992. A closure report, prepared by Hale Building Company, Inc., was reviewed and is included in Appendix A, Attachment 31. A product odor was not detected within the excavation. The removed tank appeared to be in good condition. The depth to groundwater was estimated to be greater than five feet deeper than the bottom of the tank. Soil samples were collected, field screened for organic vapors, and sent for laboratory analysis. Soil analysis sheets were not included with the closure report. Groundwater samples were not collected. Evidence of contamination was not observed. Excavated soils were returned to the excavation. Attached to the closure report is a letter from the ADEM (dated August 25, 1993), which states that no further action is required for this site at this time.

The second UST was closed and replaced in October 1996. This tank had a capacity of 2,500-gallons and stored heating oil. A closure report, prepared by SEMS Inc., was reviewed and is included in Appendix A, Attachment 7. A product odor was not detected within the excavation. The removed tank appeared to be in good condition. The depth to groundwater was estimated to be greater than five feet deeper than the bottom of the tank. The report is not complete and analytical results are not attached. Groundwater samples were not collected. Evidence of contamination was not observed. Excavated soils were returned to the excavation.

Recommendation. To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring with soil sampling and analyses be completed at the active tank. A maximum of two soil samples should be collected from each boring and analyzed for BTEX, PAH, and lead.

3.53 Barracks, Building 3131, Parcel 54(7)

Background. Building 3131 is known as the Barracks. One 20,000-gallon heating oil tank was removed in 1996. A closure report, prepared by Theta, was reviewed and is included in Appendix A, Attachment 32. The closure report documented that product odor was not detected within the excavation. An examination of the removed tank noted that the tank was in good condition. The depth to groundwater was estimated to be 11.5 feet bls (depth groundwater entered the excavation). Neither soil nor groundwater samples were collected. The report notes that evidence of contamination was not observed. Approximately 32 yd^3 of water saturated soils were transported to the FTMC Borrow Pit. The remaining soils were returned to the excavation. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

Recommendation. Additional work recommended for the 20,000-gallon heating oil tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since the groundwater elevation has been reported to be at approximately 11.5 feet bls, groundwater samples should be collected at a minimum of one upgradient and three downgradient locations just outside the perimeter of the original tank excavation. Both soil and groundwater samples should be analyzed for BTEX, PAH, and lead. The above data would be submitted to ADEM for review.

3.54 Headquarters, Building 3161, Parcel 55(7)

Background. Building 3161 is known as Headquarters. One 1,000-gallon heating oil tank was removed in 1996. A closure report, prepared by Theta, was reviewed and is included in Appendix A, Attachment 33. The closure report documented that product odor was not detected within the excavation. An examination of the removed tank noted that the tank was in good condition. The depth to groundwater was reported to be unknown. Neither soil nor groundwater samples were collected. The report notes that evidence of contamination was not observed. Approximately 12.2 yd^3 of soils were excavated and returned to the excavation. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

Recommendation. Additional work recommended for the 1,000-gallon heating oil tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since the groundwater elevation has been reported to be unknown, one boring should be installed to a depth approximately 5 feet below the bottom of tank excavation. If groundwater is encountered, samples should be collected at a minimum of one upgradient and three downgradient locations just outside the perimeter of the original tank excavation. Both soil and groundwater samples should be analyzed for BTEX, PAH, and lead. The above data would then be submitted to ADEM for review.

3.55 Community Club, Building 3212, Parcel 56(7)

Background. Building 3212 is known as the NCO Club. One 2,500-gallon heating oil tank was closed in place and replaced in 1996. A closure report, prepared by SEMS, Inc. was reviewed and is included in Appendix A, Attachment 7. The depth to groundwater was determined to be greater than five feet below the bottom of the tank during the installation of the new tank. Neither soil nor groundwater samples were collected.

Recommendation. Very little information is provided in the closure report. Additional work recommended for the 2,500-gallon heating oil tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Groundwater sampling is not proposed since water was not encountered during the installation of the current tank. Soil samples should be analyzed for BTEX, PAH, and lead. The above data would then be submitted to ADEM for review.

For the active tank, compliance records should be reviewed (i.e., tank tightness records, inventory records etc.). To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead. If the active tank was placed inside the excavation constructed to remove the previous tank, this work does not have to be conducted.

3.56 Recreation Center, Building 3213, Parcel 57(7)

Background. Building 3213 is known as the Recreation Center. One 4,000-gallon heating oil UST was removed in 1996. A closure report, prepared by SEMS, Inc., was reviewed and is included in Appendix A, Attachment 7. The closure report documented that product odor was not detected within the excavation. An examination of the removed tank noted that the tank was in good condition. The depth to groundwater was reported to be greater than 5 feet below the bottom of the tank. This was determined by extending the excavation an additional 5 feet. Neither soil nor groundwater samples were collected. The report notes that evidence of contamination was not observed. Approximately 60 yd^3 soil was excavated and returned to the excavation.

Recommendation. Additional work recommended for the 4,000-gallon heating oil tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Groundwater sampling is not required. Soil samples should be analyzed for BTEX, PAH, and lead. The above data would then be submitted to ADEM for review.

3.57 Chapel, Building 3293, Parcel 58(7)

Background. Building 3293 is known as the Chapel. One 4,000-gallon heating oil tank was removed in 1996. A closure report prepared by Theta was reviewed and is included in Appendix A, Attachment 34. The closure report documented that product odor was not detected within the excavation. An examination of the removed tank noted that the tank was in good condition. The depth to groundwater was reported to be unknown. Neither soil nor groundwater samples were collected. The report notes that evidence of contamination was not observed. Approximately 182.5 yd^3 of soils were excavated. Forty-eight yd^3 were unsuitable for compaction and were transported to the base borrow pit for disposal. The remaining soils were used to backfill the tank pit. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

Recommendation. Additional work recommended for the 4,000-gallon heating oil tank closure referenced above includes collecting at least one soil sample from each side

and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since the groundwater elevation has been reported to be unknown, one boring should be installed to a depth approximately 5 feet below the bottom of tank excavation. If groundwater is encountered, samples should be collected at a minimum of one upgradient and three downgradient locations just outside the perimeter of the original tank excavation. Both soil and groundwater samples should be analyzed for BTEX, PAH, and lead. The above data would then be submitted to ADEM for review.

3.58 Chemical Defense Training Facility (CDTF), Building 4482, Parcel 59(7)

Background. Building 4482 is known as the CDTF building. One 5,000-gallon heating oil tank is reported to be associated with this location. The EBS reports that the tank is constructed of steel and does not reference an installation date. Neither a closure report nor additional environmental data were obtained for this site. The status of the tank is unknown. The building is not listed as an active UST site.

Recommendation. Further information is necessary to determine the existence of the reported tank at this site. If the site has been closed and a closure report is not available, then a closure assessment will need to be performed. Additional work required for the 5,000-gallon heating oil tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since the groundwater elevation has been reported to be unknown, one boring should be installed to a depth approximately five feet below the bottom of tank excavation. If groundwater is encountered, samples should be collected at a minimum of one upgradient and three downgradient locations just outside the perimeter of the original tank excavation. Both soil and groundwater samples should be analyzed for BTEX, PAH, and lead. The above data would then be submitted to ADEM for review.

3.59 Building 162, Parcel 63(7)

Background. Building 162 is known as the Personnel building. One 2,500-gallon heating oil tank was removed in 1996. A closure report, prepared by Theta, was reviewed

and is included in Appendix A, Attachment 35. The closure report documented that product odor was not detected within the excavation. An examination of the removed tank noted that the tank was in good condition. The depth to groundwater was reported to be greater than 5 feet below the bottom of the tank. Neither soil nor groundwater samples were collected. The report notes that evidence of contamination was not observed. The excavated soil was used to backfill the tank pit. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

Recommendation. Additional work recommended for the 2,500-gallon heating oil tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since the groundwater elevation has been reported to be greater than 5 feet below the bottom of the tank, groundwater samples are not required. Soil samples should be analyzed for BTEX, PAH, and lead. The above data would then be submitted to ADEM for review.

3.60 Unit Training Equipment Site (UTES), Pelham Range, Building 8406, Parcel 65(7)

Background. Building UTES #1 is located at the Pelham Range. This site is also associated with Parcel No. 8(7). One 1,000-gallon waste oil UST is associated with this location. The EBS reports that the tank was replaced with no reference to date. A closure report was not available for review. The EBS also references that the UST was removed and stored onsite for several years before finally being disposed. Oil stains associated with the old UST were observed. In addition, it was reported that the old pad was replaced with new construction and that soil samples were collected. Environmental assessment data and analytical results were not available for review.

Recommendation. Additional work recommended for the 1,000-gallon waste oil tank referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Since the groundwater elevation is unknown, one boring should be installed to a depth approximately 5 feet below the bottom of tank excavation. If groundwater is encountered, samples should be collected at a minimum of one upgradient and three downgradient

locations just outside the perimeter of the original tank excavation. Both soil and groundwater samples should be analyzed for BTEX, PAH, and lead. The above data would then be submitted to ADEM for review.

3.61 Boiler Plant No. 4, Building 1876, Parcel 101(7)

Background. Building 1876 is known as the Boiler Plant No. 4. Three active USTs are currently located at this location. Two 50,000-gallon steel USTs containing diesel were installed in 1975 and were lined in 1991. The third tank is a 500-gallon UST used to store No. 2 fuel oil (diesel) to fuel a backup generator. This 500-gallon tank was removed and replaced in 1996. A closure report, prepared by SEMS, Inc., was reviewed and is included in Appendix A, Attachment 7. The depth to groundwater was determined to be greater than 5 feet below the bottom of the tank during the tank excavation. Neither soil nor groundwater samples were collected.

Recommendation. Very little information is provided in the closure report. Additional work required for the 500-gallon diesel tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Groundwater sampling is not proposed since water was not encountered during the installation of the current tank. Soil samples should be analyzed for BTEX, PAH, and lead. The above data would then be submitted to ADEM for review. Two additional soil borings are proposed for the two 50,000-gallon tanks. The purpose of these borings is to determine if petroleum hydrocarbons are present within the subsurface prior to property transfer.

For the active tanks, compliance records should be reviewed (i.e., tank tightness records, inventory records, etc.). To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring with soil sampling and analyses be completed at each active tank. A maximum of two soil samples should be collected from each boring and analyzed for BTEX, PAH, and lead.

3.62 UST Former Gas Station, Building 1594 Motor Pool Area 1500, Parcel 132(7)

Background. A former gas station was located at Building 1594, which is located at Motor Pool Area 1500 at the former Chemical Laundry. Records indicate that the standard post gas station was built in 1941. The original plans called for two 10,000-gallon tanks, one containing gasoline and the other diesel. The foundations of the building and the former pump island are still visible. A closure report has not been reviewed. The status of the USTs is unknown.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.63 UST Former Gas Station, Building 1494, Motor Pool Area 1400, Parcel 133(7)

Background. A former gas station was located at Building 1494, which is located at Motor Pool Area 1500 at the former Chemical Laundry. Records indicate that the standard post gas station was built in 1941. The original plans called for two 10,000-gallon tanks, one containing gasoline and the other diesel. The foundations of the building and the former pump island are still present. A closure report has not been reviewed. The status of the USTs is unknown.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.64 UST Former Gas Station, Building 1594A, Motor Pool Area 1500, Parcel 134(7)

Background. A former gas station was located at Building 1594A, which is located at Area 15 at the former Chemical Laundry. Records indicate that the standard post gas station was built in 1941. The original plans called for two 10,000-gallon tanks, one containing gasoline and the other diesel. The foundations of the building and the former pump island are still present. A closure report has not been reviewed. The status of the USTs is unknown.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.65 Former Gas Station Building 594, Motor Pool Area 500, Parcel 135(7)

Background. A former gas station was located at Building 594. Records indicate that the standard post gas station was built in 1941. Reportedly, the station contained a single 10,000-gallon UST to store gasoline. The foundations of the building and the former pump island are still present. Areas within the building foundation are constructed below grade and their purpose is unknown (hydraulic lift area?). A closure report has not been reviewed. The status of the USTs is unknown.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.66 UST Former Gas Station Building 694, Motor Pool Area 600, Parcel 136(7)

Background. A former gas station was located at Building 694, which is located at Motor Pool Area 600. Records indicate that the standard post gas station was built in 1941. Reportedly, the station contained a single 10,000-gallon tank to store diesel fuels. The foundation of the building is not present; however, an area which appears to have been the pump island is visible. A closure report has not been reviewed. The status of the UST is unknown.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.67 Former Gas Station Building 2094, Motor Pool Area 2000, Parcel 137(7)

Background. A former gas station was located at Building 2094, at former Motor Pool Area 2000, now the go-cart track. Records indicate that the standard post gas station was built in 1941. Reportedly, the station contained two 10,000-gallon USTs to store gasoline and diesel fuels. The foundation of the building is not present. A closure report has not been reviewed. The status of the USTs are unknown.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.68 Former Gas Station Building 1094, Former Motor Pool Area 1000, Parcel 139(7)

Background. A former gas station was located at Building 1094, at former Motor Pool Area 1000. The area has been re-constructed and now is the Truman Gym (Building 1012). Records indicate that the standard post gas station was built in 1941. Reportedly, the station contained two 10,000-gallon USTs to store gasoline and diesel fuels. The foundation of the building is not present. A closure report has not been reviewed. The status of the USTs is unknown.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.69 Former Gas Station Building 1294, Former Motor Pool Area 1200, Parcel 140(7)

Background. A former gas station was located at Building 1294, at former Motor Pool Area 1200. Records indicate that the standard post gas station was built in 1941. Reportedly, the station contained two 10,000-gallon USTs to store gasoline and diesel fuels. The foundation of the building is not present. The status of the USTs are unknown. The area could not be viewed during the time of the site visit. A closure report was not reviewed.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

3.70 WAC Museum, Building 1077, Parcel 167(7)

Background. Building 1077 is known as the WAC Museum. This facility houses two USTs, one of which is tracked under Parcel Number 15(7). A 1,000-gallon heating oil tank, removed in 1996, is covered under this parcel. A closure report, prepared by Theta Engineering Inc., was reviewed and is included in Appendix A, Attachment 36. The closure report describes the removal of one 1,000-gallon heating oil tank and its

associated piping in August 1996. The EBS documents that the tank was leaking. During this closure, notable product odor was not found within the excavation. Depth to groundwater was determined by excavating an additional five feet below the base of the pit. Excavated soils were returned to the excavation. Environmental samples were not collected for analysis. The report contains an attachment which describes the rationale for not collecting closure samples and notes that the closure assessment protocol employed was reviewed by ADEM. Attached to this closure report was justification for not obtaining closure samples (see Section 3.34).

Recommendation. Additional work recommended for the 1,000-gallon heating oil tank closure referenced above includes collecting at least one soil sample from each side and in close proximity of the original tank excavation. Within each boring, samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter and approximately 5 feet below the base of the tank. Since the groundwater elevation has been reported to be at approximately 6 to 10 feet in depth, groundwater samples must be collected at a minimum of one upgradient and three downgradient locations just outside the perimeter of the original tank excavation. Both soil and groundwater samples should be analyzed for BTEX, PAH, and lead. If still present, the monitoring wells installed during closure activities could be used for the groundwater sampling. The above data would need to be submitted to ADEM for review.

3.71 Building 3138 Motor Pool Area 3100, Parcel 212(7)

Background. Building 3138 is part of Motor Pool Area 3100. One 5,000-gallon heating oil UST was removed and replaced with a 3,000-gallon UST in 1996. A closure report, prepared by SEMS Inc., was reviewed and is included in Appendix A, Attachment 7. The closure report documented that product odor was not detected within the excavation. An examination of the removed tank noted that the tank was in good condition. The depth to groundwater was reported to be greater than five feet below the bottom of the tank. This was determined by extending the excavation an additional five feet. Neither soil nor groundwater samples were collected. The report notes that evidence of contamination was not observed.

Recommendation. Additional work recommended for the 5,000-gallon heating oil tank closure referenced above includes collecting at least one soil sample from each side

and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter. Groundwater sampling is not required. Soil samples should be analyzed for BTEX, PAH, and lead. The above data would then be submitted to ADEM for review.

For the active tank, compliance records should be reviewed (i.e., tank tightness records, inventory records etc.). To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead. If the active tank was installed in the excavation constructed to remove the previous tank, this work does not have to be conducted.

3.72 UST Former Gas Station Building 3794, Parcel 238(7)

Background. A former gas station was located at building 3794. Evidence of building foundation does not remain. Records indicate that the standard post gas station was built in 1941. Reportedly, the station contained two 10,000-gallon USTs to store gasoline and diesel fuels. A closure report was not reviewed. The status of the USTs are unknown.

This parcel is being addressed as a site investigation associated with Base Realignment and Closure Activities at FTMC.

4.0 Site Description for Additional Sites Where Parcel Numbers Have Been Added

During this UST review process several tanks were identified that did not have a parcel number assigned to them. The following is a summary of closure and or environmental data reviewed. The sites are described by building numbers and new assigned parcel numbers.

Building 1338, Parcel 502(7)

Background. This facility contains one 150-gallon UST for the storage of gasoline. This UST was not assigned a CERFA parcel label because of the small quantity of fuel stored. Reportedly, the tank fuels a generator associated with a sewage lift station. This tank was removed and replaced with a 500-gallon UST in 1996. A closure report, prepared by SEMS, Inc., was reviewed and is included in Appendix A, Attachment 7. Product odor was not detected during the tank closure activities. The depth to water was determined to be greater than five feet below the bottom of the tank during the installation of the newer tank. Sampling and analysis were not performed.

Recommendation. Due to the size of the UST, the small quantity of fuel stored here and the results of the closure report, additional assessment is not proposed at this time. To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead.

Building 1689, Parcel 503(7)

Background. A suspected UST was associated with Building 1689. In December of 1990, IT completed six soil borings and collected soil samples for total lead and TPH. Analytical results indicate that total lead concentrations ranged from 0.82 to 140 ppm. TPH concentrations ranged from ND to 580,000 ppm. The depth to groundwater was not referenced in the field notes reviewed. Benzene concentrations of 140 ppb was detected at a depth of 8 to 10 feet in soil boring number six. In January of 1991, the suspected UST area was excavated; however, tanks were not found. Additional sampling was not performed and the excavated area was backfilled.

Recommendation. Since soil analytical results indicate that this location has been impacted by petroleum contaminants, it is proposed that a soil boring and field screening program be implemented to assess the potential horizontal and vertical extent of soil contamination in the suspected UST area. It may be possible that this tank was removed prior to 1990 and the analytical results have detected residual contamination from the UST. It is proposed that eight soil borings be continuously sampled and field screened to a depth of approximately 20 bls. A maximum of two samples will be collected for analysis. Soil samples should be analyzed for BTEX, PAH, and lead. A report will be submitted with new and existing data to ADEM for review.

Building 1693, Parcel 504(7)

Background. A UST of unknown capacity is associated with Building 1693. The tank was removed in February 1991. Prior to the tank removal, IT completed six soil borings and collected soil samples for total lead and TPH analyses in December 1990. Analytical results indicate that total lead concentrations ranged from 10 to 120 ppm. TPH concentrations ranged from not detectable to 2,000 ppm. Upon the removal of the UST, the four sides and bottom of the excavation were sampled and analyzed. TPH concentrations ranged from not detectable to 710 ppm. Soils which exhibited signs of contamination were excavated and transported to an area on-site for incineration.

Recommendation. The depth to groundwater was not referenced in the UST file reviewed. If the depth to groundwater is deeper than five feet below the bottom of the tank, this site may qualify for no further action. It is proposed that one soil boring be performed with continuous soil sampling to a depth of 15 feet. Soil samples should be analyzed for BTEX, PAH, and lead. If the depth of water is determined to be greater than 5 feet below the bottom of the former tank, a report could be submitted with new and existing data to ADEM for review. If water is not detected in the boring, the site could be eligible for closure now.

Building 3179, Parcel 505(7)

Background. In April of 1991, IT removed a UST with a capacity of approximately 1,400 gallons. Approximately 750 gallons of gasoline and water was removed from the

tank prior to removal. Other additional information or analytical data was not available for review.

Recommendation. Additional work recommended for the 1,400-gallon heating oil tank closure referenced above include at least one soil sample from each side and in close proximity of the original tank excavation. Samples should be collected at a depth approximately even with the depth of the lowest one-third of the tank diameter, and 5 feet below the bottom of the tank. If groundwater is encountered, four groundwater samples should be collected. Soil and groundwater samples should be analyzed for BTEX, PAH, and lead. The above data would then be submitted to ADEM for review.

Building 3691, Parcel 506(7)

Background. This facility contains one 150-gallon UST used for the storage of gasoline. This UST was not assigned CERFA parcel label because of the small quantity of fuel stored. Reportedly, the tank fuels a generator associated with a sewage lift station. This tank was closed in place and replaced with a 150-gallon UST in 1996. A closure report prepared by SEMS, Inc., was reviewed and is included in Appendix A, Attachment 7. During the tank closure, product odor was not detected. The depth to water was determined to be greater than five feet below the bottom of the tank during the installation of the newer tank. Neither soil nor groundwater sampling was completed.

Recommendation. Due to the size of the UST, the small quantity of fuel stored here and the results of the closure report, additional assessment is not proposed at this time. To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead.

Building 5700, Parcel 507(7)

Background. This facility contains one 150-gallon UST for the storage of gasoline. This UST was not assigned a CERFA parcel label because of the small quantity of fuel stored. Reportedly, the tank fuels a generator associated with a sewage lift station. This tank was removed and replaced with a 500-gallon UST in 1996. A closure report

prepared by SEMS, Inc., was reviewed and is included in Appendix A, Attachment 7. Product odor was not detected during the tank closure activities. The depth to water was determined to be greater than 5 feet below the bottom of the tank during the installation of the newer tank. Neither soil nor groundwater sampling was completed.

Recommendation. Due to the size of the UST, the small quantity of fuel stored here and the results of the closure report, additional assessment is not proposed at this time. To determine current environmental conditions at the active UST area prior to property transfer, it is recommended that one soil boring be completed with soil sampling and analyses. A maximum of two soil samples should be collected and analyzed for BTEX, PAH, and lead.

OMS No. 10, Parcel 508(7)

Background. A closure report was reviewed for a building referenced as OMS No. 10, Maintenance Shop, Alabama Army National Guard and is included in Appendix A, Attachment 37. The report documents the removal of one 6,000-gallon diesel tank and one 4,000-gallon gasoline tank in 1994. Groundwater was determined to be greater than five feet below the bottom of the tanks. A product odor was not noted. Sixty yd^3 of soils were removed during the excavation of the tanks. A portion of the excavated soils were stockpiled on plastic sheeting. Soils which were determined to be less than 100 ppm (TPH) were returned to the excavation.

Recommendation. Additional work recommended for both tanks, referenced above include two soil borings topographically downgradient of the tankhold. The borings will be installed to confirm or deny the current existence of petroleum hydrocarbons within the subsurface. Soils will be sampled and analyzed for BTEX, PAH, and lead.

5.0 ADEM File Review and Database Search

An ADEM UST File review was scheduled and conducted on May 8, 1998. The file review was conducted to provide additional site-specific information and to verify NFA referenced in the EBS. A list of known UST sites at Fort McClellan was provided to the ADEM UST Division with Facility Identification Numbers. The file review provided information for only 11 UST locations, 5 of which supported ADEM's NFA letters. The ADEM correspondence letters are presented in Appendix E. No further action was documented for the following sites: Building 238 (Parcel 2[7]); Building 503 (Parcel 9[7]); Building 1997 (Parcel 52[7]); Building 2109 (Parcel 21[7]) and Building 3138 (Parcel 24[7]). ADEM UST files for Fort McClellan either did not contain any other information or contained UST Inspection Checklist and/or compliance certification information.

Environmental Data Resources, Inc. (EDR) was contacted on May 6, 1998 to conduct a search of federal environmental information databases. This search was conducted in an attempt to provide additional information about the USTs at Fort McClellan. The UST database contains registered UST's. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act. The data comes from the Department of Environmental Management's UST Data with Owner/Site/Tank Information database.

A study area was determined, which included Fort McClellan, and a search of numerous environmental records within the study area was conducted. A total of 24 USTs were identified at Fort McClellan from the UST database. All confirmed USTs at Fort McClellan appeared on what is referenced as an orphan summary due to poor or inadequate address. One site, Building 504, was listed on the leaking underground storage tank database. A UST was listed for Building 2278, which has not been identified during this file review. This information is included and explained in detail in Appendix E in the executive summary of the EDR report.

6.0 Additional UST Assessments

UST closure assessments are generally geared towards detecting a release or determining if soil and/or groundwater have been impacted by a release from an UST system. As discussed in Chapter 2.0 of this report, the ADEM provides options for analytical parameters and methods depending on the specific product type stored. Table 6-1 was generated to list the additional work to be completed at each UST site. It is proposed that if soil and/or groundwater samples are collected that they be used analyzed for parameters that could be used for risk management decisions, if needed.

Fifty-one UST areas have been identified which require additional assessments to expedite closure. A site visit will be conducted to assess the physical conditions of the various sites. Information gathered during this site visit will be used in the preparation of a work plan covering all the sites. Photographs will be taken of relevant site conditions and will be included in the work plan if deemed appropriate.

IT will prepare one work plan for all the UST areas requiring additional assessments and property transfer related sampling. The work plan will consist of FTMC site specific sampling and analysis plans (SAP) and site-specific safety and health plans (SHP) prepared as site-specific addendum to the installation-wide project work plans.

IT will perform activities including procurement, mobilization/demobilization, geo-physical surveys, subsurface soil sampling, groundwater sampling, and investigation-derived waste disposal in association with UST assessments. Groundwater and soil samples, as outlined in Table 6-1, will be collected from the 51 UST areas requiring additional work. Thesamples will determine whether chemicals exist in concentrations high enough to require further action by FTMC and ADEM, as well as provide data useful in any planned corrective measures.

Soil borings may be installed to sample the subsurface soils for lithologic descriptions and chemical analysis. Soil sample collection methods will depend on the depth to which the boring will be advanced, and the purpose for which the sample is to be collected. A geologist will supervise the drilling of each borehole, and will maintain a record of the drilling and soil conditions encountered. The geologist will maintain detailed subsurface logs by examining and recording soil samples, and detailing first-encountered ground-

Table 6-1

UST (Proposed) Assessment Scope
Fort McClellan
Calhoun County, Alabama

Site Description	Parcel No.	Tank Contents	# of Soil Borings	Total feet	# of soil Samples	BTEX soil	PAH soil	Lead soil	# GW samples	BTEX water	PAH water	Lead water
UST Buildings 202/215 (DEH)	1	Waste Oil	0	0	0	0	0	0	0	0	0	0
UST GSA Motor Pool, Building 238	2	Waste Oil	1	15	2	2	2	2	0	0	0	0
Telephone Exchange, Building 251	3	Diesel	0	0	0	0	0	0	4	4	4	4
POL Point, GSA Area Building 265	4	Diesel, Gasoline	0	0	0	0	0	0	0	0	0	0
Building 326, (former OMRA)	5	Diesel, Gasoline	0	0	0	0	0	0	0	0	0	0
Recycling Center Building 338, (former OMRA)	6	Waste Oil	0	0	0	0	0	0	0	0	0	0
Consolidated Maintenance, Building 350	7	Waste Oil/Diesel	2	30	4	4	4	4	0	0	0	0
UTES#1, Pelham Range, Building 8427	8	Waste Oil/Diesel	0	0	0	0	0	0	0	0	0	0
Recreation Building, Building 503	9	Heating Oil	1	15	2	2	2	2	0	0	0	0
Waste Chemical Storage Area (former motor pool area), Building 598	10	Diesel, Waste Oil	0	0	0	0	0	0	0	0	0	0
UST Building 888, Motor Pool	11	Waste Oil	0	0	0	0	0	0	0	0	0	0
UST Building 894, Motor Pool	12	Diesel, Gasoline	0	0	0	0	0	0	0	0	0	0
UST Gym & Pool, Building 1012	13	Heating Oil	0	0	0	0	0	0	0	0	0	0
Boiler Plant #3, Building 1076	14	Diesel	6	90	12	12	12	12	4	4	4	4
WAC Museum, Building 1077	15	Heating Oil	0	0	0	0	0	0	0	0	0	0
Former Gasoline Station, Building 1394 Motor Pool Area 13	16	Diesel, Gasoline	0	0	0	0	0	0	0	0	0	0
UST Building 1696 Motor Pool	17	Waste Oil	5	60	10	10	10	10	0	0	0	0
UST Building 1697 Motor Pool	18	Waste Oil	1	3	1	1	1	1	0	0	0	0
Former Gasoline Station Building 1694 Motor Pool	19	Diesel, Gasoline	4	65	4	4	4	4	4	4	4	4
UST Autocraft Shop, Building 1800 (associated w/Parcel 100)	20	Waste Oil	0	0	0	0	0	0	0	0	0	0
Base Service Station, Building 2109	21	Diesel, Gasoline	4	60	8	8	8	8	0	0	0	0
Base Service Station, Building 2109	22	Waste Oil	1	15	2	2	2	2	0	0	0	0
Boiler Plant #2, Building 2278	23	Heating Oil	4	90	8	8	8	8	4	4	4	4
Building 3138 Motor Pool Area 3100	24	Waste Oil	0	0	0	0	0	0	0	0	0	0
Building 3138 Motor Pool Area 3100	25	Diesel	1	15	2	2	2	2	0	0	0	0
Boiler Plant #1, Building 3176	26	Diesel	3	45	6	6	6	6	6	6	6	6
UST Building 3196/3148 Motor Pool	27	Diesel	1	15	2	2	2	2	0	0	0	0
UST Building 3196/3148 Motor Pool	28	Waste Oil	0	0	0	0	0	0	0	0	0	0
UST Building 3294/3299 Motor Pool Area 3200	29	Diesel	0	0	0	0	0	0	0	0	0	0
UST Building 3298 Motor Pool	30	Waste Oil	0	0	0	0	0	0	0	0	0	0
Ammunition Supply Point at Building 4407	31	Heating Oil	0	0	0	0	0	0	4	4	4	4
Former Tar Plant/Temporary Transformer Storage Building 4437	32	Heating Oil	1	12	2	2	2	2	4	4	4	4
Building S-55. Building Removed	33	Heating Oil	1	15	2	2	2	2	4	4	4	4
Fitness Center, Building 128	34	Heating Oil	5	70	10	10	10	10	4	4	4	4
Field House, Building 130	35	Heating Oil	5	70	10	10	10	10	4	4	4	4
Administration, Building 141	36	Heating Oil	5	70	10	10	10	10	0	0	0	0
Administration, Building 143	37	Heating Oil	5	70	10	10	10	10	0	0	0	0
Bivouac Area B-44	38	Heating Oil	4	40	8	8	8	8	0	0	0	0
Clothing, Building 273. Building Removed.	39	Heating Oil	1	12	2	2	2	2	4	4	4	4
Noble Army Hospital, Building 292	40	Heating Oil	5	70	10	10	10	10	0	0	0	0
General Purpose, Building 303	41	Heating Oil	0	0	0	0	0	0	0	0	0	0
Recycling Center, Building 338. Old Maintenance Area.	42	Heating Oil	0	0	0	0	0	0	0	0	0	0
Building 796. Building Removed.	43	Heating Oil	4	48	8	8	8	8	4	4	4	4
Building 1201. Building Removed.	44	Heating Oil	3	48	6	6	6	6	0	0	0	0

Table 6-1

UST (Proposed) Assessment Scope
Fort McClellan
Calhoun County, Alabama

Site Description	Parcel No.	Tank Contents	# of Soil Borings	Total feet	# of soil Samples	BTEX soil	PAH soil	Lead soil	# GW samples	BTEX water	PAH water	Lead water
Building 1202. Building Removed.	45	Heating Oil	4	52	8	8	8	8	4	4	4	4
Decon Facility, Building 1271	46	Heating Oil	0	0	0	0	0	0	0	0	0	0
UST Autocraft Shop, Building 1800	47	Heating Oil	0	0	0	0	0	0	0	0	0	0
Bowling Alley, Building 1928	48	Heating Oil	5	60	10	10	10	10	0	0	0	0
Dental Clinic, Building 1929	49	Heating Oil	5	50	10	10	10	10	0	0	0	0
PX, Building 1965	50	Heating Oil	4	48	8	8	8	8	0	0	0	0
Post Office, Building 1966	51	Heating Oil	4	48	8	8	8	8	0	0	0	0
UST Building 1997, 1800/1900 Motor Pool	52	Heating Oil	4	48	8	8	8	8	0	0	0	0
Barracks, Building 3131	54	Heating Oil	4	60	8	8	8	8	0	0	0	0
Headquarters, Building 3161	55	Heating Oil	4	48	8	8	8	8	4	4	4	4
Community Club, Building 3212	56	Heating Oil	5	60	10	10	10	10	4	4	4	4
Recreation Center, Building 3213	57	Heating Oil	4	48	8	8	8	8	0	0	0	0
Chapel, Building 3293	58	Heating Oil	4	48	8	8	8	8	0	0	0	0
CDTF, Building 4482	59	Heating Oil	4	48	8	8	8	8	4	4	4	4
Building 162	63	Heating Oil	4	60	8	8	8	8	4	4	4	4
UTES#1, Pellham Range, Building 8427	65	Waste Oil	4	48	8	8	8	8	0	0	0	0
Boiler Plant #4, Building 1876	101	Diesel	5	60	10	10	10	10	4	4	4	4
UST Former Gasoline Station, Building 1594, Motor Pool Area 1500. Building Removed.	132	Diesel/Gasoline	0	0	0	0	0	0	0	0	0	0
UST Former Gasoline Station Area 14, Building 1494. Building Removed.	133	Diesel/Gasoline	0	0	0	0	0	0	0	0	0	0
UST Former Gasoline Station, Building 1594A, Area 1500. Building Removed.	134	Diesel/Gasoline	0	0	0	0	0	0	0	0	0	0
Former Gasoline Station, Building 594, Motor Pool Area 500. Building Removed.	135	Gasoline	0	0	0	0	0	0	0	0	0	0
Former Gasoline Station, Building 694, Motor Pool Area 600. Building Removed.	136	Diesel	0	0	0	0	0	0	0	0	0	0
UST Former Gasoline Station, Building 2094,	137	Diesel/Gasoline	0	0	0	0	0	0	0	0	0	0
Former Gasoline Station, Building 1094, Former	139	Diesel/Gasoline	0	0	0	0	0	0	0	0	0	0
Former Gasoline Station, Building 1294, Former Motor Pool Area 1200. Building Removed.	140	Diesel/Gasoline	0	0	0	0	0	0	0	0	0	0
WAC Museum, Building 1077	167	Heating Oil	5	60	10	10	10	10	0	0	0	0
Building 3138 Motor Pool, Area 3100	212	Heating Oil	5	60	10	10	10	10	4	4	4	4
UST Former Gasoline Station, Building 3794. Building Removed.	238	Heating Oil/Gasoline	0	0	0	0	0	0	0	0	0	0
Building 1338	502	Gasoline	1	15	2	2	2	2	0	0	0	0
Building 1689	503	Unknown	8	96	16	16	16	16	4	4	4	4
Building 1693	504	Unknown	1	15	2	2	2	2	1	1	1	1
Building 3179	505	Gasoline	4	48	8	8	8	8	4	4	4	4
Pump Station, Building 3691	506	Gasoline	1	15	2	2	2	2	0	0	0	0
Pump Station, Building 5700	507	Gasoline	1	15	2	2	2	2	0	0	0	0
Maintenance Shop OMS No. 10	508	Diesel/Gasoline	2	40	4	4	4	4	0	0	0	0
	Totals		165	2193	325	325	325	325	87	87	87	87

water. Daily field notes will be kept that will include sufficient information to reconstruct the progress of drilling operations, problems encountered and sampling procedures.

The proposed soil borings will be advanced to the specified depth by using a variety of methods. In general, for the purpose of additional UST assessments, shallow or pipeline trench samples will be collected utilizing a stainless-steel hand (bucket) auger. The remaining proposed soil borings would be performed by direct-push sampling techniques. A proposed total of 329 subsurface soils and 87 groundwater samples will be collected at 51 UST areas. Some of these samples are proposed for property transfer reasons. However, a site walk is necessary to determine if replacement tanks were placed in the same tank excavation as the removed tanks. If the replacement tank was placed in the same excavation, additional sampling beyond what is scoped in Table 6-1 may not be necessary.

Direct-push sampling techniques will be used to collect the majority of the subsurface soil and groundwater samples. A hydraulic drive unit will be positioned at the selected boring location. A hydraulically powered percussion hammer will drive a core barrel to the required depth. When the probe has reached the required depth, the point will be retracted and sampler driven forward and filled. The core barrel is a stainless-steel tube with an inner Teflon or acetate sleeve. The rod and sampler will be retrieved and the sleeve containing the soil sample will be removed from the core barrel, split open, and the sample removed. Soil collected from the sampling device will be collected as soon as possible after the sampler is opened. Sampling equipment that will come in contact with the samples will be decontaminated prior to use and between each sample collected.

Soil samples will be field screened for the presence of organic vapors using a PID and the soil will be visually classified. Soil samples will be submitted for laboratory analysis based on the predefined depth ranges as outlined by ADEM UST Closure Assessment Guidelines.

Groundwater samples will be collected from several sites. Temporary wells will be advanced into the water table to collect a water sample. Direct-push groundwater sampling will use the same technology as soil sampling, but equipment used will include a retractable sleeve, Teflon sampling tubing, a low flow peristaltic pump, and, instead of a retractable drive point, a retractable screen. Samples will be collected using new Teflon tubing, and a low-flow peristaltic pump or equivalent pump attached to the flexible

tubing in the pump, and then discharged into a sample container without passing through the pump. Sampling equipment will be decontaminated between use.

Groundwater sampling will be conducted at UST areas where the depth to groundwater is within 5 feet below the base of the UST or former UST. At parcel areas where monitoring wells currently exist, the monitoring wells will be sampled.

The groundwater and soil sampling procedures are outlined in the Installation-Wide Sampling and Analysis Plan.

IT will prepare either UST closure reports/ addendum's to closure reports or assessments of environmental conditions prior to property transfer for 51 UST facilities areas upon conclusion of fieldwork and data evaluation efforts.

7.0 Conclusions

IT Corporation has completed the review of available UST closure assessments and additional environmental assessments for FTMC. A total of 157 USTs at 79 UST areas were identified during our investigation. Available closure reports were reviewed to determine their adequacy. Where further work was deemed necessary, a recommendation was prepared. An ADEM file review was completed. Five UST sites were identified that have been issued NFA letters. To complete this UST summary report, federal databases were reviewed to identify any additional UST at the base. One additional UST was identified at Building 2278. The UST at this building has not been identified within the review process. Seven buildings with USTs, but without parcel numbers, were identified, although three of the USTs contained small quantities of petroleum product and were not assigned parcel numbers.

Fifty-one USTs areas have been identified which require additional assessments either to expedite them to closure or to determine the current condition of UST parcels prior to property transfer. The rational for determining additional assessments was due to the lack of environmental sampling or reporting during tank closures.

IT will prepare one work plan for all the UST areas requiring additional assessments. The work plan will consist of FTMC site-specific sampling and analysis plans and site-specific safety and health plans prepared as site-specific addendums to the installation-wide project work plans.

A proposed total of 329 subsurface soils and 87 groundwater samples will be collected at 51 UST areas. Additional samples may be collected at each active UST to determine current environmental conditions prior to property transfer. The number of these samples will be determined after a site visit. Groundwater and soil samples as outlined in Table 6-1 will be collected from the sites. These samples will determine whether chemicals exist in concentrations high enough to require further action by FTMC and ADEM, as well as provide data useful in any planned corrective measures.

In an effort to reduce the cost of additional UST assessments direct-push sampling techniques will be employed. Soil and groundwater samples will be submitted for laboratory analysis based on the predefined depth ranges as outlined by ADEM UST

Closure Assessment Guidelines. IT will prepare either UST closure reports/addendum's to closure reports or assessments of environmental conditions prior to property transfer for 51 UST areas upon conclusion of fieldwork and data evaluation efforts.