ARCADIS

Infrastructure, environment, buildings

Imagine the result

IMA

3d Inf Div (Mech)

U.S. Army Environmental Command

And

Fort Stewart Directorate of Public Works Under Contract Number W91ZLK-05-D-0015 D.O. 0003

Site Investigation Work Plan

HAA-17, Installation-Wide Groundwater including
TCE Groundwater Contamination
Hunter Army Airfield, Savannah, Georgia

June 1, 2009

DOCUMENT 16

ARCADIS

C. Scott Bostian, PE
Senior Engineer

Charles A. Bertz, PE
Senior Project Manager

Site Investigation Work Plan

HAA-17, Installation-Wide Groundwater including TCE Groundwater Contamination

Prepared for:
U.S. Army Environmental Command

Prepared by:
ARCADIS
801 Corporate Center Drive
Suite 300
Raleigh
North Carolina 27607
Tel 919.854.1282
Fax 919.854.5448

Our Ref.:
GP08HAFS.H17A

Date:
June 1, 2009

Table of Contents

Tables

Figures

Appendices

Acronyms

BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAP	Corrective Action Plan
CSR	Compliance Status Report
DO	Dissolved Oxygen
DOT	U. S. Department of Transportation
DPT	Direct Push Technology
ft bgs	feet below ground surface
ft/min	feet per minute
GA EPD	Georgia Environmental Protection Division
HAAF	Hunter Army Airfield
HSRA	Hazardous Site Response Act
IDW	Investigation Derived Waste
MIP	Membrane Interface Probe
mg/L	milligrams per Liter
µg/L	micrograms per Liter
NTU	Nephelometric Turbidity Unit
ORP	Oxidation Reduction Potential
PAH	Polyaromatic Hydrocarbon
PID	Photo Ionization Detector
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation Recovery Act
SAIC	Science Applications International Corporation
SESD	Science and Ecosystem Support Division
SI	Site Investigation
SVOC	Semivolatile Organic Compound
TPH DRO	Total Petroleum Hydrocarbons – Diesel Range Organics
TPH GRO	Total Petroleum Hydrocarbons – Gasoline Range Organics
USAEC	United States Army Environmental Command
USEPA	U. S. Environmental Protection Agency
UST	Underground Storage Tank
USTMP	Underground Storage Tank Management Program
VOC	Volatile Organic Compound

1. Introduction

The U.S. Army Environmental Command (USAEC) has retained ARCADIS on behalf of Hunter Army Airfield (HAAF) to investigate and remediate impacted soil and groundwater associated with HAA-17. A Hazardous Sites Response Act (HSRA) Release Notification/Reporting Form was submitted to the Georgia Environmental Protection Division (GA EPD) on April 27, 2009. A Compliance Status Report (CSR) will be generated based on the historical data sets and data generated in this investigation. Upon approval of the CSR, a Corrective Action Plan (CAP) will be developed.

Dissolved trichloroethene (TCE) and its chlorinated hydrocarbon degradation products were detected in groundwater near underground storage tanks (USTs) 25 and 26 during groundwater investigations for petroleum contamination. The source and full extent of TCE in groundwater at HAA-17 are unknown. HAAF has delineated the extent of petroleum impacted groundwater in accordance with the requirements of GA EPD UST Management Program (USTMP) (Facility ID #9-025008). GA EPD USTMP stated that no further action is required for the release in a letter dated August 19, 2008. Therefore, petroleum constituents associated with USTs 25 and 26 will not be addressed in this investigation. Based on historical data, the primary non-petroleum constituent in groundwater in the area of USTs 25 and 26 is TCE. Previous investigations have not fully delineated the source(s) or extent of the TCE impacted groundwater. Other non-petroleum constituents detected in groundwater during investigations in related areas are barium and chromium, which were detected during the Purge Facility investigation, and 1,1-DCE and vinyl chloride, which were detected during the Building 1290 investigation. The only detections in soil above HSRA Notification Concentrations were carbon disulfide, which was detected in soil at two locations during the Purge Facility Investigation.

This work plan describes further investigation to delineate the potential source(s) and the extent of TCE and other compounds. The first phase of the proposed investigation will entail utilizing vertical profiling with membrane interface probe (MIP) technology in the suspected TCE source area. Direct push technology (DPT) installed temporary borings will be installed for MIP confirmation sampling and for determining plume limits. Additional wells will then be installed for plume monitoring and evaluation of metals.

2. Regulatory Status

The investigation and remediation of petroleum impacts at USTs 25 and 26 were regulated under the GA EPD USTMP (Facility ID #9-025008). The referenced release was granted a no further action required status by GA EPD USTMP in a letter dated August 19, 2008. The non-petroleum compounds detected in soil and/or groundwater have been reported to GA EPD in the HSRA Release Notification Reporting Form. The first goal at HAA-17 is to complete a CSR that meets all GA EPD requirements for compounds above regulatory thresholds. Investigations of groundwater quality have previously been performed. The results of these previous investigations and this investigation will be utilized to prepare the CSR.

3. Site Description and Setting

3.1 Site Description

HAAF is an active military installation located in Savannah, Georgia, encompassing areas of industrial, commercial, and temporary residential property occupied by a variety of administrative, maintenance, and barracks facilities as well as an active air field (Figure 3-1). HAA-17 is located in the northeastern portion of HAAF. A site map depicting the HAA-17 area is included as Figure 3-2, and the existing monitor well network is shown on Figure 3-3.

3.2 Physical Setting of the Airfield

The HAAF is located on a southwest-northeast trending ridge of about 20 feet to 40 feet elevation above sea level and is surrounded on all sides by lower topography of about 10 to 15 feet elevation. The first runways were probably constructed on the highest part of the ridge when first built in 1928. These first runways were probably constructed at the highest part of the ridge to allow for surface water drainage away from the runways.

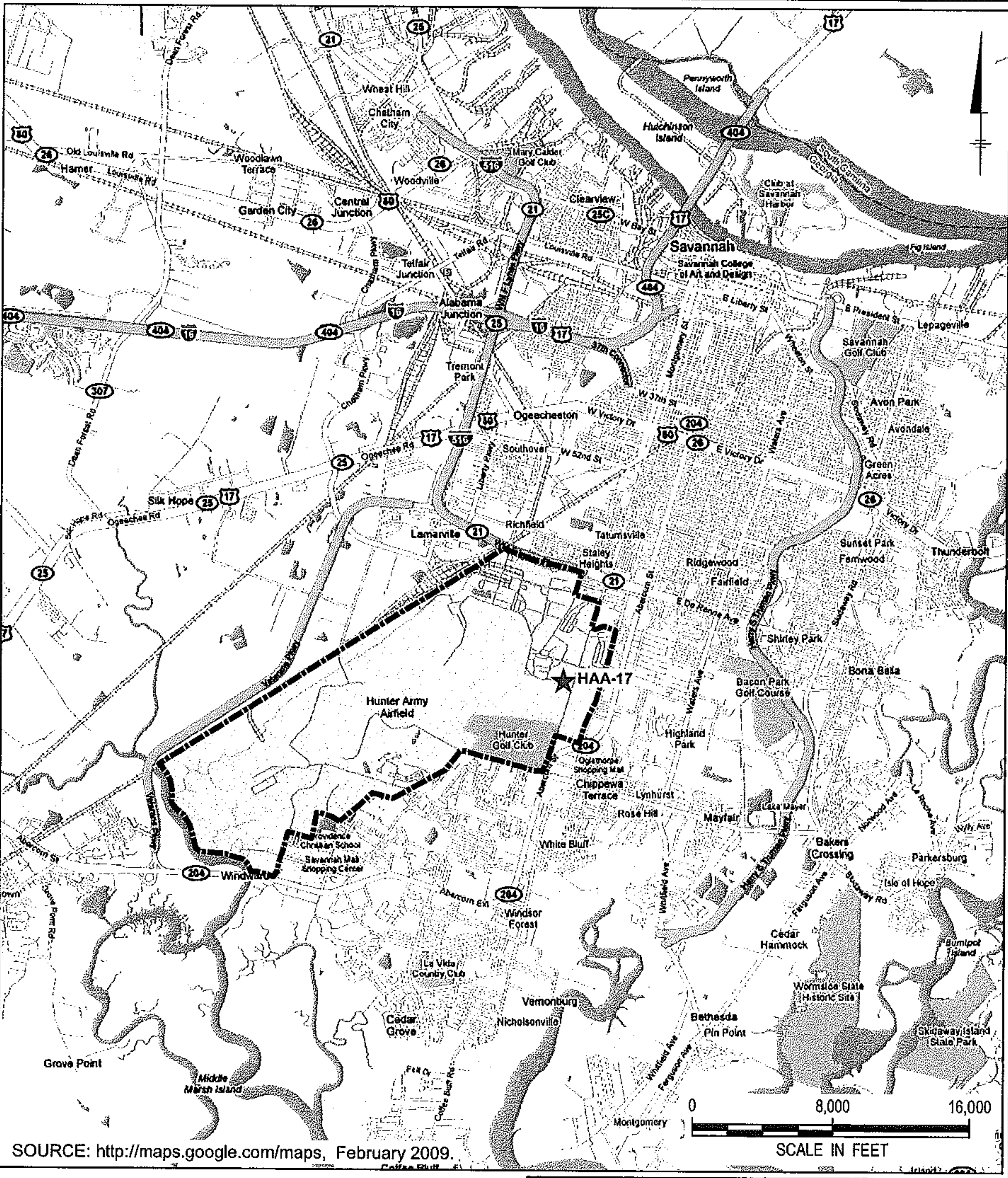
3.3 Regional Geology/Hydrogeology

HAAF is located on the lower coastal plain physiographic province, which is typified by very low relief that slopes toward the Atlantic Ocean. The geology is composed of a seaward thickening sequence of unconsolidated sediments. Previous regional investigations suggest that there has been minor structural deformation in the Savannah, Georgia, area during deposition of the sediments starting in the early Cretaceous Period. The sediments form a thickening wedge into the Atlantic Ocean deposited from sediment erosion of the Blue Ridge Mountains. The total thickness of the sediments in the Savannah, Georgia, area is over 2,000 feet.

The most important water supply aquifer in the lower coastal plain of Georgia and Florida is the Floridan Aquifer. The Floridan Aquifer is a regionally extensive aquifer that is approximately 800 feet thick at Savannah. The top of the Floridan Aquifer at HAAF is approximately 200 feet below ground surface (ft bgs). It is composed primarily of Oligocene age and Eocene age porous limestones. The Floridan Aquifer is the principal water supply aquifer throughout coastal Georgia and most of Florida.

This investigation focuses on groundwater quality in the uppermost aquifer system only. The uppermost aquifer system at and surrounding Savannah, Georgia, is underlain by two continuous clay units, which are effective confining units that preclude downward groundwater migration of shallow groundwater to the deeper Floridan water supply aquifer. These two clay units are named the Coosawhatchie Formation and Berryville Clay member of the Hawthorne Group. Lithologic samples and fossils suggest that these two units were deposited during the Middle Miocene Period in a low energy open marine environment over a wide area. The open ocean depositional environment resulted in the widespread and continuous nature of these clay units. A deep test well in Savannah (GGS-3139) shows that the clay units extend from approximately 45 ft bgs to 167 ft bgs near HAAF. Due to the thick confining unit that separates the uppermost aquifer system from the underlying Floridan Aquifer, there is minimal potential for shallow groundwater to impact deeper groundwater quality in the underlying Floridan Aquifer.

After deposition of the Hawthorne Clays, there was no preserved deposition of sediments at the study area until the late Pleistocene Period. The sediments overlying the Hawthorne Group clays to land surface are composed of a sequence of near shore to shoreface (barrier island) sediments that prograde over the Hawthorne Group marine clays. Published investigations have identified nine sets of overlapping relict beach ridges of Pleistocene age to Holocene age on the lower coastal plain that prograde towards the Atlantic Ocean. Each barrier sequence forms a ridge (also termed terrace) that is progressively lower and closer to the modern barrier island. The ancient beaches formed during higher sea levels and are parallel to the modern beach. Each barrier system is at a consistent elevation above sea level with about 20 feet relief above surrounding land. HAAF is located on a relict beach ridge named the Pamlico Terrace from about 20 feet msl to 40 feet msl. This abandoned beach ridge was formed during the late Pleistocene (>10,000 years) age. The Pamlico Terrace sediments are about 50 feet thick at HAAF.



CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) LD:(B.ALTOM) PIC:(M.FENNER) PM:(C.BERTZ) TM:(S.BOSTIAN/H.ENGLISH)
PROJECT: GP08HAFS.F17A.DBCSM PATH: G:\GIS\GP08HAFS\H17A\2009 SI WORKPLAN\F3-1 HAA17_WP_reg.mxd SAVED: 20MAR2009

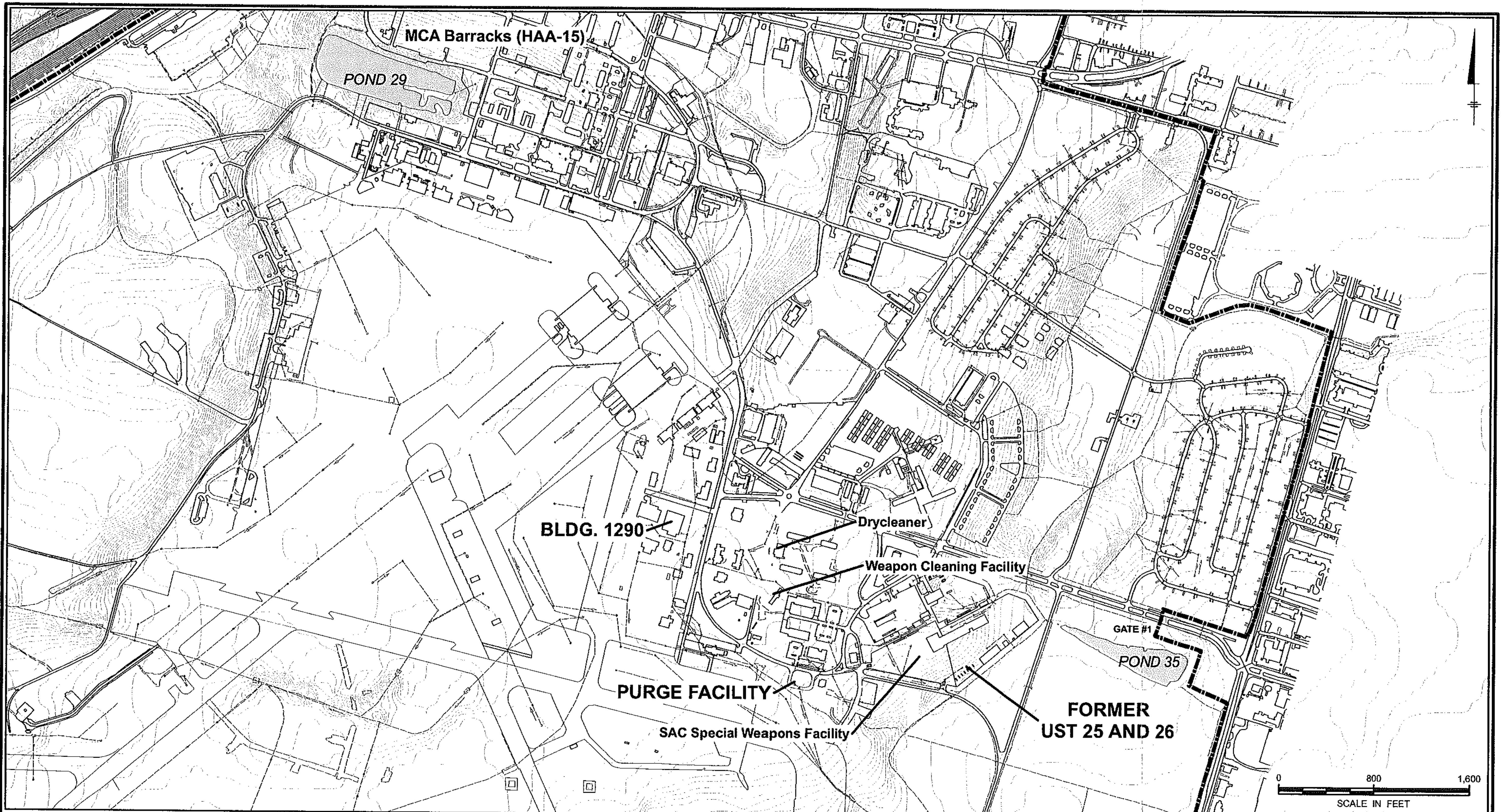
HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 SITE INVESTIGATION WORK PLAN

HAA-17 Location Map

ARCADIS

FIGURE **3-1**



LEGEND

- Hunter Army Airfield Boundary
- Storm Water System
- Topographic Contour

HUNTER ARMY AIRFIELD, GEORGIA

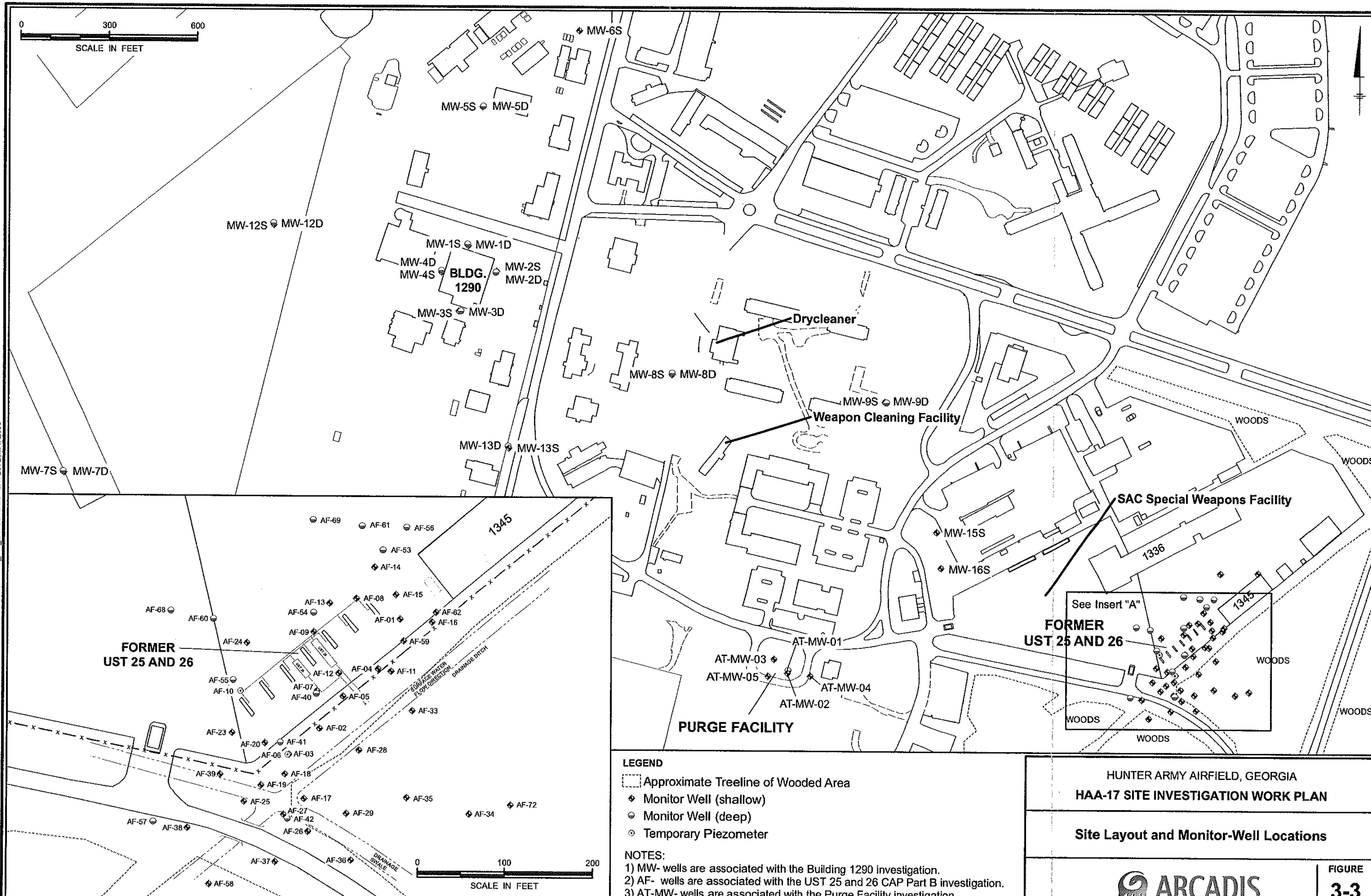
HAA-17 SITE INVESTIGATION WORK PLAN

HAA-17 Site and Vicinity

ARCADIS

FIGURE **3-2**

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) LD:(B.ALTOM) PIC:(M.FENNER) PM:(C.BERTZ) TM:(S.BOSTIAN/D.WILLIS/H.ENGLISH)
PROJECT: GP08HAFS.F17A.DBCSM PATH: G:\GIS\GP08HAFS\H17A\2009 SI WORKPLAN\F3-2 HAA17_WP_SITE.mxd SAVED: 25MAR2009



LEGEND

- Approximate Treeline of Wooded Area
- Monitor Well (shallow)
- Monitor Well (deep)
- Temporary Piezometer

NOTES:
1) MW- wells are associated with the Building 1290 investigation.
2) AF- wells are associated with the UST 25 and 26 CAP Part B investigation.
3) AT-MW- wells are associated with the Purge Facility investigation.

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 SITE INVESTIGATION WORK PLAN

Site Layout and Monitor-Well Locations

ARCADIS

FIGURE **3-3**

4. Previous Investigations

4.1 USTs 25 and 26

The former USTs 25 and 26 site is located in the 2nd BN 3d Aviation Brigade Motor Pool (previously the 260th Quartermaster Motor Pool) on Tubb Road. The location of the former USTs is shown on Figure 3-2. UST 25 was a 30,000-gallon tank used for storing diesel fuel, and UST 26 was a 6,000 gallon tank used for storing gasoline. The station was operational from October 1989 until July 1998, when the tanks and piping were abandoned in place. The tanks and piping were later excavated in April 2006.

Following the in-place tank closure performed in 1998, a CAP-Part A investigation was performed and petroleum contamination was found in soil and groundwater (Earth Tech, 1999). The chlorinated solvent impacts in groundwater were subsequently discovered during the CAP-Part B investigation. Between 1999 and 2007, multiple investigations were conducted to delineate petroleum impacts around former USTs 25 and 26 and the TCE plume. Since the petroleum impacts at USTs 25 and 26 were addressed under the GA EPD USTMP and received a no further action required status in a letter dated August 19, 2008, results of investigations conducted solely for delineation of petroleum impacts are not discussed in the following sections. The construction information for wells installed as part of the UST investigation is summarized in Table 4-1. A historical summary of groundwater analytical data collected for the USTs 25 & 26 investigations is included in Table 4-2.

4.1.1 USTs 25 and 26 CAP – Part B Investigation (1999)

Based on the findings of the in-place tank closure and CAP-Part A, a CAP-Part B Site Investigation (SI) was conducted by Science Applications International Corporation (SAIC) to determine the nature and extent of petroleum contamination. During the CAP-Part B SI activities in May 1999, TCE was tentatively identified in groundwater. Between September and October 1999, additional vertical profile borings/monitor wells were installed and existing wells were sampled to confirm the presence of TCE in groundwater. The analytical results confirmed the presence of TCE (as well as 1,2-dichloroethene and 1,1- and 1,2-dichloroethane) in groundwater. Vertical borings and/or wells AF-01 through AF-39 were installed during the 1999 CAP-Part B investigation (Figures 3-3 and 4-1). The results of the 1999 CAP-Part B SI were presented in the Corrective Action Plan-Part B for USTs 25 and 26 submitted to the GA EPD USTMP in February 2000 (SAIC 2000). The source and extent of the TCE contamination was not determined during the CAP–Part B investigation. A historical summary of groundwater analytical data collected for the USTs 25 and 26 CAP-Part B investigations is provided in Table 4-2.

4.1.2 Supplemental CAP – Part B Investigation (2000-2001)

In January 2000, the first deep monitor wells (AF-40, AF-41, and AF-42) were installed as part of the USTs 25 and 26 Monitoring Only Program to monitor the chlorinated solvents plume. The deep wells were screened between 28.5 and 33 ft bgs, corresponding to the highest TCE concentrations observed in nearby vertical profile borings. Monitor well locations are shown on Figure 3-3.

In April 2000 and October/November 2000, Argonne National Laboratory conducted a geophysical survey in the wooded area southeast (i.e., east of the intersection of the drainage ditches and swales depicted on Figure 3-3) of the former USTs 25 and 26 site to better characterize the subsurface geology controlling the migration and entrapment of TCE. A copy of the geophysical report from the CAP Part B Addendum #1 Report (SAIC 2001) is included as Appendix A.

In November and December 2000, ten vertical-profile borings (AF-43 through AF-52) were installed at the site to further delineate the vertical extent of TCE contamination in groundwater (Figure 4-1). Groundwater samples were collected at 5-foot intervals from the water table to 50 ft bgs. In February 2001, ten monitor wells (AF-53 through AF-62) were installed at the site based on the review of the November/December 2000 vertical-profile data (Figure 3-3). The results of the investigations conducted between February 2000 and March 2001 were presented in the Corrective Action Plan–Part B Addendum #1 for USTs 25 and 26 submitted to the GA EPD USTMP in June 2001. A historical summary of groundwater analytical data collected for the former USTs 25 and 26 CAP-Part B Investigations is provided in Table 4-2.

4.1.3 Supplemental CAP – Part B Investigation (2002)

In July 2002, five vertical-profile borings (AF-63 through AF-67) were installed to further delineate the horizontal and vertical extent of TCE contamination in groundwater. Groundwater samples were collected at 5-foot intervals from the water table to 45 ft bgs. In October 2002, five monitor wells (AF-68 through AF-72) were installed at the site based on the July 2002 vertical-profile data. In December 2002, USACE installed five vertical-profile borings (B159-1 through B159-5) to the west of the site to assess the potential for the purge facility to be related to the TCE contamination. The results showed that TCE was not present along Tubb Street to the west of the former USTs 25 and 26.

The results of the investigations conducted between July 2002 and December 2002 were presented in the Corrective Action Plan–Part B Addendum #2 for USTs 25 and 26 (SAIC 2003). A historical summary of groundwater analytical data collected for the USTs 25 and 26 CAP-Part B investigations is provided in Table 4-2.

4.1.4 2003 Vertical Profile Investigation

In October 2003, six vertical-profile borings (AF-73 through AF-78) were installed to further delineate the horizontal and vertical extent of volatile organic compound (VOC) contamination in groundwater. Groundwater samples were collected every 5 feet from the water table to a depth of approximately 50 ft bgs. Installation of deep wells and additional delineation was proposed around borings AF-73 and AF-74.The results of the 2003 vertical profile investigation were presented in the Data Summary Report for the 2003 Vertical-Profile Investigation (SAIC, 2004). A historical summary of groundwater analytical data collected for the USTs 25 and 26 CAP-Part B Investigations is provided in Table 4-2.

4.2 Purge Facility Investigation

The Purge Facility is located east of the UST 25/26 area as shown on Figure 3-2. Between May and July 2006, surface soil, subsurface soil, and groundwater samples were collected at the Purge Facility to determine if contamination was present at the facility. One deep monitor well (MW-1) and four shallow wells (MW-2 through MW-5) were installed as shown on Figure 3-3. Soil samples were collected from three locations (SS-01 through SS-03) along a surface drainage pathway feature and from the five monitor well borings (Figure 4-2). All samples were analyzed for VOCs, semivolatile organic compounds (SVOCs), and Resource Conservation and Recovery Act (RCRA) metals.

Low levels of VOCs, SVOCs, and RCRA metals were detected in soil and groundwater but were not attributed to a systematic or significant release at the Purge Facility and the Site Investigation Report for the Purge Facility (SAIC 2007) stated that further delineation was not warranted. Both TCE and total chromium were detected in the deep surficial groundwater (MW-1) but were not attributed to operations at the Purge Facility. The TCE in MW-1 was attributed to an unknown upgradient source and the chromium was attributed to turbid groundwater samples. Barium was detected in samples from all five monitor wells. The results of the investigation were presented in the Site Investigation Report for the Purge Facility (SAIC, 2007). A summary of groundwater and soil analytical data collected during the investigation of the Purge Facility is provided in Tables 4-3 and 4-4, respectively.

4.3 Building 1290 Investigation (2007-2008)

Between May 2007 and January 2008, Building 1290 was investigated as a potential source of the TCE detected in groundwater at the UST 25/26 area and the Purge Facility. Investigation activities included monitor well installation, membrane interface probe (MIP) data collection, and groundwater and soil sampling using direct-push technology (DPT). Locations of monitor wells and DPT sampling locations are shown on Figures 3-3 and 4-1, respectively.

Twenty-one wells installed in May 2007 (MW-1S/D through MW-13S/D) and 2 existing wells (MW-15S and MW-16S) were sampled in July 2007 to support the selection of MIP screening locations. Between October 2007 and January 2008, 40 MIP locations were installed during two mobilizations. Initial locations were around Building 1290 and north and northwest of former USTs 25 and 26. Subsequent MIP locations were south to southeast of previous locations. Confirmation soil and groundwater samples were collected at 20 locations using DPT (Table 4-5). Most of the VOCs detected in confirmation groundwater samples were constituents characteristic of chlorinated solvents. The remaining constituents detected in groundwater are associated with petroleum contamination. Fourteen VOCs were detected in confirmation subsurface soil samples collected at MIP locations.

The results of the investigation of Building 1290 were presented in the Data Summary Report for the TCE Plume at Building 1290 (SAIC, 2008). A summary of groundwater and soil analytical data collected during the investigation of Building 1290 is provided in Tables 4-6 and 4-7, respectively. TCE concentrations in groundwater from 1999 to 2008 are presented in Figure 4-3.

Table 4-1
Well Construction Summary
HAA-17
Hunter Army Airfield - Savannah, Ga

Well Number	Date Installed	Boring Depth (ft BGS)	Screened Interval (ft BGS)	Shallow/ Deep	Type of Completion	Coordinates		Elevation	
						Northing	Easting	Ground Surface (ft above MSL)	Top of Casing (ft above MSL)
UST 25 & 26 CAP Part B Investigations - 1999 through 2002									
AF-01	5/4/1999	12.7	2.5 - 12.5	S	¾-in. PVC	734225.9	979645.8	23.28	23.02
AF-02[a]	5/5/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734103.1	979556.8	22.10	21.94
AF-03[a]	5/5/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734073.7	979520.8	22.30	22.27
AF-04	5/5/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734170.3	979621.5	22.32	22.24
AF-05	5/5/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734139.4	979582.8	22.46	22.21
AF-06	5/5/1999	12.2	2.0 - 12.0	S	temporary	734083.6	979514.9	22.70	–
AF-07	5/4/1999	12.7	2.5 - 12.5	S	¾-in. PVC	734145.2	979553.5	23.13	c
AF-08	5/4/1999	12.7	2.5 - 12.5	S	¾-in. PVC	734249.3	979597.6	23.30	23.10
AF-09	5/4/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734211.3	979549.8	23.11	22.93
AF-10	5/4/1999	12.7	2.5 - 12.5	S	temporary	734145.0	979465.7	23.23	–
AF-11[a]	5/5/1999	11.2	1.0 - 11.0	S	¾-in. PVC	734167.5	979635.8	22.03	21.89
AF-12R	2006*	13.5	3.5-13.5	S	¾-in. PVC	–	–	–	22.56
AF-13	5/7/1999	12.7	2.5 . 12.5	S	¾-in. PVC	734243.8	979567.5	23.01	22.79
AF-14	5/7/1999	11.5	1.4 - 11.4	S	¾-in. PVC	734284.6	979617.1	23.33	23.04
AF-15	5/7/1999	11.6	1.5 - 11.5	S	¾-in. PVC	734253.8	979641.2	23.30	23.28
AF-16	5/7/1999	12.0	1.6 - 11.6	S	¾-in. PVC	734223.1	979682.2	22.06	22.17
AF-17	5/8/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734023.6	979539.9	18.64	18.93
AF-18[a]	5/8/1999	11.5	1.3 - 11.3	S	¾-in. PVC	734051.2	979518.0	19.06	20.13
AF-19[a]	5/8/1999	11.5	1.4 - 11.4	S	¾-in. PVC	734038.7	979490.1	19.52	19.68
AF-20	5/8/1999	13.2	3.0 - 13.0	S	¾-in. PVC	734086.2	979494.3	23.03	22.84
AF-23	5/8/1999	13.2	3.0 - 13.0	S	¾-in. PVC	734097.6	979456.3	23.43	23.25
AF-24	5/8/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734199.1	979473.2	23.10	22.85
AF-25[a]	5/11/1999	10.5	0.1 - 10.1	S	¾-in. PVC	734020.3	979470.5	14.75	15.03
AF-26[a]	5/11/1999	12.2	2.0 - 12.0	S	¾-in. PVC	733986.7	979544.0	16.90	17.65
AF-27[a]	5/11/1999	11.5	1.0 - 11.0	S	¾-in. PVC	734005.7	979516.5	16.40	16.50
AF-28[a]	5/11/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734078.7	979600.9	16.80	17.11
AF-29	5/11/1999	12.2	2.0 - 12.0	S	¾-in. PVC	734007.4	979587.2	18.90	19.06
AF-33[a]	9/25/1999	12.0	2.3 - 11.8	S	¾-in. PVC	734123.3	979659.9	17.60	18.07
AF-34	9/25/1999	11.0	1.4 - 10.9	S	¾-in. PVC	734007.3	979725.8	17.60	17.85
AF-35	9/25/1999	11.0	1.2 - 10.7	S	¾-in. PVC	734025.2	979654.0	17.30	17.63
AF-36[a]	9/25/1999	11.0	1.4 - 10.9	S	¾-in. PVC	733954.7	979592.5	17.40	17.52
AF-37[a]	9/25/1999	15.0	4.4 - 14.3	S	¾-in. PVC	733952.5	979506.7	19.80	20.06
AF-38[a]	9/25/1999	14.5	4.1 - 14.0	S	¾-in. PVC	733990.4	979405.8	20.00	20.14
AF-39[a]	9/25/1999	15.0	4.4 - 14.3	S	¾-in. PVC	734050.5	979442.7	21.70	22.12
AF-40	1/15/2000	33.5	28.5 - 33.0	D	2-in. PVC	734141.9	979553.1	23.05	22.78
AF-41	1/15/2000	33.5	28.5 - 33.0	D	2-in. PVC	734087	979512.4	22.70	22.33
AF-42	1/15/2000	33.5	28.5 - 33.0	D	2-in. PVC	734000.8	979521.2	16.40	19.03
AF-53	2/4/2001	31.0	20.0 - 30.0	D	2-in. PVC	734303.9	979627	23.31	22.93
AF-54	2/4/2001	43.5	32.4 - 42.4	D	2-in. PVC	734233	979549.9	22.77	22.43
AF-55	2/4/2001	34.5	24.0 - 34.0	D	2-in. PVC	734156.9	979457.5	23.14	22.76
AF-56	2/4/2001	31.0	19.9 - 29.9	D	2-in. PVC	734329.8	979653.2	23.27	22.99
AF-57	2/3/2001	65.0	57.8 - 62.8	D	2-in. PVC	733996.5	979367.3	19.90	22.21
AF-58	2/5/2001	13.0	2.7 - 12.7	S	2-in. PVC	733926.8	979430.7	19.70	22.32
AF-59	2/4/2001	14.9	2.3 - 12.3	S	2-in. PVC	734201.6	979649.7	22.69	22.33
AF-60	2/5/2001	31.0	20.0 - 30.0	D	2-in. PVC	734225.2	979434.6	24.08	23.77
AF-61	2/5/2001	31.0	20.0 - 30.0	D	2-in. PVC	734331.1	979603.5	23.79	23.47
AF-62	2/5/2001	14.0	3.0 - 13.0	S	2-in. PVC	734234	979686.7	22.60	22.11
AF-68	10/18/2002	45.0	34.5 - 39.5	D	2-in. PVC	734234.3	979386.5	24.4	24.26
AF-69	10/17/2002	50.0	40.2 - 45.2	D	2-in. PVC	734337.7	979548.7	24.7	23.83
AF-70	10/16/2002	21.0	15.0 - 20.0	D	2-in. PVC	734417	979673.9	24.4	24
AF-71	10/17/2002	21.0	15.3 - 20.3	D	2-in. PVC	734418.8	979801.5	23.2	23.06
AF-72	10/16/2002	13.0	2.5 - 12.5	S	2-in. PVC	734017.7	979773.2	17.8	17.72
Purge Facility Investigation - 2006									
AT-MW-1	5/11/2006	46	40.30-45.30	D	2-in. PVC	734082.46	978196.3	–	31.61
AT-MW-2	5/10/2006	12.5	2.30-12.30	S	2-in. PVC	734072.89	978194.26	–	31.86
AT-MW-3	5/10/2006	12.5	2.20-12.20	S	2-in. PVC	734120.33	978147.94	–	32.09
AT-MW-4	5/10/2006	12.5	2.30-12.30	S	2-in. PVC	734064.29	978272.61	–	32.79
AT-MW-5	5/11/2006	12.5	2.30-12.30	S	2-in. PVC	734063.42	978127.61	–	33.03

Table 4-1
Well Construction Summary
HAA-17
Hunter Army Airfield - Savannah, Ga

Well Number	Date Installed	Boring Depth (ft BGS)	Screened Interval (ft BGS)	Shallow/ Deep	Type of Completion	Coordinates		Elevation	
						Northing	Easting	Ground Surface (ft above MSL)	Top of Casing (ft above MSL)
Building 1290 Investigation - 2007									
MW-01D	5/2007*	--	19.95 - 29.95	D	1-in. PVC	735508.85	977102.38	36.6	36.40
MW-01S	5/2007*	--	5.72 - 15.72	S	1-in. PVC	735513.98	977100.64	36.7	36.43
MW-02D	5/2007*	--	19.90 - 29.90	D	1-in. PVC	735420.23	977197.88	36.3	36.05
MW-02S	5/2007*	--	4.3 - 14.3	S	1-in. PVC	735423.99	977200.2	36.3	36.05
MW-03D	5/2007*	--	19.59 - 29.58	D	1-in. PVC	735289.03	977078.47	36.5	b
MW-03S	5/2007*	--	6.70 - 11.70	S	1-in. PVC	735288.83	977069.78	36.6	b
MW-04D	5/2007*	--	19.91 - 29.91	D	1-in. PVC	735425.92	977010.12	36.5	36.25
MW-04S	5/2007*	--	5.66 - 15.66	S	1-in. PVC	735420.53	977010.17	36.5	36.23
MW-05D	5/2007*	--	20.0 - 30.0	D	1-in. PVC	735980.3	977154.14	36.4	36.16
MW-05S	5/2007*	--	5.80 - 15.80	S	1-in. PVC	735978.23	977150.92	36.4	36.14
MW-06S	5/2007*	--	4.0 - 9.0	S	1-in. PVC	736237.28	977477.86	36.3	36.03
MW-07D	5/2007*	--	24.6 - 34.6	D	1-in. PVC	734742.41	975723.2	37.2	36.93
MW-07S	5/2007*	--	7.89 - 17.89	S	1-in. PVC	734738.23	975725.28	37.3	36.92
MW-08D	5/2007*	--	14.50 - 24.50	D	1-in. PVC	735083.08	977800.64	37.0	36.72
MW-08S	5/2007*	--	5.40 - 15.40	S	1-in. PVC	735078.48	977799.65	36.9	36.53
MW-09D	5/2007*	--	20.39 - 30.39	D	1-in. PVC	734986.65	978528.67	37.7	37.35
MW-09S	5/2007*	--	5.55 - 15.55	S	1-in. PVC	734989.07	978523.22	37.8	37.39
MW-12D	5/2007*	--	24.3 - 34.3	D	1-in. PVC	735583.27	976441.49	37.5	37.27
MW-12S	5/2007*	--	7.6 - 17.6	S	1-in. PVC	735576.76	976442.09	37.5	37.29
MW-13D	5/2007*	--	20.01 - 30.01	D	1-in. PVC	734833.43	977242.99	37.1	36.81
MW-13S	5/2007*	--	5.59 - 15.59	S	1-in. PVC	734827.57	977244.61	36.9	36.63
UST 23 & 24 Investigation - 1996									
MW-15	8/1996*	--	2.0 - 12.0	S	--	734550.89	978703.92	31.4	31.30
MW-16	8/1996*	--	2.0 - 12.0	S	--	734429.82	978718.65	30.4	30.33

Notes:
Elevations for AF wells based on NGVD 88
Elevations for AT wells based on NGVD 1929
Northing/Easting for AF wells based on NAD 88
BGS Below ground surface
MSL = mean sea level
-- = no data/unknown
a = The top of casing was resurveyed in February 2001
b = Unable to open well cap; therefore, elevation reported to rim of protective cover for well (i.e., well protective casing).
c = Top of casing may have changed during 2006 excavation activities
* = The exact well installation date could not be found in historical documents

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-01	AF-01	AF-02	AF-02	AF-03	AF-03	AF-04	AF-04	AF-05	AF-05 DUP	AF-05	AF-07	AF-07	AF-08	AF-08	AF-09	AF-09
	Sample ID	AF0122(092699)	AF0142(092800)	AF0222(092699)	AF0242(092800)	AF0322(092699)	AF0342(092800)	AF0422(092699)	AF0442(092800)	AF0522(092699)	AF0524(092699)	AF0542(092800)	AF0722(092699)	AF0742(092800)	AF0822(092699)	AF0842(092800)	AF0922(092699)	AF0942(092800)
	Sample Date	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000
	Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
	Start Depth	2.5	2.5	2	2	2	2	2	2	2	2	2	2.5	2.5	2.5	2.5	2	2
	End Depth	12.5	12.5	12	12	12	12	12	12	12	12	12	12.5	12.5	12.5	12.5	12	12
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
1,1,2-Trichloroethane	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
1,1-Dichloroethane	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
1,1-Dichloroethene	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
1,2-Dibromoethane	µg/L																	
1,2-Dichloroethane	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
1,2-Dichloroethene	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 200	< 2	< 2	**3.9**	**3.4**
1,2-Dichloropropane	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
2-Butanone	µg/L	< 5 R	< 5	< 5 R	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 500	< 5	< 5	< 5 R	< 5
2-Hexanone	µg/L	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**40.2**	< 500	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 500	< 5	< 5	< 5	< 5
Acetone	µg/L	< 5	**6.7**	**11.1 J**	**8**	5 JBU	**18**	8.9 BU	**9.1**	10.6 BU	10.8 BU	**11.7**	25 JBU	< 500	5 JBU	**6.8**	< 5 R	**7.4**
Benzene	µg/L	< 2	< 1	**8.4**	**0.82 J**	**2.2**	< 1	< 2	< 1	**11.8**	**14.1**	**4.7**	**9130**	**9920**	< 2	**0.2 J**	**11.8**	**7**
Benzene, 1-methylethyl	µg/L																	
Bromochloromethane	µg/L																	
Bromodichloromethane	µg/L	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 5	< 1	< 25	< 100	< 5	< 1	< 5	< 1
Bromoform	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
Bromomethane	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
Carbon disulfide	µg/L	< 5	< 5	5 JBU	< 5	< 5 J	< 5	< 5 J	< 5	< 5	< 5 J	< 5	< 25 J	< 500	**1.1 J**	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
Dichlorodifluoromethane	µg/L																	
Chlorobenzene	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
Chloroethane	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
Chloroform	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
Chloromethane	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
cis-1,2-Dichloroethene	µg/L																	
cis-1,3-Dichloropropene	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
Dibromochloromethane	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
Dibromomethane	µg/L																	
Ethylbenzene	µg/L	< 2	< 1	< 2	1 JBU	**1.6 J**	1 JBU	< 2	< 1	**9.5**	**8.6**	**4.7**	**493**	**645**	< 2	1 JBU	**27.7**	**16.7**
Methylene chloride	µg/L	**1.2 J**	< 5	**0.54 J**	< 5	< 2	< 5	< 2	< 5	< 2	< 2	< 5	13.1 BU	< 500	< 2	< 5	3.9 BU	< 5
Naphthalene	µg/L																	
n-Butylbenzene	µg/L																	
n-Propylbenzene	µg/L																	
sec-Butylbenzene	µg/L																	
Styrene	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
Tetrachloroethene	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
Toluene	µg/L	< 2	< 1	**0.65 J**	< 1	< 2	< 1	< 2	< 1	**3**	**3.2**	**0.82 J**	**24.8**	**39.2**	< 2	< 1	< 2	**0.36 J**
Trichloroethene	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
Vinyl chloride	µg/L	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1	< 2	< 1
Xylenes (total)	µg/L	< 6	< 3	< 6	< 3	**0.96 J**	**3 JB**	< 6	< 3	**46.5**	**43.1**	**20.9**	**246**	300 JBU	< 6	< 3	**1.4 J**	< 3

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation
Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-11	AF-11	AF-12	AF-12	AF-13	AF-13	AF-14	AF-14	AF-15	AF-15 DUP	AF-15	AF-16	AF-16	AF-17	AF-18	AF-18	AF-19
	Sample ID	AF1122(092699)	AF1142(092800)	AF1222(092699)	AF1242(092800)	AF1322(092699)	AF1342(092800)	AF1422(092699)	AF1442(092800)	AF1524(092699)	AF1522(092699)	AF1542(092800)	AF1622(092699)	AF1642(092800)	AF1722(092699)	AF1822(092699)	AF1842(092800)	AF1922(092699)
	Sample Date	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/26/1999	9/28/2000	9/26/1999
	Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
	Start Depth	1	1	2.5	2.5	2.5	2.5	1.4	1.4	1.5	1.5	1.5	1.5	1.5	2.5	1.5	1.5	1.5
	End Depth	11	11	12.5	12.5	12.5	12.5	11.4	11.4	11.5	11.5	11.5	11.5	11.5	12.5	11.5	11.5	11.5
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
1,1,2,2-Tetrachloroethane	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
1,1,2-Trichloroethane	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
1,1-Dichloroethane	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
1,1-Dichloroethene	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
1,2-Dibromoethane	µg/L																	
1,2-Dichloroethane	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
1,2-Dichloroethene	µg/L	< 2	< 2	< 4	< 2	**1.5 J**	**1.2 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**19.9**	**13.2**	**6.6**	**8.3**
1,2-Dichloropropane	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
2-Butanone	µg/L	< 5 R	< 5	< 10 R	< 5	< 5	< 5	< 5	< 5	< 5 R	< 5 R	< 5	< 5	< 5	< 5	< 5 R	< 5	< 5 R
2-Hexanone	µg/L	< 5	< 5	< 10 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	< 5	< 5	< 10 R	**8.2**	5 JBU	**7.2**	7.8 BU	**8.3**	< 5 R	< 5 R	**8.2**	5.2 BU	**6.5**	5 JBU	< 5 R	**11.2**	< 5 R
Benzene	µg/L	< 2	< 1	**23.4**	**33.2**	< 2	< 1	< 2	< 1	< 2	**1 J**	**0.19 J**	< 2	< 1	**14**	**10.3**	**5.8**	**3.5**
Benzene, 1-methylethyl	µg/L																	
Bromochloromethane	µg/L																	
Bromodichloromethane	µg/L	< 5	< 1	< 10	< 1	< 5	< 1	< 5	< 1	< 5	< 5	< 1	< 5	< 1	< 5	< 5	< 1	< 5
Bromoform	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
Bromomethane	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
Carbon disulfide	µg/L	< 5	< 5	< 10	< 5	< 5	< 5	**2 J**	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5 J	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
Dichlorodifluoromethane	µg/L																	
Chlorobenzene	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
Chloroethane	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
Chloroform	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
Chloromethane	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
cis-1,2-Dichloroethene	µg/L																	
cis-1,3-Dichloropropene	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
Dibromochloromethane	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
Dibromomethane	µg/L																	
Ethylbenzene	µg/L	< 2	1 JBU	**54.8**	**94.1**	< 2	**0.17 J**	< 2	**0.064 J**	< 2	< 2	< 1	< 2	< 1	< 2	< 2	**0.11 J**	< 2
Methylene chloride	µg/L	< 2	< 5	**2 J**	< 5	< 2	< 5	< 2	< 5	2 JBU	2.9 JBU	< 5	< 2	< 5	< 2	4.2 BU	< 5	2.3 BU
Naphthalene	µg/L																	
n-Butylbenzene	µg/L																	
n-Propylbenzene	µg/L																	
sec-Butylbenzene	µg/L																	
Styrene	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
Tetrachloroethene	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
Toluene	µg/L	< 2	< 1	< 4	**0.29 J**	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	**0.7 J**	< 2
Trichloroethene	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	**112**	**1.6 J**	**1.4**	**2.6**
Vinyl chloride	µg/L	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2
Xylenes (total)	µg/L	< 6	< 3	**8.5 J**	**3.2**	< 6	**1.2 J**	< 6	< 3	< 6	< 6	< 3	< 6	< 3	< 6	< 6	< 3	< 6

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation
Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-19	AF-20	AF-20 DUP	AF-20	AF-23	AF-23	AF-24	AF-24	AF-25	AF-25	AF-26	AF-26	AF-27	AF-27	AF-28	AF-28	AF-29
	Sample ID	AF1942(092800)	AF2022(092699)	AF2024(092699)	AF2042(092700)	AF2322(092699)	AF2342(092700)	AF2422(092699)	AF2442(092800)	AF2522(092699)	AF2542(092800)	AF2622(092699)	AF2642(092800)	AF2722(092699)	AF2742(092800)	AF2822(092699)	AF2842(092800)	AF2922(092699)
	Sample Date	9/28/2000	9/26/1999	9/26/1999	9/27/2000	9/26/1999	9/27/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999	9/28/2000	9/26/1999
	Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
	Start Depth	1.5	3	3	3	3	3	2	2	0.5	0.5	2	2	1	1	2	2	2
	End Depth	11.5	13	13	13	13	13	12	12	10.5	10.5	12	12	11	11	12	12	12
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
1,1,2-Trichloroethane	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
1,1-Dichloroethane	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
1,1-Dichloroethene	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	**0.66 J**	< 1	< 4	< 1	< 20	< 1	**0.67 J**	< 1	< 2
1,2-Dibromoethane	µg/L																	
1,2-Dichloroethane	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
1,2-Dichloroethene	µg/L	**0.36 J**	**1.7 J**	**2.2**	**2.3**	**5.3**	**8.5**	< 2	< 2	**40.2**	**34**	**27.9**	**21.8**	**49.3**	**30.7**	**41.9**	**42.6**	**9.5**
1,2-Dichloropropane	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
2-Butanone	µg/L	< 5	< 5 R	< 5	< 5	**5.9 J**	< 5	< 5	< 5	< 5	< 5	< 10 R	< 5	< 50 R	< 5	< 5	< 5	< 5 R
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 50	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 50	< 5	< 5	< 5	< 5
Acetone	µg/L	**7.4**	< 5 R	7.4 BU	**7.7**	< 5	**6.6**	5 JBU	< 5	5 JBU	5 JU	< 10	< 5	< 50	< 5	5 JBU	< 5	< 5
Benzene	µg/L	**0.24 J**	**2.1**	**1.6 J**	**0.55 J**	**1.1 J**	**1.6**	< 2	< 1	**4.8**	**1.6**	**16.6**	**11.2**	**5.1 J**	**1.9**	**3.9**	**8.6**	**53.6**
Benzene, 1-methylethyl	µg/L																	
Bromochloromethane	µg/L																	
Bromodichloromethane	µg/L	< 1	< 5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 10	< 1	< 50	< 1	< 5	< 1	< 5
Bromoform	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
Bromomethane	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
Carbon disulfide	µg/L	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 10	< 5	< 50	< 5	< 5 J	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
Dichlorodifluoromethane	µg/L																	
Chlorobenzene	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
Chloroethane	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
Chloroform	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
Chloromethane	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
cis-1,2-Dichloroethene	µg/L																	
cis-1,3-Dichloropropene	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
Dibromochloromethane	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
Dibromomethane	µg/L																	
Ethylbenzene	µg/L	< 1	< 2	< 2	1 JBU	< 2	1 JBU	< 2	< 1	**0.59 J**	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
Methylene chloride	µg/L	< 5	4.5 BU	< 2	< 5	< 2	< 5	< 2	< 5	< 2	< 5	**1.5 J**	< 5	**12.8 J**	< 5	< 2	< 5	**1.2 J**
Naphthalene	µg/L																	
n-Butylbenzene	µg/L																	
n-Propylbenzene	µg/L																	
sec-Butylbenzene	µg/L																	
Styrene	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
Tetrachloroethene	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	< 1	< 20	< 1	< 2	< 1	< 2
Toluene	µg/L	**0.99 J**	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4	**1.9**	< 20	< 1	< 2	**1.2**	< 2
Trichloroethene	µg/L	< 1	< 2	< 2	< 1	**1.6 J**	**0.33 J**	< 2	< 1	**243**	**197**	**116**	**102 J**	**596**	**179**	**60.9**	**56.8**	**11**
Vinyl chloride	µg/L	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	**0.6 J**	< 1	< 4	< 1	< 20	< 1	< 2	< 1	**1.8 J**
Xylenes (total)	µg/L	< 3	< 6	< 6	3 JBU	< 6	< 3	< 6	< 3	< 6	< 3	< 12	< 3	< 60	< 3	< 6	< 3	< 6

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation
Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-29	AF-30	AF-30	AF-30	AF-30	AF-30	AF-30	AF-30	AF-30	AF-30	AF-31	AF-31	AF-31	AF-31	AF-31	AF-31	AF-31
	Sample ID	AF2942(092800)	AF3024(092699)	AF3012(092699)	AF3022(092699)	AF3032(092699)	AF3042(092699)	AF3052(092699)	AF3062(092699)	AF3072(092699)	AF3082(092699)	AF3112(092599)	AF3122(092599)	AF3132(092599)	AF3142(092599)	AF3152(092599)	AF3162(092599)	AF3172(092599)
	Sample Date	9/28/2000	9/26/1999	9/26/1999	9/26/1999	9/26/1999	9/26/1999	9/26/1999	9/26/1999	9/26/1999	9/26/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999
	Sample Type	MW	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	2	10	11	16	21	26	31	36	41	46	6	11	16	21	26	31	36
	End Depth	12	20	15	20	25	30	35	40	45	50	10	15	20	25	30	35	40
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
1,1,2-Trichloroethane	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethane	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethene	µg/L	< 1	< 2	< 2	< 2	**0.74 J**	**2.2**	**0.62 J**	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dibromoethane	µg/L																	
1,2-Dichloroethane	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloroethene	µg/L	**2.4**	**11.9**	**3.3**	**24**	**33**	**90.3**	**24.3**	**11.3**	**8.7**	< 2	**17.9**	**10.7**	< 2	**16.4**	< 2	< 2	< 2
1,2-Dichloropropane	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
2-Butanone	µg/L	< 5	< 5 R	< 5	< 5	< 5 R	< 5	< 5 R	< 5 R	< 5 R	< 5 R	< 25 R	< 5 R	< 5 R	< 5 R	< 5 R	**1.9 J**	**1.3 J**
2-Hexanone	µg/L	< 5	< 5	**14.2**	**15.5**	< 5 J	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	12.4U	**9.8 J**	8.4 BU	10.8 BU	< 5 R	5 JBU	< 5 R	< 5	< 5 R	< 5 R	< 25 R	< 5	< 5 R	< 5 R	< 5	< 5	< 5
Benzene	µg/L	**351**	**3060**	**7670 J**	**2290**	**37.9**	**16.2**	**11**	**6.4**	**5.5**	**6.8**	**11.1**	**0.99 J**	< 2	< 2	< 2	< 2	< 2
Benzene, 1-methylethyl	µg/L																	
Bromochloromethane	µg/L																	
Bromodichloromethane	µg/L	< 1	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
Bromomethane	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5 J	5 JBU	**1.1 J**	< 5	< 5	< 5	**1.3 J**	< 25	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
Dichlorodifluoromethane	µg/L																	
Chlorobenzene	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
Chloroethane	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
Chloroform	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
Chloromethane	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	**0.68 J**	< 2	**0.73 J**	< 2	< 2
cis-1,2-Dichloroethene	µg/L																	
cis-1,3-Dichloropropene	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
Dibromomethane	µg/L																	
Ethylbenzene	µg/L	**54.1**	**251**	**500 J**	**168**	**2.7**	**1.3 J**	**0.53 J**	**0.67 J**	**5.5**	**1.8 J**	< 10	< 2	< 2	< 2	< 2	< 2	< 2
Methylene chloride	µg/L	< 5	**4.4 B**	**2.2**	2 JBU	**0.95 J**	< 2	4 BU	3.4 BU	2 JBU	2.9 BU	14.4 BU	2.4 BU	2.3 BU	**3**	2 JBU	2 BU	2.6 BU
Naphthalene	µg/L																	
n-Butylbenzene	µg/L																	
n-Propylbenzene	µg/L																	
sec-Butylbenzene	µg/L																	
Styrene	µg/L	< 1	< 2	**0.52 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
Tetrachloroethene	µg/L	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
Toluene	µg/L	**2.8**	**8.8**	**19**	**5.5**	**0.55 J**	< 2	< 2	< 2	**0.78 J**	**0.5 J**	< 10	< 2	< 2	< 2	< 2	< 2	< 2
Trichloroethene	µg/L	**2.6**	**9.9**	**1.7 J**	**21.3**	**75.9**	**262**	**116**	**66.5**	**66.2**	**0.91 J**	**168**	**110**	**2.6**	**43.7**	**1.3 J**	**1 J**	**0.76 J**
Vinyl chloride	µg/L	**0.77 J**	**1.2 J**	< 2	**0.88 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2
Xylenes (total)	µg/L	**5.1**	**18.3**	**72.7**	**9.6**	**1.8 J**	< 6	**0.51 J**	**0.67 J**	**9.3**	**2.9 J**	< 30	< 6	< 6	< 6	< 6	< 6	< 6

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-31	AF-31	AF-32	AF-32	AF-32	AF-32	AF-32	AF-32	AF-32	AF-32	AF-32	AF-33	AF-33	AF-34	AF-34	AF-35	AF-35
	Sample ID	AF3182(092599)	AF3192(092599)	AF3212(092599)	AF3224(092599)	AF3222(092599)	AF3232(092599)	AF3242(092599)	AF3252(092599)	AF3262(092599)	AF3272(092599)	AF3282(092599)	AF3312(092599)	AF3342(092800)	AF3412(092599)	AF3442(092800)	AF3512(092599)	AF3542(092800)
	Sample Date	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/25/1999	9/28/2000	9/25/1999	9/28/2000	9/25/1999	9/28/2000
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	MW	MW	MW	MW	MW	MW
	Start Depth	41	46	11	15	16	21	26	31	36	41	46	2.3	2.3	1.4	1.4	1.2	1.2
	End Depth	45	50	15	25	20	25	30	35	40	45	50	11.8	11.8	10.9	10.9	10.7	10.7
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
1,1,2-Trichloroethane	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
1,1-Dichloroethane	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
1,1-Dichloroethene	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	**3.4**	**2.8**	< 2	< 1
1,2-Dibromoethane	µg/L																	
1,2-Dichloroethane	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
1,2-Dichloroethene	µg/L	< 2	< 2	**6.4**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**6.4**	**8.1**	**10.8**	**13**	**8.8**	**9.6**
1,2-Dichloropropane	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
2-Butanone	µg/L	< 5 R	< 5 R	< 5 R	< 5 R	**0.93 J**	< 5 R	< 5 R	< 5 R	< 5 R	< 5 R	< 5 R	< 5 R	< 5	< 5 R	< 5	< 5 R	< 5
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	< 5	< 5 R	< 5 R	< 5 R	< 5	< 5 R	< 5 R	< 5 R	< 5 R	< 5	< 5 R	< 5 R	< 5	< 5 R	5U	< 5	5 JU
Benzene	µg/L	< 2	< 2	**2.1**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	**2.1**	**0.38 J**
Benzene, 1-methylethyl	µg/L																	
Bromochloromethane	µg/L																	
Bromodichloromethane	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 1	< 5	< 1	< 5	< 1
Bromoform	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
Bromomethane	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**0.56 J**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
Dichlorodifluoromethane	µg/L																	
Chlorobenzene	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
Chloroethane	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
Chloroform	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
Chloromethane	µg/L	< 2	< 2	< 2	**0.92 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
cis-1,2-Dichloroethene	µg/L																	
cis-1,3-Dichloropropene	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
Dibromochloromethane	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
Dibromomethane	µg/L																	
Ethylbenzene	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
Methylene chloride	µg/L	2 JBU	2.9 BU	3.4 BU	2.3 BU	2.1 BU	**2.9**	2.8 BU	2.6 BU	5.4 BU	2.7 BU	3 BU	**2.1**	< 5	**3.6**	< 5	2.4 BU	< 5
Naphthalene	µg/L												< 10		< 10		< 10	
n-Butylbenzene	µg/L																	
n-Propylbenzene	µg/L																	
sec-Butylbenzene	µg/L																	
Styrene	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
Tetrachloroethene	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
Toluene	µg/L	< 2	< 2	< 2	< 2	**0.52 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	**0.47 J**	< 2	< 1
Trichloroethene	µg/L	< 2	**0.56 J**	**26.3**	**0.7 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**45.8**	**34.4**	**95.5**	**105 J**	**23**	**27.6**
Vinyl chloride	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1
Xylenes (total)	µg/L	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 3	< 6	< 3	< 6	< 3

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation
Samples collected solely for investigation of petroleum prior to CAP Part B investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-36	AF-36	AF-37	AF-37 DUP	AF-37	AF-38	AF-38	AF-39	AF-40	AF-40	AF-40	AF-40	AF-40	AF-40	AF-40	AF-40
	Sample ID	AF3612(092599)	AF3642(092800)	AF3712(092599)	AF3714(092599)	AF3742(092800)	AF3812(092599)	AF3842(092800)	AF3912(092599)	AF4012(020200)	AF4032(062300)	AF4042(092800)	AF4052(010701)	AF4062(060801)	AF4072(011902)	AF40F2(072506)	AF40G2(012307)
	Sample Date	9/25/1999	9/28/2000	9/25/1999	9/25/1999	9/28/2000	9/25/1999	9/28/2000	9/25/1999	2/2/2000	6/23/2000	9/28/2000	1/7/2001	6/8/2001	1/19/2002	7/25/2006	1/23/2007
	Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
	Start Depth	1.4	1.4	4.4	4.4	4.4	4.1	4.1	4.4	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
	End Depth	10.9	10.9	14.3	14.3	14.3	14.1	14.1	14.3	33	33	33	33	33	33	33	33
Chemical Name	Unit																
1,1,1-Trichloroethane	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2 R	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	µg/L	< 2	< 1	**0.6 J**	< 2	< 1	< 2	< 1	< 2	< 1	**1.6**	< 1	**0.41 J**	**0.89 J**	**1.6**	< 1	**1.05**
1,2-Dibromoethane	µg/L															< 1	< 1
1,2-Dichloroethane	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethene	µg/L	**17.3**	**3.3**	**26.4**	**24.4**	**17.2**	**3.8**	**0.39 J**	**4.3**	**15.4**	**63.3**	**14.6**	**26**	**48.5**	**58.7**	**14.9**	**54.4**
1,2-Dichloropropane	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone	µg/L	< 5 R	< 5	< 5 R	< 5 R	< 5	< 5 R	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	< 5 R	6.8U	< 5	< 5	5 JU	< 5	6.8U	< 5	5 BJU	< 5	5 JU	5 JBU	**1.3 J**	**3.1 J**	< 5	< 5
Benzene	µg/L	**2.4**	**0.83 J**	**4.2**	**4.7**	**2.7**	**2**	**0.19 J**	**0.92 J**	**21.3**	**1.3**	**1.8**	**0.39 J**	**0.45 J**	< 1	**16.4**	< 1
Benzene, 1-methylethyl	µg/L																
Bromochloromethane	µg/L															< 1	< 1
Bromodichloromethane	µg/L	< 5	< 1	< 5	< 5	< 1	< 5	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	µg/L																
Chlorobenzene	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Chloroethane	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L																
cis-1,3-Dichloropropene	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane	µg/L																
Ethylbenzene	µg/L	< 2	< 1	**0.63 J**	**1.4 J**	< 1	**1.6 J**	< 1	< 2	**3.2**	**0.57 J**	**0.45 J**	**0.13 J**	< 1 J	< 1	**12.4**	< 1
Methylene chloride	µg/L	**2.6**	< 5	2.7 BU	2.6 BU	< 5	2 BU	< 5	2.4 BU	5 BJU	< 5	< 5	< 5	**12.7 BJ**	1 JU	< 5	< 5
Naphthalene	µg/L	< 10		< 10	< 10		< 10		< 10								
n-Butylbenzene	µg/L																
n-Propylbenzene	µg/L																
sec-Butylbenzene	µg/L																
Styrene	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Tetrachloroethene	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	µg/L	< 2	**0.78 J**	**0.69 J**	**1.4 J**	**1.9**	**2**	**1.4**	< 2	**0.6 J**	< 1	< 1	< 1	< 1 J	**1 JBU**	**17.5**	**0.447 J**
Trichloroethene	µg/L	**38**	**10.3**	**346**	**301**	**226**	**6.8**	< 1	< 2	**53.3**	**353**	**42.9**	**108 J**	**255 J**	**379**	**49.4**	**201**
Vinyl chloride	µg/L	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 1	**0.76 J**	**0.67 J**	< 1	< 1	< 1	< 1
Xylenes (total)	µg/L	< 6	< 3	**3.4 J**	**7.6**	< 3	**9.4**	< 3	< 6	**8.8**	< 3	< 3	**0.34 J**	< 3 J	< 3	**53.8**	**0.378 J**

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-41	AF-41	AF-41	AF-41	AF-41	AF-41	AF-41	AF-41	AF-42	AF-42	AF-42	AF-42	AF-42	AF-42	AF-43	AF-43
	Sample ID	AF4112(020200)	AF4132(062300)	AF4142(092800)	AF4152(010701)	AF4162(060801)	AF4172(011902)	AF41F2(072506)	AF41G2(012307)	AF4212(020200)	AF4232(062300)	AF4242(092800)	AF4252(010701)	AF4262(060801)	AF4272(011902)	AF4312(113000)	AF4322(113000)
	Sample Date	2/2/2000	6/23/2000	9/28/2000	1/7/2001	6/8/2001	1/19/2002	7/25/2006	1/23/2007	2/2/2000	6/23/2000	9/28/2000	1/7/2001	6/8/2001	1/19/2002	11/30/2000	11/30/2000
	Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	VP	VP
	Start Depth	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	4	9
	End Depth	33	33	33	33	33	33	33	33	33	33	33	33	33	33	9	14
Chemical Name	Unit																
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	µg/L	**0.94 J**	**3**	< 1	**0.82 J**	**0.81 J**	**2.3**	**1.32**	**1.2**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	µg/L							< 1	< 1								
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0	< 1	< 1	< 1
1,2-Dichloroethene	µg/L	**35.6**	**110**	**1.7 J**	**32.7**	**39.5**	**76.4**	**81**	**61.3**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**0.46 J**
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone	µg/L	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	**1.2 J**
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	5 JBU	< 5	5.2U	5 JBU	< 5	< 5	< 5	< 5	5 JBU	< 5	5 JU	5 JBU	< 5	**2.6 J**	**11**	**3.6 J**
Benzene	µg/L	**0.2 J**	< 1	< 1	< 1	**0.15 J**	< 1	**1.31**	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Benzene, 1-methylethyl	µg/L																
Bromochloromethane	µg/L							< 1	< 1								
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	µg/L																
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L																
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane	µg/L																
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1 J	< 1	**2.14**	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	**16.7 B**	1 JU	< 5	< 5	< 5	< 5	< 5	< 5	**16.6 B**	1 JU	< 5	< 5
Naphthalene	µg/L																
n-Butylbenzene	µg/L																
n-Propylbenzene	µg/L																
sec-Butylbenzene	µg/L																
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	µg/L	< 1	< 1	< 1	< 1	< 1 J	1 JBU	**2.67**	< 1	**0.3 J**	**0.81 J**	< 1	< 1	< 1 J	1 JBU	< 1	< 1
Trichloroethene	µg/L	**158**	**636**	**1.2**	**176**	**195 J**	**405**	**252**	**168**	< 1	< 1	< 1	< 1	**0.36 J**	< 1	< 1	**1.2**
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	µg/L	< 3	< 3	< 3	< 3	< 3 J	< 3	**9.56**	< 1	< 3	< 3	< 3	< 3	< 3 J	< 3	< 3	< 3

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-43	AF-43	AF-43	AF-43	AF-43	AF-43	AF-43	AF-43 DUP
	Sample ID	AF4332(113000)	AF4342(113000)	AF4352(113000)	AF4362(113000)	AF4372(113000)	AF4382(113000)	AF4392(113000)	AF4394(113000)
	Sample Date	11/30/2000	11/30/2000	11/30/2000	11/30/2000	11/30/2000	11/30/2000	11/30/2000	11/30/2000
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	14	19	24	29	34	39	44	44
	End Depth	19	24	29	34	39	44	49	49
Chemical Name	Unit								
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	**1.3**	**0.9 J**	< 1	< 1	< 1
1,1-Dichloroethene	µg/L	**0.51 J**	**2.3**	**5.4**	**12.8**	**7.2**	**0.1 J**	< 1	< 1
1,2-Dibromoethane	µg/L								
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethene	µg/L	**5.3**	**20.2**	**103**	**116**	**68.2**	**9.8**	**5.4**	**3.2**
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	**1.6 J**	**1.8 J**	**2 J**	**1.8 J**	**2.9 J**	**2 J**	< 5	**2.5 J**
Benzene	µg/L	< 1	**0.68 J**	< 1	< 1	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl	µg/L								
Bromochloromethane	µg/L								
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	µg/L								
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L								
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane	µg/L								
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	**0.062 J**	**0.06 J**
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene	µg/L								
n-Butylbenzene	µg/L								
n-Propylbenzene	µg/L								
sec-Butylbenzene	µg/L								
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	µg/L	< 1	< 1	**0.27 J**	< 1	< 1	< 1	**0.45 J**	**0.5 J**
Trichloroethene	µg/L	**304**	**2600**	**2140**	**2030**	**883**	**213 J**	**71.2**	**40.4**
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	**0.32 J**	< 3

	Location ID	AF-44	AF-44	AF-44	AF-44	AF-44	AF-44	AF-44	AF-44	AF-44
	Sample ID	AF4412(120100)	AF4422(120100)	AF4432(120100)	AF4442(120100)	AF4452(120100)	AF4462(120100)	AF4472(120100)	AF4482(120100)	AF4492(120100)
	Sample Date	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	4	9	14	19	24	29	34	39	44
	End Depth	9	14	19	24	29	34	39	44	49
Chemical Name	Unit									
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	**3.2**	**0.84 J**	< 1
1,2-Dibromoethane	µg/L									
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethene	µg/L	**7**	**2.8**	< 2	**5.6**	**7**	**1.1 J**	**104**	**38.6**	**9.2**
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**2.4 J**	**1.4 J**
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**2.2 J**
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	**1.8 J**	**4.3 J**	**4.5 J**
Benzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	**0.16 J**	**0.31 J**	< 1
Benzene, 1-methylethyl	µg/L									
Bromochloromethane	µg/L									
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	µg/L									
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L									
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane	µg/L									
Ethylbenzene	µg/L	< 1	**0.072 J**	< 1	< 1	< 1	< 1	< 1	**0.11 J**	< 1
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene	µg/L									
n-Butylbenzene	µg/L									
n-Propylbenzene	µg/L									
sec-Butylbenzene	µg/L									
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	µg/L	< 1	**0.29 J**	< 1	**0.31 J**	**0.3 J**	**0.38 J**	< 1	**0.48 J**	< 1
Trichloroethene	µg/L	**14.3**	**80.1**	**13**	**54.9**	**33.5**	**0.83 J**	**790**	**346**	**60.8**
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	µg/L	< 3	**0.46 J**	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation
Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-45	AF-45	AF-45	AF-45	AF-45	AF-45 DUP	AF-45	AF-45	AF-45	AF-45	AF-46	AF-46	AF-46	AF-46	AF-46	AF-46	AF-46
	Sample ID	AF4512(120100)	AF4522(120100)	AF4532(120100)	AF4542(120100)	AF4552(120100)	AF4554(120100)	AF4562(120100)	AF4572(120200)	AF4582(120200)	AF4592(120200)	AF4612(120200)	AF4622(120200)	AF4632(120200)	AF4642(120200)	AF4652(120200)	AF4662(120200)	AF4672(120200)
	Sample Date	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	4	9	14	19	24	24	29	34	39	44	6	11	16	21	26	31	36
	End Depth	9	14	19	24	29	29	34	39	44	49	10	15	20	25	30	35	40
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	µg/L	< 1	**0.17 J**	< 1	**0.63 J**	**3.8**	**4.4**	**4.7**	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	µg/L																	
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethene	µg/L	**10.3**	**7.6**	**1.5 J**	**67.5**	**279**	**270**	**206**	**15.2**	**5.9**	< 2	**0.73 J**	**1.4 J**	< 2	**1.4 J**	**2.3**	**0.46 J**	< 2
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Benzene	µg/L	**1.8**	**4.2**	**0.99 J**	**0.33 J**	**0.24 J**	**0.25 J**	**0.19 J**	< 2	< 1	< 1	**0.22 J**	**0.65 J**	**0.3 J**	**0.63 J**	**0.16 J**	< 1	< 1
Benzene, 1-methylethyl	µg/L																	
Bromochloromethane	µg/L																	
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	**0.41 J**	**0.59 J**	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	**0.84 J**	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	µg/L																	
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L																	
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane	µg/L																	
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene	µg/L																	
n-Butylbenzene	µg/L																	
n-Propylbenzene	µg/L																	
sec-Butylbenzene	µg/L																	
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	µg/L	**0.39 J**	< 1	< 1	< 1	< 1	< 1	< 1	**0.66 J**	1 JBU	1 JBU	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethene	µg/L	**1.9**	**47.2**	**18.3**	**428**	**1510**	**1320**	**1490**	**181**	**48.4**	**0.59 J**	< 1	**3.9**	**2.6**	**4.6**	**1.2**	< 1	< 1
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	**0.27 J**	**0.37 J**	**0.24 J**	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 6	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-46 DUP	AF-46	AF-46	AF-47	AF-47	AF-47	AF-47	AF-47	AF-47	AF-47	AF-47	AF-48	AF-48	AF-48	AF-48 DUP	AF-48	AF-48
	Sample ID	AF4674(120200)	AF4682(120200)	AF4692(120200)	AF4722(120200)	AF4732(120200)	AF4742(120200)	AF4752(120200)	AF4762(120300)	AF4772(120300)	AF4782(120300)	AF4792(120300)	AF4812(120400)	AF4822(120400)	AF4832(120400)	AF4844(120400)	AF4842(120400)	AF4852(120400)
	Sample Date	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/4/2000	12/4/2000	12/4/2000	12/4/2000	12/4/2000	12/4/2000
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	36	41	46	11	16	21	26	31	36	41	46	5	10	15	15	20	25
	End Depth	40	45	50	15	20	25	30	35	40	45	50	10	15	20	20	25	30
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	µg/L																	
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	**0.51 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethene	µg/L	< 2	< 2	< 2	**0.84 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**6.7**	**9.6**	< 2	< 2	< 2	< 2
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	**0.3 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	5 JBU	5 JBU	**2.4 J**	< 5	< 5	< 5	< 5	< 5
Benzene	µg/L	< 1	< 1	< 1	**1.2**	**0.21 J**	< 1	< 1	< 1	< 1	< 1	< 1	**0.88 J**	**0.63 J**	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl	µg/L																	
Bromochloromethane	µg/L																	
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	µg/L																	
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L																	
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane	µg/L																	
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**1.6**	**0.14 J**	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene	µg/L																	
n-Butylbenzene	µg/L																	
n-Propylbenzene	µg/L																	
sec-Butylbenzene	µg/L																	
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.1 BU	1 JBU	**8.9**	1.6 BU	1.4 BU	1 BU	1 BU	1 BU
Trichloroethene	µg/L	< 1	**0.61 J**	< 1	**3**	**0.27 J**	< 1	< 1	< 1	< 1	< 1	< 1	**5.9**	**155**	< 1	< 1	< 1	< 1
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	**7.3**	**0.42 J**	**0.4 J**	< 3	< 3	< 3

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation
Samples collected solely for investigation of petroleum prior to CAP Part B investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-48	AF-48	AF-48	AF-48	AF-49	AF-49	AF-49	AF-49	AF-49	AF-49	AF-49	AF-49	AF-49 DUP	AF-49	AF-50	AF-50	AF-50
	Sample ID	AF4862(120400)	AF4872(120400)	AF4882(120400)	AF4892(120400)	AF4912(120300)	AF4922(120300)	AF4932(120300)	AF4942(120300)	AF4952(120300)	AF4962(120300)	AF4972(120300)	AF4982(120300)	AF4984(120300)	AF4992(120300)	AF5012(120200)	AF5022(120200)	AF5032(120200)
	Sample Date	12/4/2000	12/4/2000	12/4/2000	12/4/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/2/2000	12/2/2000	12/2/2000
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	30	35	40	45	6	11	16	21	26	31	36	41	41	46	4	9	14
	End Depth	35	40	45	50	10	15	20	25	30	35	40	45	45	50	9	14	19
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	µg/L																	
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethene	µg/L	< 2	< 2	< 2	< 2	**1.4 J**	**1.9 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**4**	**4.4**	**0.21 J**
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone	µg/L	< 5	< 5	< 5	< 5	**2.4 J**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	< 5	< 5	< 5	< 5	9.8 BU	5 JBU	5 JBU	< 5	5 JBU	5 JBU	5 JBU	**2 J**	5 JBU	**2.6 J**	**1.8 J**	**2 J**	< 5
Benzene	µg/L	< 1	< 1	< 1	< 1	< 1	**0.21 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**9.6**	**0.86 J**	< 1
Benzene, 1-methylethyl	µg/L																	
Bromochloromethane	µg/L																	
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	**0.63 J**	**0.98 J**	**0.66 J**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	µg/L																	
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.38 J**	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L																	
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane	µg/L																	
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene	µg/L																	
n-Butylbenzene	µg/L																	
n-Propylbenzene	µg/L																	
sec-Butylbenzene	µg/L																	
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.58 J**	< 1	**0.69 J**	< 1	< 1	< 1
Toluene	µg/L	1 BU	1.1 BU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	**3.9**	1 JBU	**3.7**	1 JBU	1 JBU	1 JBU
Trichloroethene	µg/L	< 1	< 1	< 1	< 1	**0.48 J**	**0.78 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**6.5**	**13.4**	< 1
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-50	AF-50	AF-50 DUP	AF-50	AF-50	AF-50	AF-50	AF-51	AF-51	AF-51	AF-51	AF-51	AF-51	AF-51	AF-51	AF-51	AF-52
	Sample ID	AF5042(120300)	AF5052(120300)	AF5054(120300)	AF5062(120300)	AF5072(120300)	AF5082(120300)	AF5092(120300)	AF5112(120300)	AF5122(120300)	AF5132(120300)	AF5142(120300)	AF5152(120400)	AF5162(120400)	AF5172(120400)	AF5182(120400)	AF5192(120400)	AF5212(120200)
	Sample Date	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/3/2000	12/4/2000	12/4/2000	12/4/2000	12/4/2000	12/4/2000	12/2/2000
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	19	24	24	29	34	39	44	5	10	15	20	25	30	35	40	45	4
	End Depth	24	29	29	34	39	44	49	10	15	20	25	30	35	40	45	50	9
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**10.3**	**2.1**	**0.76 J**	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.64 J**	**22.5**	**1.9**	**2.3**	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	µg/L																	
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethene	µg/L	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**3.4**	**5.1**	**65.4**	**4**	**11.9**	**0.51 J**	< 2	**0.97 J**	< 2	< 2
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone	µg/L	**1.6 J**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**1.2 J**
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**8.5**
Benzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**1.3**	**0.86 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.18 J**
Benzene, 1-methylethyl	µg/L																	
Bromochloromethane	µg/L																	
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	µg/L																	
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L																	
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane	µg/L																	
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.16 J**	< 1	< 1	< 1
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene	µg/L																	
n-Butylbenzene	µg/L																	
n-Propylbenzene	µg/L																	
sec-Butylbenzene	µg/L																	
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	µg/L	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	**0.27 J**	< 1	< 1	< 1	1 JBU	1 JBU	2.1 BU	1.3 BU	1 JBU	1 JBU
Trichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**25.6**	**37.3**	**604**	**10.9**	**90.3**	**0.38 J**	< 1	**2.4**	< 1	< 1
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.6 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	**0.45 J**	< 3	< 3	< 3

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-52	AF-52	AF-52	AF-52	AF-52	AF-52	AF-52	AF-52
	Sample ID	AF5222(120200)	AF5232(120200)	AF5242(120200)	AF5252(120200)	AF5262(120200)	AF5272(120200)	AF5282(120200)	AF5292(120200)
	Sample Date	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	9	14	19	24	29	34	39	44
	End Depth	14	19	24	29	34	39	44	49
Chemical Name	Unit								
1,1,1-Trichloroethane	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
1,1-Dichloroethane	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
1,1-Dichloroethene	µg/L	< 1	< 20	**16.3 J**	**15 J**	**0.61 J**	< 10	< 10	< 1
1,2-Dibromoethane	µg/L								
1,2-Dichloroethane	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
1,2-Dichloroethene	µg/L	< 2	**34.5 J**	**378**	**174**	**6**	**65.2**	**42.7**	**0.31 J**
1,2-Dichloropropane	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
2-Butanone	µg/L	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
2-Hexanone	µg/L	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
Acetone	µg/L	**1.8 J**	< 100	< 250	< 125	< 5	< 50	< 50	< 5
Benzene	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Benzene, 1-methylethyl	µg/L								
Bromochloromethane	µg/L								
Bromodichloromethane	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Bromoform	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Bromomethane	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Carbon disulfide	µg/L	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
Carbon tetrachloride	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Dichlorodifluoromethane	µg/L								
Chlorobenzene	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Chloroethane	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Chloroform	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Chloromethane	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
cis-1,2-Dichloroethene	µg/L								
cis-1,3-Dichloropropene	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Dibromochloromethane	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Dibromomethane	µg/L								
Ethylbenzene	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Methylene chloride	µg/L	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
Naphthalene	µg/L								
n-Butylbenzene	µg/L								
n-Propylbenzene	µg/L								
sec-Butylbenzene	µg/L								
Styrene	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Tetrachloroethene	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Toluene	µg/L	1 JBU	20 JBU	50 JBU	< 25	1 JBU	< 10	< 10	1 JBU
Trichloroethene	µg/L	**0.33 J**	**1780**	**7730**	**2120**	**34.1**	**631**	**516**	**2.8**
Vinyl chloride	µg/L	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Xylenes (total)	µg/L	< 3	< 60	< 150	< 75	< 3	< 30	< 30	< 3

	Location ID	AF-52 DUP	AF-53	AF-54	AF-54 DUP	AF-55	AF-56	AF-57	AF-57 DUP	AF-58
	Sample ID	AF5294(120200)	AF5312(031001)	AF5412(031001)	AF5414(031001)	AF5512(031001)	AF5612(031001)	AF5712(030901)	AF5714(030901)	AF5812(030901)
	Sample Date	12/2/2000	3/10/2001	3/10/2001	3/10/2001	3/10/2001	3/10/2001	3/9/2001	3/9/2001	3/9/2001
	Sample Type	VP	MW	MW	MW	MW	MW	MW	MW	MW
	Start Depth	44	20	32.4	32.4	24	19.9	57.8	57.8	2.7
	End Depth	49	30	42.4	42.4	34	29.9	62.8	62.8	12.7
Chemical Name	Unit									
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
1,1-Dichloroethene	µg/L	< 1	**4.6**	< 1	< 1	< 1	< 5	< 1	< 1	< 1
1,2-Dibromoethane	µg/L									
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
1,2-Dichloroethene	µg/L	**0.32 J**	**88.8**	**53.2**	**57.8**	**154**	**7.9 J**	< 2	< 2	**8**
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
2-Butanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	**2.8 J**
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5
Acetone	µg/L	< 5	**97.3**	**613 J**	**554 J**	**3100 J**	25 JU	**220**	**200**	**1360 J**
Benzene	µg/L	< 1	**0.22 J**	< 1	< 1	**0.35 J**	< 5	< 1	< 1	**0.16 J**
Benzene, 1-methylethyl	µg/L									
Bromochloromethane	µg/L									
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
Dichlorodifluoromethane	µg/L									
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
Chloroform	µg/L	< 1	< 1	**2.5**	**2.3**	**0.21 J**	< 5	**4.7**	**4.7**	**1.1**
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L									
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
Dibromomethane	µg/L									
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5
Naphthalene	µg/L									
n-Butylbenzene	µg/L									
n-Propylbenzene	µg/L									
sec-Butylbenzene	µg/L									
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
Toluene	µg/L	1 JBU	**0.27 J**	< 1	< 1	< 1	< 5	< 1	< 1	**0.62 J**
Trichloroethene	µg/L	**2.9**	**2410 J**	**352**	**394**	**1020**	**303**	**0.72 J**	**0.17 J**	**13**
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1
Xylenes (total)	µg/L	< 3	< 3	< 3	< 3	< 3	< 15	< 3	< 3	**0.25 J**

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-59	AF-60	AF-60 DUP	AF-61	AF-62	AF-63	AF-63	AF-63
	Sample ID	AF5912(031001)	AF6012(031001)	AF6014(031001)	AF6112(031001)	AF6212(031001)	AF6312(071602)	AF6322(071602)	AF6332(071602)
	Sample Date	3/10/2001	3/10/2001	3/10/2001	3/10/2001	3/10/2001	7/16/2002	7/16/2002	7/16/2002
	Sample Type	MW	MW	MW	MW	MW	VP	VP	VP
	Start Depth	2.3	20	20	20	3	1	6	11
	End Depth	12.3	30	30	30	13	5	10	15
Chemical Name	Unit								
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	µg/L								
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethene	µg/L	< 2	**3.4**	**3.5**	**1.3 J**	< 2	< 2	< 2	< 2
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone	µg/L	**1 J**	< 5	< 5	**2.3 J**	**1.9 J**	< 5	< 5	< 5
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	**2250 J**	33.8 U	35.2 U	**356**	**8630 J**	**6.4**	< 5	< 5
Benzene	µg/L	**0.67 J**	**0.26 J**	**0.25 J**	< 1	**0.15 J**	**0.92 J**	**5.6**	< 1
Benzene, 1-methylethyl	µg/L								
Bromochloromethane	µg/L								
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	µg/L								
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	**0.66 J**	< 1	< 1	**0.39 J**	**1**	< 1	< 1	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L								
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane	µg/L								
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	**3.5**	< 1
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	5 JBU
Naphthalene	µg/L								
n-Butylbenzene	µg/L								
n-Propylbenzene	µg/L								
sec-Butylbenzene	µg/L								
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	µg/L	< 1	< 1	< 1	< 1	**0.23 J**	**2.4**	1 JU	1 JU
Trichloroethene	µg/L	< 1	**26.1**	**24.9**	**267**	**0.39 J**	< 1	< 1	< 1
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	µg/L	< 3	< 3	< 3	< 3	< 3	**1 J**	< 3	< 3

	Location ID	AF-63	AF-63	AF-63	AF-63 DUP	AF-63	AF-63	AF-63	AF-64	AF-64
	Sample ID	AF6342(071602)	AF6352(071602)	AF6362(071602)	AF6364(071602)	AF6372(071602)	AF6382(071602)	AF6392(071602)	AF6422(071602)	AF6432(071602)
	Sample Date	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	16	21	26	26	31	36	41	6	11
	End Depth	20	25	30	30	35	40	45	10	15
Chemical Name	Unit									
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
1,1-Dichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
1,2-Dibromoethane	µg/L									
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
1,2-Dichloroethene	µg/L	**0.71 J**	**1.2 J**	**4.5**	**4.2**	< 2	**116**	**38.7**	< 2	< 2
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
2-Butanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5
Acetone	µg/L	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5
Benzene	µg/L	< 1	**1.8**	**3**	**3**	**1.4**	< 25	< 5	< 1	< 1
Benzene, 1-methylethyl	µg/L									
Bromochloromethane	µg/L									
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
Dichlorodifluoromethane	µg/L									
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
cis-1,2-Dichloroethene	µg/L									
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
Dibromomethane	µg/L									
Ethylbenzene	µg/L	< 1	**0.45 J**	< 1	< 1	**0.64 J**	< 25	< 5	< 1	< 1
Methylene chloride	µg/L	< 5	5 JBU	5 JBU	**5 JB**	< 5	< 125	< 25	5 JBU	5 JBU
Naphthalene	µg/L									
n-Butylbenzene	µg/L									
n-Propylbenzene	µg/L									
sec-Butylbenzene	µg/L									
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
Toluene	µg/L	1 JU	2U	1 JU	**1 J**	1 JU	< 25	**3.8 J**	1 U	2.2 U
Trichloroethene	µg/L	**12.9**	**20.9**	**71.7**	**68.7**	**0.88 J**	**1250**	**344**	< 1	< 1
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1
Xylenes (total)	µg/L	< 3	< 3	< 3	< 3	< 3	< 75	< 15	< 3	< 3

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation
Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-64	AF-64	AF-64	AF-64	AF-64	AF-64	AF-65	AF-65	AF-65	AF-65	AF-65	AF-65 DUP	AF-65	AF-65	AF-65	AF-65	AF-66
	Sample ID	AF6442(071602)	AF6452(071602)	AF6462(071602)	AF6472(071602)	AF6482(071602)	AF6492(071602)	AF6512(071702)	AF6522(071702)	AF6532(071702)	AF6542(071702)	AF6552(071702)	AF6554(071702)	AF6562(071702)	AF6572(071702)	AF6582(071702)	AF6592(071702)	AF6612(071602)
	Sample Date	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/16/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/16/2002
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	16	21	26	31	36	41	1	6	11	16	21	21	26	31	36	41	1
	End Depth	20	25	30	35	40	45	5	10	15	20	25	25	30	35	40	45	5
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
1,1-Dichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
1,2-Dibromoethane	µg/L																	
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
1,2-Dichloroethene	µg/L	< 2	< 2	**2**	**1.4 J**	< 2	**4.4**	< 2	< 2	< 2	< 2	**0.38 J**	**0.37 J**	< 2	< 2	< 2	< 2 J	< 2
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
2-Butanone	µg/L	< 5	< 5	< 5	< 5	5 JU	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**5.3 J**	< 5
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5
Acetone	µg/L	< 5	< 5	< 5	< 5	7.3 U	< 5	8.8 U	< 5	< 5	< 5	< 5	< 5	< 5	< 5	5 JU	19.4 UJ	**3.1 J**
Benzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.38 J**	< 1
Benzene, 1-methylethyl	µg/L																	
Bromochloromethane	µg/L																	
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Dichlorodifluoromethane	µg/L																	
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
cis-1,2-Dichloroethene	µg/L																	
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Dibromomethane	µg/L																	
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Methylene chloride	µg/L	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	5 JU
Naphthalene	µg/L																	
n-Butylbenzene	µg/L																	
n-Propylbenzene	µg/L																	
sec-Butylbenzene	µg/L																	
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Toluene	µg/L	2 U	1 U	2.9 U	1.2 U	**7**	1.7 U	**1.9**	1.1 U	**0.74 J**	**0.74 J**	**0.47 J**	**0.51 J**	**0.43 J**	< 1	< 1	**1.2 J**	**3.4**
Trichloroethene	µg/L	**6.7**	**13.8**	**31.2**	**2.8**	**1.1**	**79.1**	< 1	< 1	< 1	**2.4**	**3**	**3**	< 1	< 1	< 1	< 1 J	< 1
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Xylenes (total)	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	**0.27 J**	< 3

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-66	AF-66	AF-66	AF-66	AF-66	AF-66	AF-66 DUP	AF-66	AF-66	AF-67	AF-67	AF-67	AF-67	AF-67	AF-67	AF-67	AF-67
	Sample ID	AF6622(071602)	AF6632(071602)	AF6642(071602)	AF6652(071702)	AF6662(071702)	AF6672(071702)	AF6674(071702)	AF6682(071702)	AF6692(071702)	AF6722(071702)	AF6732(071702)	AF6742(071702)	AF6752(071702)	AF6762(071702)	AF6772(071702)	AF6782(071802)	AF6792(071802)
	Sample Date	7/16/2002	7/16/2002	7/16/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/17/2002	7/18/2002	7/18/2002
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	6	11	16	21	26	31	31	36	41	6	11	16	21	26	31	36	41
	End Depth	10	15	20	25	30	35	35	40	45	10	15	20	25	30	35	40	45
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**2.2**	**0.97 J**	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**1.1 J**	**2.3**	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	µg/L																	
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethene	µg/L	**15.9**	**90.5**	**15**	< 2	< 2	< 2	< 2	**0.45 J**	**0.37 J**	**14.2**	**25.6**	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	**16.7**	< 5	< 5	< 5	< 5	< 5	< 5	5 JU	< 5	8.6 JU	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Benzene	µg/L	**0.4 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl	µg/L																	
Bromochloromethane	µg/L																	
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	µg/L																	
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L																	
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane	µg/L																	
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	**1.9 J**	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene	µg/L																	
n-Butylbenzene	µg/L																	
n-Propylbenzene	µg/L																	
sec-Butylbenzene	µg/L																	
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	µg/L	**4.1**	**3.1**	**3.2**	1.2 U	1.8 U	**1.8**	**2.2**	**1.9**	**1.1**	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethene	µg/L	< 1	**4.2**	**76**	< 1	< 1	< 1	< 1	**6**	**4.2**	**107**	**746**	< 1	< 1	< 1	< 1	< 1	< 1
Vinyl chloride	µg/L	< 1	**0.74 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	µg/L	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 6	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-68	AF-68	AF-68	AF-69	AF-69 DUP	AF-70	AF-71	AF-72
	Sample ID	AF6812(121802)	AF68F2(072506)	AF68G2(012307)	AF6912(121802)	AF6914(121802)	AF7012(121802)	AF7112(121802)	AF7212(121802)
	Sample Date	12/18/2002	7/25/2006	1/23/2007	12/18/2002	12/18/2002	12/18/2002	12/18/2002	12/18/2002
	Sample Type	MW	MW	MW	MW	MW	MW	MW	MW
	Start Depth	34.5	34.5	34.5	40.2	40.2	15	15.3	2.5
	End Depth	39.5	39.5	39.5	45.2	45.2	20	20.3	12.5
Chemical Name	Unit								
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	**1.8**
1,1-Dichloroethene	µg/L	**1.6**	**1.71**	**1.47**	< 1	< 1	< 1 J	**0.54 J**	**4.9**
1,2-Dibromoethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	**1.2**
1,2-Dichloroethene	µg/L	**84.8**	**84.9**	**67.7**	**6.9**	**6.5**	< 1 J	**36.5 J**	**57.8**
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
2-Butanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5
Acetone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5
Benzene	µg/L	< 1	**1.18**	**0.993 J**	< 1	< 1	< 1 J	< 1 J	< 1
Benzene, 1-methylethyl	µg/L								
Bromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Dichlorodifluoromethane	µg/L								
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
cis-1,2-Dichloroethene	µg/L								
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Dibromomethane	µg/L								
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5
Naphthalene	µg/L								
n-Butylbenzene	µg/L								
n-Propylbenzene	µg/L								
sec-Butylbenzene	µg/L								
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Toluene	µg/L	< 1	< 1	**0.623 J**	< 1	< 1	< 1 J	< 1 J	< 1
Trichloroethene	µg/L	**380 J**	**540**	**373 J**	**138 J**	**141 J**	**2 J**	**41.4 J**	**807 J**
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1
Xylenes (total)	µg/L	< 1	< 1	**0.873 J**	< 1	< 1	< 1 J	< 1 J	< 1

	Location ID	AF-73	AF-73	AF-73	AF-73	AF-73 DUP	AF-73	AF-73	AF-73
	Sample ID	AF7312(101103)	AF7322(101103)	AF7332(101103)	AF7342(101103)	AF7344(101103)	AF7352(101103)	AF7362(101103)	AF7372(101103)
	Sample Date	10/11/2003	10/11/2003	10/11/2003	10/11/2003	10/11/2003	10/11/2003	10/11/2003	10/11/2003
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	7	12	16	21	21	26	31	36
	End Depth	11	15	20	25	25	30	35	40
Chemical Name	Unit								
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	**0.4 J**	**34.2**
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	5 JU	5 JU	5 JU	< 5	< 5	5 JU	5 JU	5 JU
Benzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	**0.61 J**	**1.6**
Benzene, 1-methylethyl	µg/L								
Bromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	µg/L								
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L								
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane	µg/L								
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene	µg/L								
n-Butylbenzene	µg/L								
n-Propylbenzene	µg/L								
sec-Butylbenzene	µg/L								
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	µg/L	<1.9	<3	<2.5	<2.7	<2.6	<2.8	<2.8	<3.2
Trichloroethene	µg/L	< 1	< 1	**1.5**	**2.2**	**2.2**	**1.9**	**4.4**	**97.7**
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-73	AF-74	AF-74	AF-74	AF-74	AF-74	AF-74	AF-74	AF-74	AF-75	AF-75	AF-75	AF-75	AF-75	AF-75	AF-75	AF-75
	Sample ID	AF7382(101103)	AF7412(101003)	AF7422(101003)	AF7432(101003)	AF7442(101003)	AF7452(101003)	AF7462(101103)	AF7472(101103)	AF7482(101103)	AF7512(100903)	AF7522(100903)	AF7532(100903)	AF7542(100903)	AF7552(100903)	AF7554(100903)	AF7562(100903)	AF7572(101003)
	Sample Date	10/11/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/10/2003	10/11/2003	10/11/2003	10/11/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/10/2003
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	41	7	12	16	21	26	31	36	41	7	12	16	21	26	26	31	36
	End Depth	45	11	15	20	25	30	35	40	45	11	15	20	25	30	30	35	40
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethene	µg/L	**27.8**	< 1	< 1	< 1	< 1	< 1	**3.2**	**8.7**	**4.7**	< 1	< 1	< 1	< 1	**0.62 J**	**0.66 J**	**1.2**	< 1
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**4.1 J**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone	µg/L	5 JU	5 JU	5 JU	< 5	< 5	5 U	< 5	5.2 U	13.4 U	5 JU	5.7 U	5.5 U	5 JU	5 JU	5 JU	5 JU	5 JU
Benzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	**2.5**	**1.7**	**0.43 J**	< 1	< 1	**2.3**	**1.3**	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl	µg/L																	
Bromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane	µg/L																	
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L																	
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane	µg/L																	
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene	µg/L																	
n-Butylbenzene	µg/L																	
n-Propylbenzene	µg/L																	
sec-Butylbenzene	µg/L																	
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	µg/L	<2.3	<3.2	<3.4	<2.4	<1.9	<2.5	<2.1	<3.9	<2.4	<2	<1.5	<2.1	<1.6	<1.6	<1.9	<1.6	<1.9
Trichloroethene	µg/L	**437**	< 1	< 1	**0.59 J**	**2.7**	**1.7**	**53.9**	**57 J**	**47.4**	< 1	< 1	**4.9**	**4.5**	**15.6**	**18**	**9.7**	< 1
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.6 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-75	AF-76	AF-76	AF-76	AF-76	AF-76	AF-76	AF-76	AF-76	AF-76	AF-77	AF-77	AF-77	AF-77	AF-77	AF-77	AF-77
	Sample ID	AF7582(101003)	AF7612(100903)	AF7622(100903)	AF7632(100903)	AF7642(100903)	AF7652(100903)	AF7662(100903)	AF7672(100903)	AF7674(100903)	AF7682(100903)	AF7712(100803)	AF7722(100803)	AF7732(100803)	AF7742(100803)	AF7752(100803)	AF7762(100903)	AF7772(100903)
	Sample Date	10/10/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/9/2003	10/9/2003
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	41	7	12	16	21	26	31	36	36	41	11	16	21	26	31	36	41
	End Depth	45	11	15	20	25	30	35	40	40	45	15	20	25	30	35	40	45
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
1,1-Dichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
1,2-Dibromoethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
1,2-Dichloroethene	µg/L	**0.42 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
2-Butanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**2.6 J**	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J
Acetone	µg/L	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	12 U	5 JU	5 JU	5 JU	5 JU	< 5	5 JU	6.9 UJ
Benzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Benzene, 1-methylethyl	µg/L																	
Bromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Dichlorodifluoromethane	µg/L																	
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
cis-1,2-Dichloroethene	µg/L																	
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Dibromomethane	µg/L																	
Ethylbenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J
Naphthalene	µg/L																	
n-Butylbenzene	µg/L																	
n-Propylbenzene	µg/L																	
sec-Butylbenzene	µg/L																	
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Toluene	µg/L	<2.8	<2.1	<2.2	<2.4	<2.1	<2.4	<2	<2.3	<2.1	<5.3	<2.1	<2.4	<3.4	<1.3	<2.6	<1.7	<4 J
Trichloroethene	µg/L	**3.9**	< 1	< 1	< 1	**2.3**	< 1	< 1	< 1	< 1	< 1	< 1	**0.73 J**	**0.79 J**	< 1	< 1	< 1	< 1 J
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Xylenes (total)	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.96 J**	< 1	**0.64 J**	< 1	< 1	< 1	< 1	**0.61 J**

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation
Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	AF-77	AF-78	AF-78	AF-78	AF-78	AF-78	AF-78 DUP	AF-78	AF-78	AF-78	B159-1	B159-1	B159-1	B159-1	B159-1	B159-1
	Sample ID	AF7782(100903)	AF7812(100803)	AF7822(100803)	AF7832(100803)	AF7842(100803)	AF7852(100803)	AF7854(100803)	AF7862(100803)	AF7872(100803)	AF7882(100803)	B159-1-10(120402)	B159-1-15(120402)	B159-1-20(120402)	B159-1-25(120402)	B159-1-30(120402)	B159-1-35(120402)
	Sample Date	10/9/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	46	12	16	21	26	31	31	36	41	46	9	14	19	24	29	34
	End Depth	50	15	20	25	30	35	35	40	45	50	11	16	21	26	31	36
Chemical Name	Unit																
1,1,1-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
1,1,2,2-Tetrachloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
1,1,2-Trichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
1,1-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
1,1-Dichloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
1,2-Dibromoethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
1,2-Dichloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1						
1,2-Dichloroethene	µg/L	< 1	< 1	**0.62 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
1,2-Dichloropropane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
2-Butanone	µg/L	**7.8**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2	< 2	< 2	< 10	< 20	< 10
2-Hexanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2	< 2	< 2	< 10	< 20	< 10
4-Methyl-2-pentanone	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2	< 2	< 2	< 10	< 20	< 10
Acetone	µg/L	25 U	31.1 U	5 JU	5 JU	8.7 U	5 JU	5 JU	5 JU	5 JU	< 5	< 2	< 2	< 2	< 10	< 20	< 10
Benzene	µg/L	**0.52 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	**0.98 J**	< 20	< 10
Benzene, 1-methylethyl	µg/L											< 2	< 2	< 2	< 10	< 20	< 10
Bromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Bromodichloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Bromoform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Bromomethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Carbon disulfide	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2	< 2	< 2	< 10	< 20	< 10
Carbon tetrachloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Dichlorodifluoromethane	µg/L											< 2	< 2	< 2	< 10	< 20	< 10
Chlorobenzene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Chloroethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Chloroform	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Chloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
cis-1,2-Dichloroethene	µg/L											< 2	< 2	< 2	**2.35 J**	< 20	< 10
cis-1,3-Dichloropropene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Dibromochloromethane	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Dibromomethane	µg/L											< 2	< 2	< 2	< 10	< 20	< 10
Ethylbenzene	µg/L	**0.26 J**	< 1	< 1	< 1	**0.32 J**	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Methylene chloride	µg/L	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 2	< 2	< 2	< 10	< 20	< 10
Naphthalene	µg/L											< 2	< 2	< 2	< 10	< 20	< 10
n-Butylbenzene	µg/L											< 2	< 2	< 2	< 10	< 20	< 10
n-Propylbenzene	µg/L											< 2	< 2	< 2	< 10	< 20	< 10
sec-Butylbenzene	µg/L											< 2	< 2	< 2	< 10	< 20	< 10
Styrene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Tetrachloroethene	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Toluene	µg/L	<2.2	<2.3	<2.8	<2.6	<5.1	<2.2	<2.8	<2	<2	<1.9	< 2	< 2	< 2	< 10	< 20	< 10
Trichloroethene	µg/L	< 1	< 1	**1.4**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	**2.44**	**3.63 J**	< 20	< 10
Vinyl chloride	µg/L	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 2	< 2	< 10	< 20	< 10
Xylenes (total)	µg/L	< 1	< 1	**0.62 J**	< 1	**0.72 J**	< 1	< 1	< 1	< 1	< 1						

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation
Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	B159-1	B159-1	B159-2	B159-2	B159-2	B159-2	B159-2	B159-2	B159-2	B159-2	B159-3	B159-3	B159-3	B159-3	B159-3	B159-3	B159-3
	Sample ID	B159-1-40(120402)	B159-1-45(120402)	B159-2-10(120602)	B159-2-15(120602)	B159-2-20(120602)	B159-2-25(120602)	B159-2-30(120602)	B159-2-40(120602)	B159-2-45(120602)	B159-2-35(120602)	B159-3-10(120402)	B159-3-15(120402)	B159-3-20(120402)	B159-3-25(120402)	B159-3-30(120402)	B159-3-35(120602)	B159-3-40(120602)
	Sample Date	12/4/2002	12/4/2002	12/6/2002	12/6/2002	12/6/2002	12/6/2002	12/6/2002	12/6/2002	12/6/2002	12/6/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	39	44	9	14	19	24	29	34	39	44	9	14	19	24	29	34	39
	End Depth	41	46	11	16	21	26	31	36	41	46	11	16	21	26	31	36	41
Chemical Name	Unit																	
1,1,1-Trichloroethane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
1,1,2,2-Tetrachloroethane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
1,1-Dichloroethane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2 IJ	< 2 IJ	< 2 IJ	< 2	< 2	< 2	< 10 IJ	< 10	< 10 IJ	< 10
1,1-Dichloroethene	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
1,2-Dibromoethane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
1,2-Dichloroethane	µg/L																	
1,2-Dichloroethene	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
1,2-Dichloropropane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
2-Butanone	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
2-Hexanone	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Acetone	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Benzene	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Benzene, 1-methylethyl	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Bromochloromethane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Bromodichloromethane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Bromoform	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Bromomethane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Carbon disulfide	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Carbon tetrachloride	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Dichlorodifluoromethane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	**10.5**	**5.32**	< 2	< 10	< 10	< 10	< 10
Chlorobenzene	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Chloroethane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Chloroform	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Chloromethane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
cis-1,2-Dichloroethene	µg/L	**14.7**	**3.4 J**	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
cis-1,3-Dichloropropene	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Dibromochloromethane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Dibromomethane	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2 IJ	< 2	< 2 IJ	< 2	< 2	< 2	< 2 IJ	< 10	< 10	< 10 IJ	< 10
Ethylbenzene	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Methylene chloride	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Naphthalene	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
n-Butylbenzene	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
n-Propylbenzene	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
sec-Butylbenzene	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Styrene	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Tetrachloroethene	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Toluene	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Trichloroethene	µg/L	**116**	**12.7**	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Vinyl chloride	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10
Xylenes (total)	µg/L																	

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-2
Summary of Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

	Location ID	B159-3	B159-4	B159-4	B159-4	B159-4	B159-4	B159-4	B159-4	B159-4
	Sample ID	B159-3-45(120602)	B159-4-10(120402)	B159-4-15(120402)	B159-4-20(120402)	B159-4-25(120402)	B159-4-30(120402)	B159-4-35(120402)	B159-4-40(120402)	B159-4-45(120402)
	Sample Date	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	44	9	14	19	24	29	34	39	44
	End Depth	46	11	16	21	26	31	36	41	46
Chemical Name	Unit									
1,1,1-Trichloroethane	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
1,1,2,2-Tetrachloroethane	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
1,1,2-Trichloroethane	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
1,1-Dichloroethane	µg/L	< 10	< 2 IJ	< 2	< 2	< 10	< 10	< 10	< 10 IJ	< 2
1,1-Dichloroethene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
1,2-Dibromoethane	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
1,2-Dichloroethane	µg/L									
1,2-Dichloroethene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
1,2-Dichloropropane	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
2-Butanone	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
2-Hexanone	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
4-Methyl-2-pentanone	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Acetone	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Benzene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Benzene, 1-methylethyl	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Bromochloromethane	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Bromodichloromethane	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Bromoform	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Bromomethane	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Carbon disulfide	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Carbon tetrachloride	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Dichlorodifluoromethane	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Chlorobenzene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Chloroethane	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Chloroform	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Chloromethane	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
cis-1,2-Dichloroethene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
cis-1,3-Dichloropropene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Dibromochloromethane	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Dibromomethane	µg/L	< 10	< 2	< 2	< 2	< 10	< 10 IJ	< 10	< 10	< 2
Ethylbenzene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Methylene chloride	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Naphthalene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
n-Butylbenzene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
n-Propylbenzene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
sec-Butylbenzene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Styrene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Tetrachloroethene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Toluene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Trichloroethene	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Vinyl chloride	µg/L	< 10	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 2
Xylenes (total)	µg/L									

	Location ID	B159-5	B159-5	B159-5	B159-5	B159-5	B159-5	B159-5	B159-5
	Sample ID	B159-5-10(120402)	B159-5-15(120302)	B159-5-20(120302)	B159-5-25(120302)	B159-5-30(120302)	B159-5-35(120302)	B159-5-40(120402)	B159-5-45(120402)
	Sample Date	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002	12/3/2002
	Sample Type	VP	VP	VP	VP	VP	VP	VP	VP
	Start Depth	9	14	19	24	29	34	39	44
	End Depth	11	16	21	26	31	36	41	46
Chemical Name	Unit								
1,1,1-Trichloroethane	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,1,2,2-Tetrachloroethane	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,1-Dichloroethane	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,1-Dichloroethene	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,2-Dibromoethane	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,2-Dichloroethane	µg/L								
1,2-Dichloroethene	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,2-Dichloropropane	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
2-Butanone	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
2-Hexanone	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Acetone	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Benzene	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Benzene, 1-methylethyl	µg/L	< 2	< 2	**0.81 J**	< 10	< 10	< 10	< 10	< 10
Bromochloromethane	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Bromodichloromethane	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Bromoform	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Bromomethane	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Carbon disulfide	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Carbon tetrachloride	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Chlorobenzene	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Chloroethane	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Chloroform	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Chloromethane	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
cis-1,2-Dichloroethene	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
cis-1,3-Dichloropropene	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Dibromochloromethane	µg/L	< 2	< 2	< 2	< 10 IJ	< 10	< 10	< 10	< 10
Dibromomethane	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Ethylbenzene	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Methylene chloride	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	< 2	**1.37 J**	**6.17**	**6.22 J**	< 10	< 10	< 10	< 10
n-Butylbenzene	µg/L	< 2	**0.53 J**	< 2	< 10	< 10	< 10 J	< 10	< 10
n-Propylbenzene	µg/L	< 2	< 2	**0.62 J**	< 10	< 10	< 10	< 10	< 10
sec-Butylbenzene	µg/L	< 2	**0.88 J**	< 2	< 10	< 10	< 10	< 10	< 10
Styrene	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Tetrachloroethene	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Toluene	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Trichloroethene	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Vinyl chloride	µg/L	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Xylenes (total)	µg/L								

Notes:
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
R = Result rejected during data validation
B = Analyte detected in associated blank
U = Non-detect based on data validation

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-3
Summary of Groundwater Analyses, Purge Facility Investigation
HAA-17
Hunter Army Airfield-Savannah, GA

	Well ID	AT-MW-1	AT-MW-2	AT-MW-3	AT-MW-4	AT-MW-4	AT-MW-5
	Sample ID	AT0112	AT0212	AT0312	AT0412	AT0414	AT0512
	Date	07/23/06	07/23/06	07/24/06	07/24/06	07/24/06	07/24/06
VOCs	Units						
1,2-Dichloroethene	µg/L	**1.13**	<1	<1	<1	<1	<1
2-Butanone	µg/L	<5	<5	<5	**2.43 J**	**2.67 J**	<5
4-Methyl-2-pentanone	µg/L	<5	<5	<5	**1.49 J**	**1.76 J**	<5
Acetone	µg/L	**1.64 J**	<5	**3.26 J**	**10.5**	**13**	**1.26 J**
Benzene	µg/L	<1	<1	<1	**1.09**	**1.11**	<1
Ethylbenzene	µg/L	<1	**0.828 J**	<1	**2.88**	**3.1**	**1.25**
Toluene	µg/L	**0.396 J**	**0.402 J**	<1	**5.11**	**5.11**	**1.28**
Trichloroethene	µg/L	**34.8**	<1	<1	<1	<1	<1
Xylenes, Total	µg/L	**0.496 J**	**1.07**	**0.277 J**	**14.6**	**14.6**	**5.32**
SVOCs							
2-Methylnaphthalene	µg/L	<1 J	<1	<1	<1	**0.424 J**	**3.46**
Benzoic Acid	µg/L	<20	<20	**12.1 J**	<20	**14.9 J**	<19.6
Naphthalene	µg/L	<1 J	**0.548 J**	<1	<1	**0.676 J**	**2.15**
Metals							
Barium, Total	µg/L	**40.5**	**12.1**	**60.3**	**34.3**	**33.4**	**14.2**
Cadmium, Total	µg/L	**0.51 J**	<0.3	<0.3	**0.32 J**	<0.3	<0.3
Chromium, Total	µg/L	**16.1**	**1.3 J**	**1.8 J**	**3.6 J**	**3 J**	**1.4 J**

Notes:
J = Estimated value
Bolded values indicate detections
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19

Table 4-4
Summary of Soil Analyses, Purge Facility Investigation
HAA-17
Hunter Army Airfield - Savannah, Georgia

Sample ID		Soil Notification Concentration	AT-MW-1	AT-MW-1	AT-MW-2	AT-MW-2	AT-MW-3	AT-MW-3 (DUP)	AT-MW-3	AT-MW-3(DUP)	AT-MW-4
Location ID			AT0111	AT0121	AT0211	AT0221	AT0311	AT0313	AT0321	AT0323	AT0411
Sample Date			05/11/06	05/11/06	05/10/06	05/10/06	05/10/06	05/10/06	05/10/06	05/10/06	05/10/06
Surface/Subsurface [Soil]			Surface	Subsurface	Surface	Subsurface	Surface	Surface	Subsurface	Subsurface	Surface
Sample Depth (ft bgs)			0.0-1.0	4.0-6.0	0.0-1.0	4.0-6.0	0.0-1.0	0.0-1.0	4.0-6.0	4.0-6.0	0.0-1.0
VOCs	Units										
1,1,2,2-Tetrachloroethane	mg/kg	0.13	< 0.00121	< 0.00127	< 0.0016	< 0.00142	< 0.00115	< 0.00134	< 0.00161	< 0.00236	< 0.00118
2-Butanone	mg/kg	0.79	<0.00604	**0.00268 J**	<0.00802	<0.00709	<0.00575	<0.0067	<0.00805	<0.0118	<0.00589
Acetone	mg/kg	2.74	**0.013**	**0.0348 J**	**0.0202 J**	**0.0292**	**0.00574 J**	**0.0255**	**0.0132**	**0.0181**	**0.0117**
Carbon Disulfide	mg/kg	DL*	**0.0071**	<0.00636	**0.0211 J**	**0.00413 J**	**0.00191 J**	<0.0067	<0.00805	<0.0118	**0.00477 J**
Chloroform	mg/kg	0.68	< 0.00121	< 0.00127	**0.000439 J**	< 0.00142	< 0.00115	< 0.00134	< 0.00161	< 0.00236	< 0.00118
Styrene	mg/kg	14	**0.0003 J**	**0.00055 J**	**0.00035 J**	**0.00031 J**	<0.00115	<0.00134	**0.00034 J**	**0.00055 J**	<0.00118
Toluene	mg/kg	14.4	**0.00448**	**0.00822 J**	<0.0016	**0.00195**	**0.0935**	**0.00251**	<0.00161	**0.00783**	<0.00118
Xylenes, Total	mg/kg	20	<0.00121	**0.00026 J**	<0.0016	<0.00142	<0.00115	<0.00134	<0.00161	<0.00236	<0.00118
SVOCs											
Benzo(a)pyrene	mg/kg	1.64	< 0.0402	< 0.0441	< 0.0364	**0.253**	< 0.0384	< 0.0384	< 0.0451	< 0.0471	< 0.0346
Benzo(b)fluoranthene	mg/kg	5	< 0.0402	< 0.0441	**0.0474**	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0275 J**
Benzo(k)fluoranthene	mg/kg	5	< 0.0402	< 0.0441	< 0.0364	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0153 J**
Chrysene	mg/kg	5	< 0.0402	< 0.0441	**0.0191 J**	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0226 J**
Di-n-butyl phthalate	mg/kg	13.7	< 0.402	< 0.441	**0.0432 J**	< 0.454	< 0.384	< 0.384	< 0.451	< 0.471	< 0.346
Fluoranthene	mg/kg	500	< 0.0402	< 0.0441	**0.0139 J**	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0504**
Phenanthrene	mg/kg	110	< 0.0402	< 0.0441	< 0.0364	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0265 J**
Pyrene	mg/kg	500	< 0.0402	< 0.0441	**0.0137 J**	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0357**
Metals											
Arsenic, Total	mg/kg	41	**1 J**	< 0.632	**1.1 J**	< 0.651	< 0.572	< 0.574	< 0.676	< 0.673	**0.85 J**
Barium, Total	mg/kg	500	**6**	**5.7**	**19.7**	**5.3**	**2.9**	**3**	**3.8**	**3.6**	**6.5**
Cadmium, Total	mg/kg	39	**0.063 J**	< 0.0379	**0.14 J**	< 0.039	< 0.0343	**0.043 J**	< 0.0406	< 0.0404	**0.075 J**
Chromium, Total	mg/kg	1200	**3.5 J**	**6.2 J**	**1.5**	**8.3**	**3.5**	**3.4**	**4.4**	**5.8**	**3.8**
Lead, Total	mg/kg	300	**7.3**	**7**	**16.7**	**10**	**4**	**4.4**	**2.7**	**2.9**	**17.8**
Mercury, Total	mg/kg	17	**0.024**	**0.109**	**0.0219**	**0.172**	**0.027**	**0.043**	**0.0346**	**0.0281**	**0.0237**
Selenium, Total	mg/kg	36	< 0.69	**1.9**	< 0.641	**0.99 J**	< 0.686	< 0.689	**0.84 J**	**1.4 J**	< 0.609

Notes:
J = Estimated value
Bolded values indicate detections
Shaded cell indicates detections above Notification Concentrations, per Rule 391-3-19
DL* = Detection Limit, as defined in Rule 391-3-19 as the practical quantitation limit (PQL); values below the PQL are not shaded

Table 4-4
Summary of Soil Analyses, Purge Facility Investigation
HAA-17
Hunter Army Airfield - Savannah, Georgia

Sample ID		Soil Notification Concentration	AT-MW-4	AT-MW-5	AT-MW-5	AT-SS-1	AT-SS-1	AT-SS-2	AT-SS-2	AT-SS-3	AT-SS-3
Location ID			AT0421	AT0511	AT0521	AT0110	AT0120	AT0210	AT0220	AT0310	AT0320
Sample Date			05/10/06	05/11/06	05/11/06	05/12/06	05/12/06	05/12/06	05/12/06	05/12/06	05/12/06
Surface/Subsurface [Soil]			Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface
Sample Depth (ft bgs)			4.0-6.0	0.0-1.0	4.0-6.0	0.5-1.0	2.0-4.0	0.5-1.0	2.0-4.0	0.5-1.0	2.0-4.0
VOCs	Units										
1,1,2,2-Tetrachloroethane	mg/kg	0.13	< 0.00108	< 0.00151	**0.000667 J**	< 0.00142	< 0.00109	< 0.00122	< 0.00117	< 0.00119	< 0.00109
2-Butanone	mg/kg	0.79	<0.00539	<0.00754	**0.00416 J**	**0.00424 J**	<0.00546	<0.00612	<0.00583	<0.00595	<0.00547
Acetone	mg/kg	2.74	**0.00409 J**	<0.00754	**0.0385 J**	**0.0988 J**	<0.00546	**0.00759 J**	**0.00346 J**	<0.00595	**0.00995**
Carbon Disulfide	mg/kg	DL*	<0.00539	**0.00475 J**	**0.00285 J**	<0.00708	<0.00546	<0.00612	**0.0035 J**	<0.00595	<0.00547
Chloroform	mg/kg	0.68	< 0.00108	< 0.00151	< 0.00191	< 0.00142	< 0.00109	< 0.00122	< 0.00117	< 0.00119	< 0.00109
Styrene	mg/kg	14	**0.00034 J**	**0.00046 J**	**0.00085 J**	**0.00059 J**	**0.00029 J**	**0.00064 J**	**0.00028 J**	**0.00026 J**	**0.00029 J**
Toluene	mg/kg	14.4	**0.00638**	<0.00151	**0.00063 J**	<0.00142	<0.00109	**0.00073 J**	<0.00117	<0.00119	<0.00109
Xylenes, Total	mg/kg	20	<0.00108	<0.00151	<0.00191	<0.00142	<0.00109	**0.00025 J**	<0.00117	<0.00119	<0.00109
SVOCs											
Benzo(a)pyrene	mg/kg	1.64	< 0.0445	< 0.0342	< 0.0458	< 0.0387	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Benzo(b)fluoranthene	mg/kg	5	< 0.0445	**0.018 J**	< 0.0458	**0.0284 J**	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Benzo(k)fluoranthene	mg/kg	5	< 0.0445	**0.0114 J**	< 0.0458	< 0.0387	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Chrysene	mg/kg	5	< 0.0445	< 0.0342	< 0.0458	< 0.0387	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Di-n-butyl phthalate	mg/kg	13.7	< 0.445	< 0.342	< 0.458	< 0.387	< 0.408	< 0.416	< 0.404	< 0.373	< 0.401
Fluoranthene	mg/kg	500	< 0.0445	**0.0251 J**	< 0.0458	**0.014 J**	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Phenanthrene	mg/kg	110	< 0.0445	**0.012 J**	< 0.0458	< 0.0387	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Pyrene	mg/kg	500	< 0.0445	**0.0246 J**	< 0.0458	**0.0218 J**	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Metals											
Arsenic, Total	mg/kg	41	< 0.665	**0.64 J**	< 0.664	**0.93 J**	< 0.591	**0.82 J**	**0.85 J**	< 0.542	< 0.596
Barium, Total	mg/kg	500	**5.2**	**5.9**	**5.3**	**8.7**	**1.9**	**16**	**7.8**	**6.5**	**6.8**
Cadmium, Total	mg/kg	39	< 0.0399	**0.13 J**	< 0.0399	**0.092 J**	< 0.0355	< 0.037	< 0.0357	**0.2 J**	< 0.0357
Chromium, Total	mg/kg	1200	**9.8**	**2.4 J**	**8 J**	**3.5 J**	**1.8 J**	**2.2 J**	**2.8 J**	**2.5 J**	**3.7 J**
Lead, Total	mg/kg	300	**7.6**	**17**	**4.5**	**8.7**	**2.5**	**15.4**	**4.5**	**3**	**5.2**
Mercury, Total	mg/kg	17	**0.133**	**0.0184**	**0.0538**	**0.0271**	**0.0214**	**0.0325**	**0.0313**	**0.0062 J**	**0.0544**
Selenium, Total	mg/kg	36	< 0.798	< 0.589	< 0.797	< 0.693	< 0.71	< 0.74	< 0.714	< 0.65	< 0.715

Notes:

J = Estimated value

Bolded values indicate detections

Shaded cell indicates detections above Notification Concentrations, per Rule 391-3-19

DL* = Detection Limit, as defined in Rule 391-3-19 as the practical quantitation limit (PQL); values below the PQL are not shaded

Table 4-5
Vertical Profile, MIP, and DPT Sample Summary
HAA-17
Hunter Army Airfield - Savannah, GA

Vertical Profile/ MIP/DPT ID	Installation Date	Northing	Easting	Soil Sampling Invervals (ft BGS)	Groundwater Sampling Invervals (ft BGS)
CAP Part B Investigations - 1999 through 2002					
AF-21	5/7/1999	734143.75	979553.06	--	11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45, 46-50, 51-55
AF-22	5/8/1999	734085.32	979516.34	--	11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45, 46-50, 51-55
AF-30	9/26/1999	734139.86	979550.68	--	11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45, 46-50
AF-31	9/25/1999	733998.85	979522.67	--	6-10, 11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45, 46-50
AF-32	9/25/1999	733972.47	979570.12	--	11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45, 46-50
AF-43	11/30/2000	734303.9	979627	--	4-9, 9-14, 14-19, 19-24, 24-29, 29-34, 34-39, 39-44, 44-49
AF-44	12/1/2000	734233	979549.9	--	4-9.0, 9-14, 14-19, 19-24, 24-29, 29-34, 34-39, 39-44, 44-49
AF-45	12/1/2000	734156.9	979457.5	--	4-9, 9-14, 14-19, 19-24, 24-29, 29-34, 34-39, 39-44, 44-49
AF-46	12/2/2000	734090.1	979390.2	--	6-10, 10-20, 11-15, 21-25, 28-30, 31-35, 36-40, 41-45, 46-50
AF-47	12/2/2000	733996.5	979367.3	--	11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45, 46-50
AF-48	12/4/2000	733926.8	979430.7	--	5-10, 10-15, 15-20, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50
AF-49	12/2/2000	733922.2	979641.8	--	6-10, 11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45, 46-50
AF-50	12/2/2000	734069.3	979596.9	--	4-9, 9-14, 14-19, 19-24, 24-29, 29-34, 34-39, 39-44, 44-49
AF-51	12/3/2000	734115.2	979650.9	--	5-10, 10-15, 15-20, 20-25, 25-30, 30-35, 35-40, 40-45, 45-50
AF-52	12/2/2000	734234	979686.7	--	4-9, 9-14, 14-19, 19-24, 24-29, 29-34, 34-39, 39-44, 44-49
AF-63	7/16/2002	734234.3	979386.5	--	1-5, 6-10, 11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45
AF-64	7/16/2002	734337.7	979548.7	--	6-10, 11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45
AF-65	7/17/2002	734417	979673.9	--	1-5, 6-10, 11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45
AF-66	7/17/2002	734418.8	979801.5	--	1-5, 6-10, 11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45
AF-67	7/17/2002	734017.7	979773.2	--	6-10, 11-15, 16-20, 21-25, 26-30, 31-35, 36-40, 41-45
B159-1	12/4/2002	--	--	--	9-11, 14-16 , 19-21, 24-26, 29-31, 34-36, 39-41, 44-46
B159-2	12/6/2002	--	--	--	9-11, 14-16 , 19-21, 24-26, 29-31, 34-36, 39-41, 44-46
B159-3	12/4/2002	--	--	--	9-11, 14-16 , 19-21, 24-26, 29-31, 34-36, 39-41, 44-46
B159-4	12/4/2002	--	--	--	9-11, 14-16 , 19-21, 24-26, 29-31, 34-36, 39-41, 44-46
B159-5	12/3/2002	--	--	--	9-11, 14-16 , 19-21, 24-26, 29-31, 34-36, 39-41, 44-46
Building 1290 Investigation - 2007					
MIP-01/DPT02	10/07*	734754.1254	977962.9799	13-14.5, 43.5-45.5	15-16, 41-45
MIP-02	10/07*	735500.7184	977136.5949	--	--
MIP-02	10/07*	734735.3294	978625.4549	--	--
MIP-03	10/07*	735369.235	977186.1826	--	--
MIP-04/DPT04	10/07*	734467.177	978702.3575	10-11,39-40	10-12, 38-40
MIP-05/DPT05	10/07*	734361.1824	979392.0779	36-37,41-42	36-38, 46-48
MIP-06	10/07*	734231.3394	979233.2889	--	--
MIP-07/DPT03	10/07*	734823.88	977924.0316	14.5-15.5 ,44-45	14-16, 44-46
MIP-08	10/07*	735124.93	977809.3846	--	--
MIP-09	10/07*	734947.1794	978524.7169	--	--
MIP-10/DPT07	10/07*	734525.1177	979200.7792	7.5-8.5 ,39-40	8-10, 39-41
MIP-11/DPT10	10/07*	734034.271	979662.4555	10-11,14-15	10-12, 14-16 , 26-28
MIP-12	10/07*	734528.678	978883.3445	--	--
MIP-13	10/07*	734743.8754	979047.1819	--	--
MIP-14/DPT06	10/07*	734614.106	979865.1015	10-11,34-35	10-14, 34-36
MIP-15	10/07*	734011.017	979013.1075	--	--
MIP-16/DPT01	10/07*	734267.9574	978083.7579	43-44	41-45
MIP-17/DPT09	10/07*	734458.635	978316.4835	12-13,40-41	12-14, 40-42
MIP-18	10/07*	734713.191	979371.6635	--	--

Notes:
Samples collected solely for petroleum analysis during CAP Investigations are not included in table
MIP = membrane interface probe
DPT = direct push technology
-- = no data/not applicable
* exact date of MIP installation unknown

Table 4-5
Vertical Profile, MIP, and DPT Sample Summary
HAA-17
Hunter Army Airfield - Savannah, GA

Vertical Profile/ MIP/DPT ID	Installation Date	Northing	Easting	Soil Sampling Invervals (ft BGS)	Groundwater Sampling Invervals (ft BGS)
MIP-19	10/07*	734822.537	979561.1835	--	--
MIP-20/DPT08	10/07*	734735.3294	978625.4549	13-14,35-36	14-18 , 35-40
MIP-21/DPT13	1/08*	733568.8536	979871.4161	16-18,28-30	14-18 , 26-28
MIP-22	1/08*	733887.4989	979792.3465	--	--
MIP-23	1/08*	733744.2716	979677.1611	--	--
MIP-24/DPT14	1/08*	734043.5136	980028.5711	11-13,24-26	8-12, 22-26
MIP-25	1/08*	734280.7719	980107.0775	--	--
MIP-26/DPT11	1/08*	734045.3549	979823.0955	12.5-14.5 ,27.5-29.5	10-14, 24-29
MIP-27/DPT18	1/08*	733644.9259	979294.9965	8-10,28-30	4-8, 24-28
MIP-28	1/08*	733869.2089	979974.8455	--	--
MIP-29/DPT15	1/08*	734518.1736	980185.7271	15-17,24-26	11-15, 20-24
MIP-30/DPT12	1/08*	733898.9929	979668.8475	14-16,26-28	12-16, 24-28
MIP-31	1/08*	733430.4589	980024.3095	--	--
MIP-32	1/08*	733122.9799	981127.8375	--	--
MIP-33	1/08*	733472.4436	981543.1051	--	--
MIP-34/DPT17	1/08*	733902.3379	981494.8275	17-19,38-40	16-26 , 36-40
MIP-35/DPT16	1/08*	734380.7799	980666.4285	15-17,31-33	10-14, 28-32
MIP-36/DPT19	1/08*	732927.2859	979350.8335	9-10,31-33	8-12, 30-34
MIP-37	1/08*	733428.5059	979233.4535	--	--
MIP-38/DPT20	1/08*	733075.3956	979652.9141	12-14,28-30	8-12, 24-28
MIP-39	1/08*	733018.9059	979850.3635	--	--
MIP-40	1/08*	733125.3949	980296.7765	--	--

Notes:
Samples collected solely for petroleum analysis during CAP Investigations are not included in table
MIP = membrane interface probe
DPT = direct push technology
-- = no data/not applicable
* exact date of MIP installation unknown

Table 4-6
Summary of Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

Location ID		MW-1S	MW-1D	MW-2S	MW-2D	MW-3S	MW-3D	MW-4S
Sample ID		AU01111	AU01121	AU02111	AU02121	AU03111	AU03121	AU04111
Sample Date		07/17/07	07/17/07	07/18/07	07/17/07	07/18/07	07/18/07	07/17/07
Sample Type		MW	MW	MW	MW	MW	MW	MW
Sample Depth (ft BGS)		5.72 - 15.72	19.95 - 29.95	4.3 - 14.3	19.90 - 29.9	6.7 - 11.7	19.58 - 29.58	5.66 - 15.66
Chemical Name	Units							
1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Butanone	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<5	<5	<5	<5	<5	**2.43 J**	<5
Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	µg/L	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L	<1	<1	<1	<1	**0.273 J**	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 4-6
Summary of Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

Location ID		MW-4D	MW-5S	MW-5D	MW-6S	MW-7S	MW-7D	MW-8S
Sample ID		AU04121	AU05111	AU05121	AU06111	AU07111	AU07121	AU08111
Sample Date		07/17/07	07/18/07	07/18/07	07/18/07	07/16/07	07/17/07	07/18/07
Sample Type		MW	MW	MW	MW	MW	MW	MW
Sample Depth (ft BGS)		19.91 - 29.91	5.80 - 15.8	20.0 - 30.0	4.0 - 9.0	7.89 - 17.89	24.6 - 34.6	5.40 - 15.4
Chemical Name	Units							
1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	**6.01**
1,2-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Butanone	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<5	<5	<5	**14.9**	**1.89 J**	<5	<5
Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	µg/L	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 4-6
Summary of Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

	Location ID	MW-8D	MW-9S	MW-9D	MW-12S	MW-12D	MW-13S	MW-13D
	Sample ID	AU08121	AU09111	AU09121	AU12111	AU12121	AU13111	AU13121
	Sample Date	07/18/07	07/18/07	07/18/07	07/18/07	07/18/07	07/19/07	07/19/07
	Sample Type	MW	MW	MW	MW	MW	MW	MW
	Sample Depth (ft BGS)	14.50 - 24.5	5.55 - 15.5	20.39 - 30.39	7.6 - 17.6	24.3 - 34.3	5.59 - 15.59	20.01 - 30.01
Chemical Name	Units							
1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	**7.77**	**4.29**	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Butanone	µg/L	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	<5	**5.52**	**12**	<5	<5	<5	<5
Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	µg/L	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	**1.08**	<1	<1	<1	<1	<1	<1
Vinyl Chloride	µg/L	<1	**0.551 J**	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 4-6
Summary of Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

Location ID		MW-15S	MW-16S	DPT-01	DPT-02	DPT-02	DPT-03	DPT-03
Sample ID		AU15111	AU16111	AU011A	AU021A	AU022A	AU031A	AU032A
Sample Date		07/19/07	07/19/07	10/02/07	10/02/07	10/02/07	10/02/07	10/02/07
Sample Type		MW	MW	DPT	DPT	DPT	DPT	DPT
Sample Depth (ft BGS)		Unknown	Unknown	41.0 - 45.0	15.0 - 16.0	41.0 - 45.0	14.0 - 16.0	44.0 - 46.0
Chemical Name	Units							
1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	**0.906 J**	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	**9.35**	**54.7**	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	**1.1**
1,2-Dichloroethene	µg/L	<1	<1	**3.65**	<1	<1	<1	**0.574 J**
2-Butanone	µg/L	<1	<1	<5	<5	<5	<5	<5
Acetone	µg/L	<5	<5	<5	<5	<5	<5	<5
Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	µg/L	<5	<5	**1.55 J**	<5	<5	<5	**1.55 J**
Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	**19.4**	<1	<1	<1	**2.5**
Vinyl Chloride	µg/L	<1	**27.3**	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 4-6
Summary of Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

Location ID		DPT-04	DPT-04	DPT-05	DPT-05	DPT-06	DPT-06	DPT-07
Sample ID		AU041A	AU042A	AU051A	AU052A	AU061A	AU062A	AU071A
Sample Date		10/02/07	10/02/07	10/02/07	10/02/07	10/03/07	10/03/07	10/03/07
Sample Type		DPT	DPT	DPT	DPT	DPT	DPT	DPT
Sample Depth (ft BGS)		10.0 - 12.0	38.0 - 40.0	36.0 - 38.0	46.0 - 48.0	10.0 - 14.0	34.0 - 36.0	8.0 - 10.0
Chemical Name	Units							
1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	µg/L	<1	<1	**2.99**	**3.42**	<1	<1	<1
2-Butanone	µg/L	<5	<5	<5	<5	<5	<5	<5
Acetone	µg/L	<5	<5	<5	<5	<6.81	<21.4	<5
Benzene	µg/L	<1	<1	**1.05**	<1	<1	<1	<1
Carbon Disulfide	µg/L	<5	<5	<5	**2.49 J**	<5	<5	<5
Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1	<1.53	<1
Trichloroethene	µg/L	<1	<1	**39.7**	**74.8**	<1	<1	<1
Vinyl Chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 4-6
Summary of Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

	Location ID	DPT-07	DPT-08	DPT-08	DPT-09	DPT-09	DPT-10	DPT-10
	Sample ID	AU072A	AU081A	AU082A	AU091A	AU092A	AU101A	AU102A
	Sample Date	10/03/07	10/03/07	10/03/07	10/03/07	10/03/07	10/04/07	10/04/07
	Sample Type	DPT	DPT	DPT	DPT	DPT	DPT	DPT
	Sample Depth (ft BGS)	39.0 - 41.0	14.0 - 18.0	35.0 - 40.0	12.0 - 14.0	40.0 - 42.0	10.0 - 12.0	14.0 - 16.0
Chemical Name	Units							
1,1,2,2-Tetrachloroethane	µg/L	<1	**0.44 J**	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	**3.35**
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	**1.66**	**6.74**
1,2-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	**41.3**	**104**
2-Butanone	µg/L	<5	<5	<5	<5	<5	<5	<5
Acetone	µg/L	<5	<5	<5	<7.44	**4.72 J**	**1.55 J**	**1.54 J**
Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	µg/L	<5	<5	<5	<5	**3.18 J**	<5	<5
Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	**172**	**483 J**
Vinyl Chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 4-6
Summary of Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

	Location ID	DPT-10	DPT-11	DPT-11	DPT-12	DPT-12	DPT-13	DPT-13
	Sample ID	AU103A	AU111A	AU112A	AU121A	AU122A	AU131A	AU132A
	Sample Date	10/04/07	01/28/08	01/28/08	01/28/08	01/28/08	01/29/08	01/29/08
	Sample Type	DPT	DPT	DPT	DPT	DPT	DPT	DPT
	Sample Depth (ft BGS)	26.0 - 28.0	10.0 - 14.0	24.0 - 29.0	12.0 - 16.0	24.0 - 28.0	14.0 - 18.0	26.0 - 28.0
Chemical Name	Units							
1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	**0.791 J**	**0.862 J**	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	**2.59**	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	µg/L	**22.2**	**63.8**	<1	<1	<1	<1	<1
2-Butanone	µg/L	**3.27 J**	<5	<5	<5	<5	<5	<5
Acetone	µg/L	**7.98 J**	**3.78 J**	**4.46 J**	**3.55 J**	<5	<5	<5
Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	µg/L	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	<1	**0.709 J**	**0.377 J**	<1	**0.386 J**	<1	<1
Trichloroethene	µg/L	**99.4**	**372 J**	**0.269 J**	<1	<1	<1	<1
Vinyl Chloride	µg/L	<1	**0.944 J**	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 4-6
Summary of Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

	Location ID	DPT-14	DPT-14	DPT-15	DPT-15	DPT-16	DPT-16	DPT-17
	Sample ID	AU141A	AU142A	AU151A	AU152A	AU161A	AU162A	AU171A
	Sample Date	01/29/08	01/29/08	01/29/08	01/29/08	01/29/08	01/29/08	01/30/08
	Sample Type	DPT	DPT	DPT	DPT	DPT	DPT	DPT
	Sample Depth (ft BGS)	8.0 - 12.0	22.0 - 26.0	11.0 - 15.0	20.0 - 24.0	10.0 - 14.0	28.0 - 32.0	16.0 - 26.0
Chemical Name	Units							
1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Butanone	µg/L	<5	<5	<5	<5	<5	<5	<5
Acetone	µg/L	<5	<5	<5	<5	<5	<5	<5 J
Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	µg/L	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	<1	<1	<1	<1	<1	<1	**0.252 J**
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 4-6
Summary of Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

	Location ID	DPT-17	DPT-18	DPT-18	DPT-19	DPT-19	DPT-20	DPT-20
	Sample ID	AU172A	AU181A	AU182A	AU191A	AU192A	AU201A	AU202A
	Sample Date	01/30/08	01/30/08	01/30/08	01/30/08	01/30/08	01/30/08	01/30/08
	Sample Type	DPT	DPT	DPT	DPT	DPT	DPT	DPT
	Sample Depth (ft BGS)	36.0 - 40.0	4.0 - 8.0	24.0 - 28.0	8.0 - 12.0	30.0 - 34.0	8.0 - 12.0	24.0 - 28.0
Chemical Name	Units							
1,1,2,2-Tetrachloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
2-Butanone	µg/L	<5	<5	<5	<5	<5	<5	<5
Acetone	µg/L	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J
Benzene	µg/L	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	µg/L	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	**0.262 J**	<1	<1	**0.313 J**	<1	<1	<1
Trichloroethene	µg/L	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	µg/L	<1	<1	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
Detections exceeding naturally occurring background concentrations trigger notification per Rule 391-3-19
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 4-7
Summary of Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	DPT-01	DPT-02	DPT-02	DPT-03	DPT-03	DPT-04	DPT-04	DPT-05
Location ID			AU011B	AU021B	AU022B	AU031B	AU032B	AU041B	AU042B	AU051B
Sample Date			10/02/07	10/02/07	10/02/07	10/02/07	10/02/07	10/02/07	10/02/07	10/02/07
Sample Depth (ft BGS)			43.0 - 44.0	13.5 - 14.5	43.5 - 44.5	14.5 - 15.5	44.0 - 45.0	10.0 - 11.0	38.8 - 39.8	36.0 - 37.0
VOCs	Units									
1,1-Dichloroethane	mg/kg	0.03	<0.00107	<0.00093	<0.00107	<0.00097	<0.00117	<0.00116	<0.00135	<0.00102
1,2-Dichloroethane	mg/kg	0.02	<0.00107	<0.00093	<0.00107	<0.00097	**0.00141**	<0.00116	<0.00135	<0.00102
1,2-Dichloroethene	mg/kg	–	<0.00107	<0.00093	<0.00107	<0.00097	<0.00117	<0.00116	<0.00135	**0.00054 J**
2-Butanone	mg/kg	0.79	<0.00534	<0.00466	<0.00535	<0.00483	<0.00584	<0.00578	<0.00674	<0.00512
2-Hexanone	mg/kg	--	**0.00174 J**	<0.00466	<0.00535	<0.00483	<0.00584	<0.00578	<0.00674	<0.00512
Acetone	mg/kg	2.74	**0.00396 J**	<0.00466	**0.0124 J**	**0.0052 J**	**0.0109 J**	**0.00391 J**	**0.00981 J**	**0.00402 J**
Carbon Disulfide	mg/kg	DL	**0.00198 J**	<0.00466	<0.00535	**0.00354 J**	<0.00584	<0.00578	<0.00674	<0.00512
Chloromethane	mg/kg	0.04	<0.00107	<0.00093	<0.00107	<0.00097	<0.00117	<0.00116	<0.00135	<0.00102
Ethylbenzene	mg/kg	20	<0.00107	<0.00093	<0.00107	<0.00097	<0.00117	<0.00116	<0.00135	<0.00102
Methylene Chloride	mg/kg	0.08	<0.00534	**0.00237 J**	**0.00228 J**	**0.00197 J**	**0.0026 J**	<0.00578	<0.00674	<0.00512
Styrene	mg/kg	14	**0.00319**	**0.00341**	**0.00366 J**	**0.00283**	**0.00435**	**0.00332**	**0.00249**	**0.0028**
Toluene	mg/kg	14.4	<0.00107	<0.00093	<0.00107	<0.00097	<0.00117	<0.00116	<0.00135	<0.00102
Trichloroethene	mg/kg	0.13	**0.00114**	<0.00093	<0.00107	<0.00097	**0.00332**	<0.00116	<0.00135	**0.0191**
Xylenes, Total	mg/kg	20	<0.00107	<0.00093	**0.00056 J**	<0.00097	<0.00117	<0.00116	<0.00135	<0.00102

Notes:
J = Estimated value
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the practical quantitation limit

Table 4-7
Summary of Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	DPT-05	DPT-06	DPT-06	DPT-07	DPT-07	DPT-08	DPT-08	DPT-09
Location ID			AU052B	AU061B	AU062B	AU071B	AU072B	AU081B	AU082B	AU091B
Sample Date			10/02/07	10/03/07	10/03/07	10/03/07	10/03/07	10/03/07	10/03/07	10/03/07
Sample Depth (ft BGS)			41.0 - 42.0	10.0 - 11.0	34.0 - 35.0	7.5 - 8.5	39.0 - 40.0	13.0 - 14.0	35.0 - 36.0	12.0 - 13.0
VOCs	Units									
1,1-Dichloroethane	mg/kg	0.03	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
1,2-Dichloroethane	mg/kg	0.02	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
1,2-Dichloroethene	mg/kg	–	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
2-Butanone	mg/kg	0.79	<0.00602	<0.00564	<0.0061	<0.00633	<0.00582	<0.00618	<0.00931	<0.00605
2-Hexanone	mg/kg	–	<0.00602	<0.00564	<0.0061	<0.00633	<0.00582	<0.00618	<0.00931	<0.00605
Acetone	mg/kg	2.74	<0.00602	**0.0111 J**	<0.0061	<0.00633	**0.00325 J**	<0.00618	**0.0208 J**	<0.00605
Carbon Disulfide	mg/kg	DL	<0.00602	<0.00564	**0.00252 J**	**0.00204 J**	**0.00463 J**	<0.00618	<0.00931	<0.00605
Chloromethane	mg/kg	0.04	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
Ethylbenzene	mg/kg	20	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
Methylene Chloride	mg/kg	0.08	<0.00602	**0.00285 J**	**0.00307 J**	**0.00326 J**	**0.0033 J**	**0.0035 J**	**0.00455 J**	**0.00291 J**
Styrene	mg/kg	14	**0.00383**	**0.0023**	**0.00206**	**0.00199**	**0.00158**	**0.00124**	**0.0022 J**	**0.00134**
Toluene	mg/kg	14.4	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
Trichloroethene	mg/kg	0.13	**0.00295**	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121
Xylenes, Total	mg/kg	20	<0.0012	<0.00113	<0.00122	<0.00127	<0.00116	<0.00124	<0.00186	<0.00121

Notes:
J = Estimated value
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the practical quantitation limit

Table 4-7
Summary of Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	DPT-09	DPT-10	DPT-10	DPT-11	DPT-11	DPT-12	DPT-12	DPT-13
Location ID			AU092B	AU101B	AU102B	AU111B	AU112B	AU121B	AU122B	AU131B
Sample Date			10/03/07	10/04/07	10/04/07	01/28/08	01/28/08	01/28/08	01/28/08	01/29/08
Sample Depth (ft BGS)			40.0 - 41.0	10.0 - 11.0	14.0 - 15.0	12.5 - 14.5	27.5 - 29.5	14.0 - 16.0	26.0 - 28.0	16.0 - 18.0
VOCs	Units									
1,1-Dichloroethane	mg/kg	0.03	<0.00138	<0.00131	**0.00122 J**	<0.00158	<0.00115	<0.00169 J	<0.00107 J	<0.00115
1,2-Dichloroethane	mg/kg	0.02	<0.00138	<0.00131	<0.00141	<0.00158	<0.00115	<0.00169 J	<0.00107 J	<0.00115
1,2-Dichloroethene	mg/kg	–	<0.00138	**0.00931**	**0.00874**	<0.00158	<0.00115	<0.00169 J	<0.00107 J	<0.00115
2-Butanone	mg/kg	0.79	<0.00689	<0.00654	<0.00706	**0.00358 J**	<0.00574	**0.0164 J**	<0.00536 J	**0.00485 J**
2-Hexanone	mg/kg	–	<0.00689	<0.00654	<0.00706	<0.00791	<0.00574	<0.00844 J	<0.00536 J	<0.00574
Acetone	mg/kg	2.74	**0.0104 J**	**0.00505 J**	**0.0119 J**	**0.0146**	**0.00776**	**0.0688 J**	<0.00696 J	**0.0173 J**
Carbon Disulfide	mg/kg	DL	**0.00498 J**	<0.00654	<0.00706	<0.00791	<0.00574	<0.00844 J	<0.00536 J	<0.00574
Chloromethane	mg/kg	0.04	<0.00138	<0.00131	<0.00141	**0.00428**	<0.00115	<0.00169 J	<0.00107 J	<0.00115
Ethylbenzene	mg/kg	20	<0.00138	<0.00131	<0.00141	**0.00074 J**	<0.00115	<0.00169 J	<0.00107 J	<0.00115
Methylene Chloride	mg/kg	0.08	**0.00276 J**	<0.00654	<0.00706	**0.00566 J**	<0.00574	<0.00844 J	<0.00536 J	<0.00574
Styrene	mg/kg	14	**0.00201**	**0.00197**	**0.00248**	**0.00187**	**0.00041 J**	**0.00278 J**	**0.00107 J**	**0.00098 J**
Toluene	mg/kg	14.4	<0.00138	<0.00131	<0.00141	<0.00158	<0.00115	**0.00058 J**	<0.00107 J	<0.00115
Trichloroethene	mg/kg	0.13	<0.00138	**0.072**	**0.12**	**0.00211**	<0.00115	<0.00169 J	<0.00107 J	<0.00115
Xylenes, Total	mg/kg	20	<0.00138	<0.00131	<0.00141	**0.00232**	**0.00044 J**	**0.00221 J**	**0.00067 J**	**0.00046 J**

Notes:
J = Estimated value
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the practical quantitation limit

Table 4-7
Summary of Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

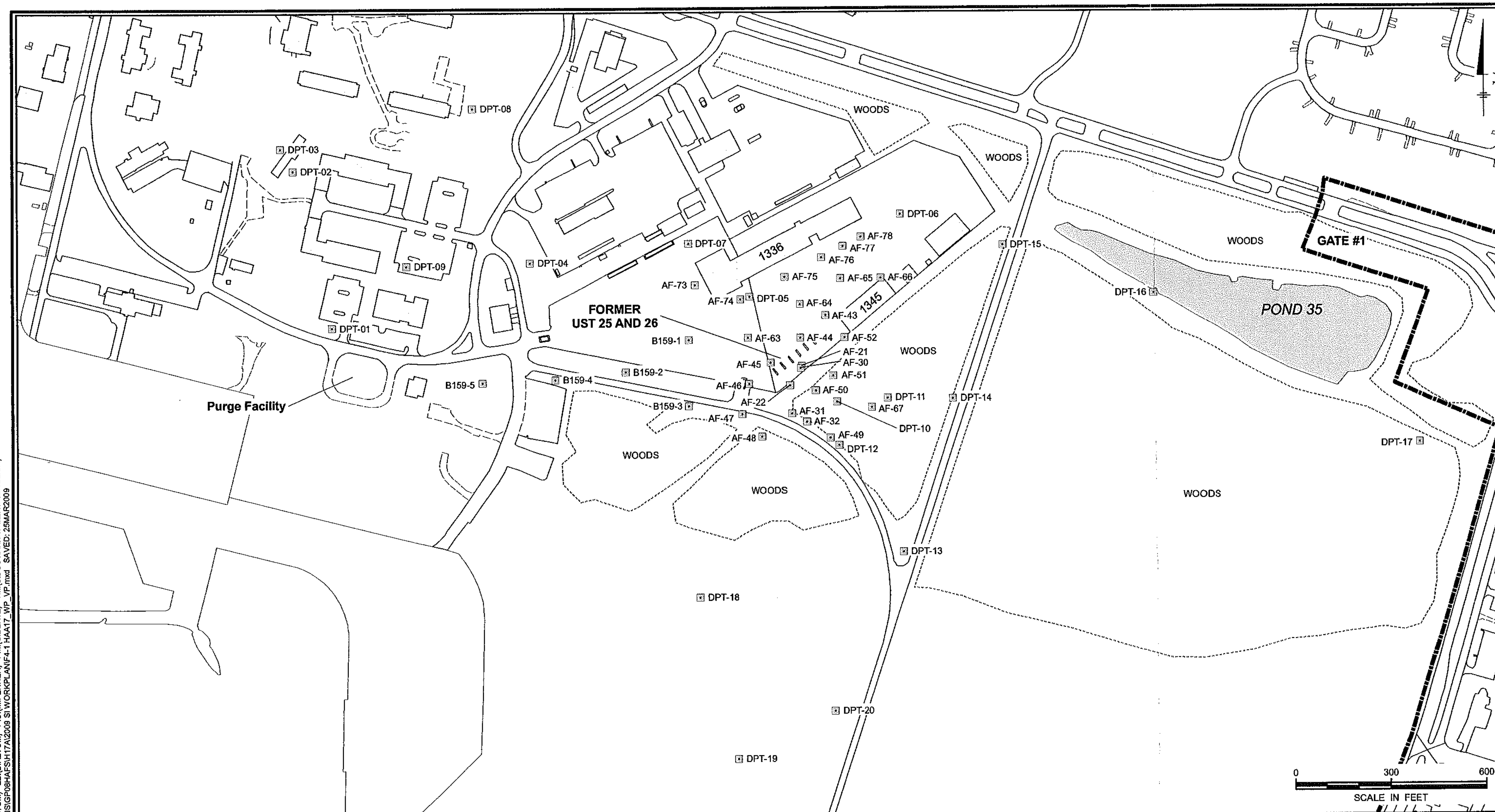
Sample ID		Soil Notification Concentration	DPT-13	DPT-14	DPT-14	DPT-15	DPT-15	DPT-16	DPT-16	DPT-17
Location ID			AU132B	AU141B	AU142B	AU151B	AU152B	AU161B	AU162B	AU171B
Sample Date			01/29/08	01/29/08	01/29/08	01/29/08	01/29/08	01/29/08	01/29/08	01/30/08
Sample Depth (ft BGS)			28.0 - 30.0	11.0 - 13.0	24.0 - 26.0	15.0 - 17.0	24.0 - 26.0	15.0 - 17.0	31.0 - 33.0	17.0 - 19.0
VOCs	Units									
1,1-Dichloroethane	mg/kg	0.03	<0.00143	<0.00159	<0.00115	<0.00184	<0.00115	<0.0012	<0.00117	<0.00125
1,2-Dichloroethane	mg/kg	0.02	<0.00143	<0.00159	<0.00115	<0.00184	<0.00115	<0.0012	<0.00117	<0.00125
1,2-Dichloroethene	mg/kg	--	<0.00143	<0.00159	<0.00115	<0.00184	<0.00115	<0.0012	<0.00117	<0.00125
2-Butanone	mg/kg	0.79	<0.00716	<0.00795	<0.00576	**0.0131 J**	**0.00229 J**	<0.00601	<0.00585	<0.00626
2-Hexanone	mg/kg	--	<0.00716	<0.00795	<0.00576	<0.00921 J	<0.00575	<0.00601	<0.00585	<0.00626
Acetone	mg/kg	2.74	**0.00628 J**	**0.0161**	**0.0051 J**	**0.06 J**	**0.00953**	<0.00601	**0.0035 J**	<0.00626
Carbon Disulfide	mg/kg	DL	**0.00312 J**	<0.00795	<0.00576	<0.00921	<0.00575	<0.00601	**0.00248 J**	<0.00626
Chloromethane	mg/kg	0.04	<0.00143	<0.00159	<0.00115	<0.00184	<0.00115	<0.0012	<0.00117	<0.00125
Ethylbenzene	mg/kg	20	<0.00143	<0.00159	<0.00115	<0.00184 J	<0.00115	<0.0012	<0.00117	<0.00125
Methylene Chloride	mg/kg	0.08	<0.00716	<0.00795	<0.00576	<0.00921	<0.00575	<0.00601	<0.00585	<0.00626
Styrene	mg/kg	14	**0.00065 J**	**0.00101 J**	**0.00096 J**	**0.00127 J**	**0.00039 J**	**0.00037 J**	**0.00077 J**	**0.00109 J**
Toluene	mg/kg	14.4	<0.00143	<0.00159	<0.00115	<0.00184	<0.00115	<0.0012	<0.00117	<0.00125
Trichloroethene	mg/kg	0.13	<0.00143	<0.00159	<0.00115	<0.00184	<0.00115	<0.0012	<0.00117	<0.00125
Xylenes, Total	mg/kg	20	**0.00041 J**	**0.00044 J**	**0.00043 J**	**0.00067 J**	<0.00115	<0.0012	**0.00034 J**	**0.00058 J**

Notes:
J = Estimated value
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the practical quantitation limit

Table 4-7
Summary of Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	DPT-17	DPT-18	DPT-18	DPT-19	DPT-19	DPT-20	DPT-20
Location ID			AU172B	AU181B	AU182B	AU191B	AU192B	AU201B	AU202B
Sample Date			01/30/08	01/30/08	01/30/08	01/30/08	01/30/08	01/30/08	01/30/08
Sample Depth (ft BGS)			38.0 - 40.0	8.0 - 10.0	28.0 - 30.0	9.0 - 10.0	31.0 - 33.0	12.0 - 14.0	28.0 - 30.0
VOCs	Units								
1,1-Dichloroethane	mg/kg	0.03	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
1,2-Dichloroethane	mg/kg	0.02	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
1,2-Dichloroethene	mg/kg	--	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
2-Butanone	mg/kg	0.79	<0.00605	<0.00727	<0.00622	<0.0055	<0.00886	<0.00625	<0.0091
2-Hexanone	mg/kg	--	<0.00605	<0.00727	<0.00622	<0.0055	<0.00886	<0.00625	<0.0091
Acetone	mg/kg	2.74	**0.0039 J**	**0.0177**	**0.00719**	**0.0051 J**	**0.0123 J**	**0.0092 J**	**0.00573 J**
Carbon Disulfide	mg/kg	DL	<0.00605	<0.00727	**0.00293 J**	<0.0055	**0.00607 J**	<0.00625	<0.0091
Chloromethane	mg/kg	0.04	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
Ethylbenzene	mg/kg	20	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
Methylene Chloride	mg/kg	0.08	<0.00605	<0.00727	<0.00622	<0.0055	<0.00886	<0.00625	<0.0091
Styrene	mg/kg	14	**0.00082 J**	**0.00121 J**	**0.00097 J**	**0.00059 J**	**0.0014 J**	**0.00043 J**	**0.001 J**
Toluene	mg/kg	14.4	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
Trichloroethene	mg/kg	0.13	<0.00121	<0.00145	<0.00124	<0.0011	<0.00177	<0.00125	<0.00182
Xylenes, Total	mg/kg	20	**0.0004 J**	**0.00066 J**	**0.00042 J**	**0.0003 J**	**0.00062 J**	<0.00125	<0.00182

Notes:
J = Estimated value
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the practical quantitation limit



LEGEND

Hunter Army Airfield Boundary

Approximate Treeline of Wooded Area

Vertical Profile/Direct Push Sampling Location

NOTES:

1) DPT- samples are associated with the Building 1290 investigation.

2) AF- and B159- samples are associated with the UST 25 and 26 CAP Part B investigation.

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 SITE INVESTIGATION WORK PLAN

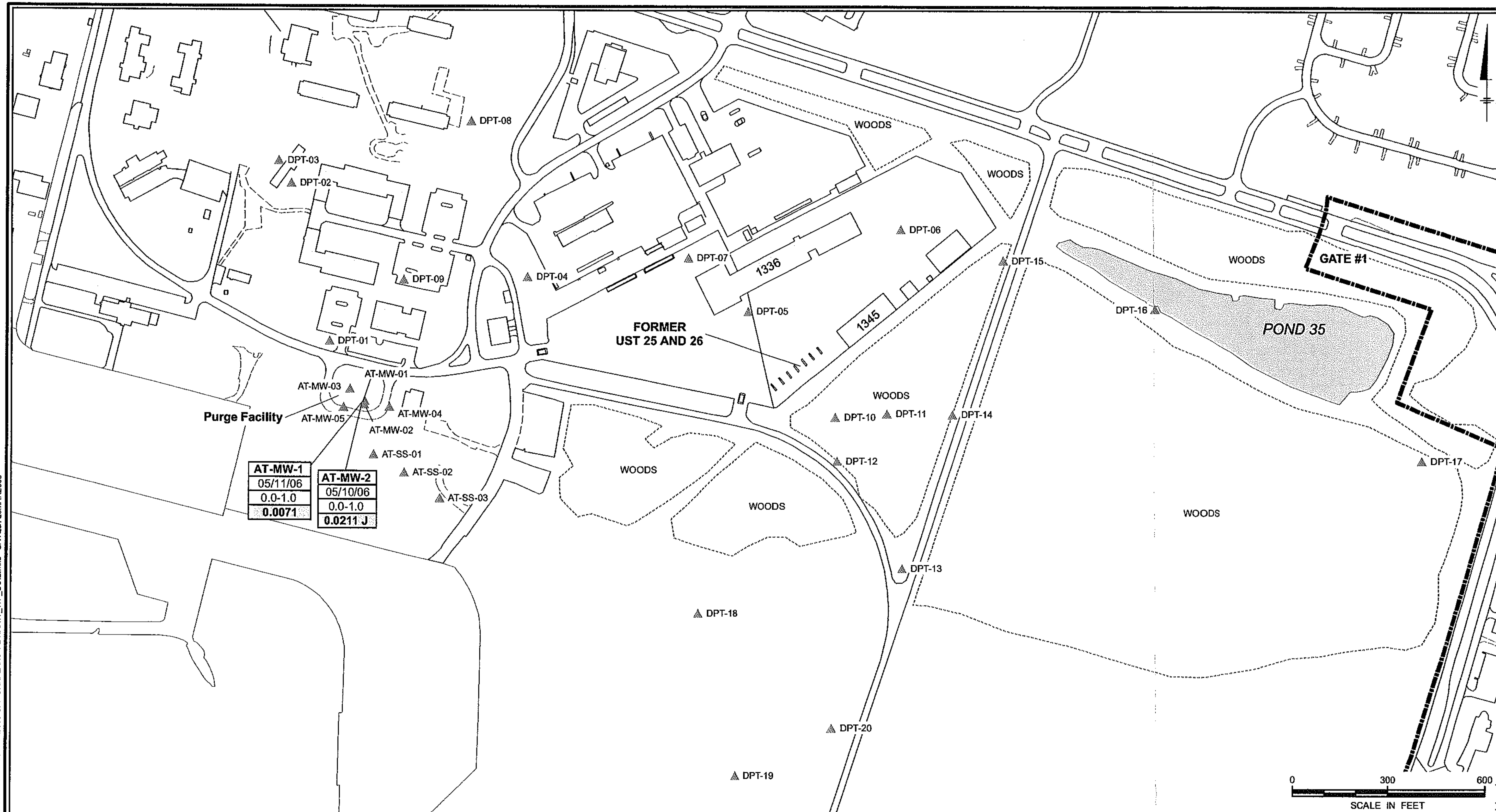
Historical Vertical Profile Sampling Locations

ARCADIS

FIGURE

4-1

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) LD:(B.ALTOM) PIC:(M.FENNER) PM:(C.BERTZ) TM:(S.BOSTIAN/D.WILLIS/H.ENGLISH)
PROJECT: GP08HAFS.F17A.DBCSM PATH: G:\GIS\GP08HAFS\H17A\2009 SI WORKPLAN\F4-1 HAA17_WP_VP.mxd SAVED: 25MAR2009



LEGEND

Hunter Army Airfield Boundary

Approximate Treeline of Wooded Area

Soil Sample

Sample ID	AT-MW-1
Sample Date	05/11/06
Sample Depth (ft bgs)	0.0-1.0
Carbon Disulfide	**0.0071**

NOTES:
1) AT-SS- and AT-MW- samples are associated with the Purge Facility Investigation (2006), and include surface and subsurface samples.
2) DPT- samples are associated with Building 1290 Investigation (2007-2008), and include subsurface samples only.
3) Soil samples collected for investigation of petroleum constituents only at UST 25 and 26 are not included on this map.
4) All concentrations reported in milligrams per kilogram (mg/kg).
5) BOLD values indicate detections above Notification Concentrations, per Chapter 391-3-19, Appendix I.
6) Notification concentration for carbon disulfide is the detection limit, defined as the practical quantitation limit in Chapter 391-3-19.

J - Estimated Value
ft bgs - feet below ground surface
HSRA - Hazardous Site Response Act

HUNTER ARMY AIRFIELD, GEORGIA

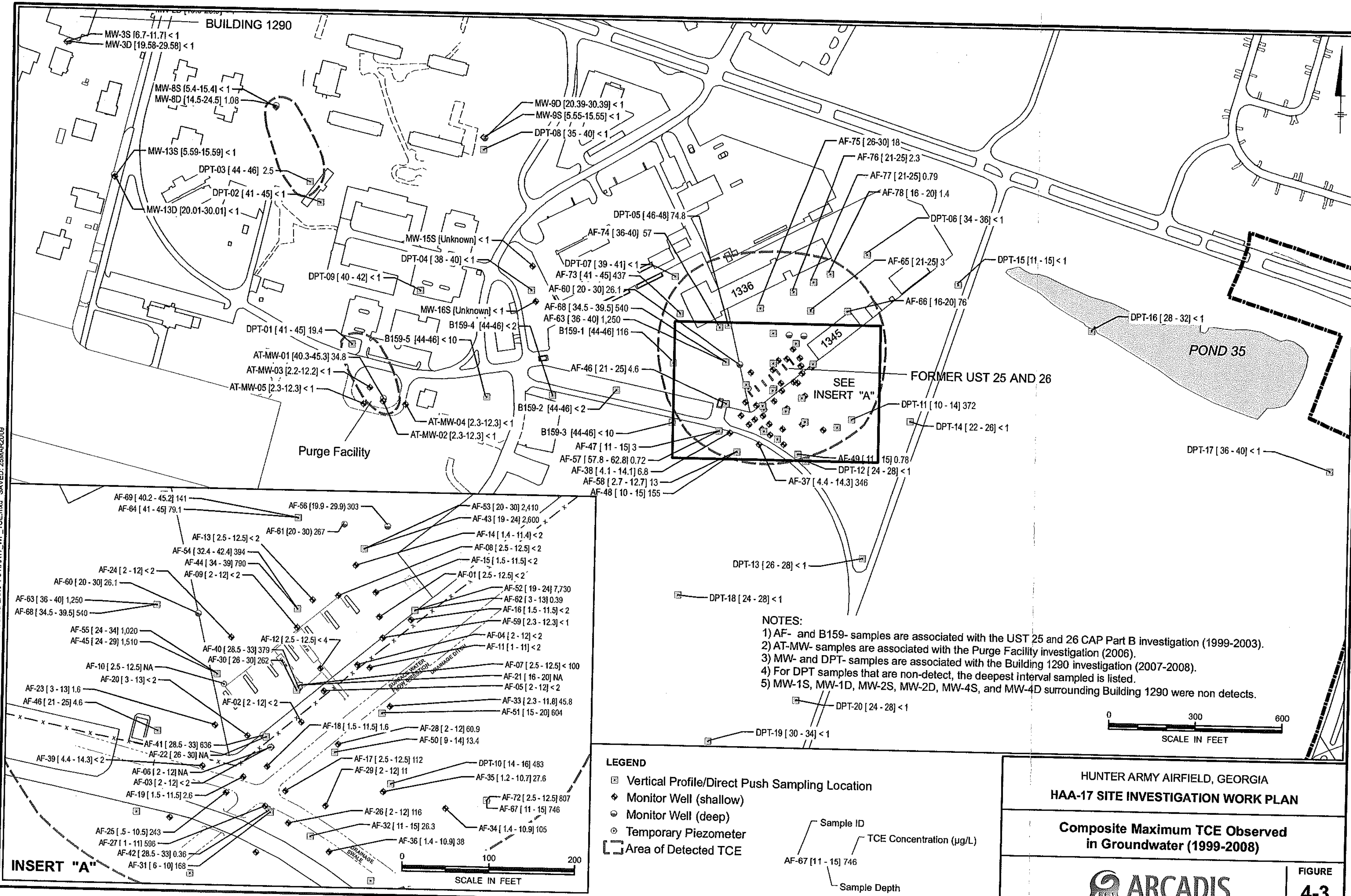
HAA-17 SITE INVESTIGATION WORK PLAN

Soil Sampling Locations and Regulated Substances in Soil Above HSRA Notification Concentrations (2006-2008)

ARCADIS

FIGURE **4-2**

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) LD:(B.ALTOM) PIC:(M.FENNER) PM:(C.BERTZ) TM:(S.BOSTIAN/D.WILLIS/H.ENGLISH)
PROJECT: GP08HAFS.F17A.DBCSM PATH: G:\GIS\GP08HAFS\H17A\2009 SI WORKPLAN\F4-2 HAA17_WP_SOIL.mxd SAVED: 25MAR2009



NOTES:
1) AF- and B159- samples are associated with the UST 25 and 26 CAP Part B investigation (1999-2003).
2) AT-MW- samples are associated with the Purge Facility investigation (2006).
3) MW- and DPT- samples are associated with the Building 1290 investigation (2007-2008).
4) For DPT samples that are non-detect, the deepest interval sampled is listed.
5) MW-1S, MW-1D, MW-2S, MW-2D, MW-4S, and MW-4D surrounding Building 1290 were non detects.

LEGEND

- Vertical Profile/Direct Push Sampling Location
- Monitor Well (shallow)
- Monitor Well (deep)
- Temporary Piezometer
- Area of Detected TCE

AF-67 [11 - 15] 746 — Sample ID; TCE Concentration (µg/L); Sample Depth

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 SITE INVESTIGATION WORK PLAN

Composite Maximum TCE Observed in Groundwater (1999-2008)

ARCADIS

FIGURE **4-3**

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) LD:(B.ALTOM) PIC:(M.FENNER) PM:(C.BERTZ) TM:(S.BOSTIAN/D.WILLIS/H.ENGLISH)
PROJECT: GP08HAFS.F17A.DBCSM PATH: G:\GIS\GP08HAFS\H17A\2009 SI WORKPLAN\F4-3 HAA17_WP_TCE.mxd SAVED: 25MAR2009

5. Current HAA-17 Conceptual Site Model

The following is an overview of the geologic setting and groundwater quality conditions at HAA-17 based on previous investigations.

5.1 Hunter Army Airfield Depositional Model

A depositional model of how shallow sediments were deposited at HAAF may be a valuable tool to predict the distribution of sand units and clay beds in the uppermost aquifer system at HAAF. HAAF is located on top of the relict Pamlico beach ridge that was the shoreline during late Pleistocene time. The shallow sediments at HAAF are comparable to sediments that form the nearby modern barrier islands along the Atlantic coast. Pamlico Terrace is only a little older (in geologic time) and higher than the modern beach. The depositional processes and sediments that form barrier islands are well researched by coastal geomorphologists and clastic sedimentologists. Published investigations of modern barrier islands can be used to predict the shallow stratigraphy at HAAF. In a typical barrier system, the highest part of the ridge is the beach composed of fine to medium well sorted quartz sand. The beach itself is a massive sand with little clay and silt because it is reworked by the constant wave action and migration of tidal inlets.

In front of the beach to the east was the shallow open Atlantic Ocean. Deposited sediments should be finer sands that are constantly reworked to form massive but finer sands compared to the beach. Grain size should decrease with increasing water depth due to the limited winnowing in deeper water by reduced wave action with depth. There should be only minor clay units unless the beach has prograded over a remnant of marsh clay.

Behind the barrier to the west were marshes and bays that deposited lower energy silts and silty clay units. Clay beds are interbedded with sand units. The sand units were deposited from tidal inlets that migrated along the barrier and wash-over fans from storms. Individual units will drape off of the central barrier massive sands. Clays will compact more than sands with time to form somewhat continuous but thin units.

Hunter Army Airfield will compare the shallow sediments at the site to the typical beach depositional model as we pursue closure. Currently, our evaluation of the shallow geology at HAA-17 closely matches the depositional environment behind and up to the former beach, which is where the runways are located.

5.2 HAA-17 Local Geology/Hydrogeology

The HAA-17 site is located about 7,000 feet southeast of HAA-15, MCA Barracks site, on the opposite side of the Pamlico beach ridge. Topography from HAA-15 to HAA-17 is relatively flat with less than 5 feet in relief (Figure 5-1). Former USTs 25 and 26 were located on a relatively steep east facing slope that forms the eastern boundary of the Pamlico beach ridge. The elevation decreases about 10 feet within 300 feet to a drainage canal. The steep eastern topographic slope suggests that the HAA-17 area was deposited on the seaward side of the Pamlico beach ridge.

Lithologies west of the former USTs location on top of the Pamlico ridge are typical of the beach and shallow foreshore in open marine conditions. The lithologic log from Monitor Well AT-MW-01 to the west of former USTs in the Purge area describes massive poorly sorted sand with no discernable clay units to a total depth of 40 feet. Massive sand with minor to no clay is typical of a beach. Lithologies were not recorded in the groundwater investigation at Building 1290.

Lithologic logs from wells drilled at HAA-17 suggest shallow marine conditions. Figure 5-2 illustrates a cross section along topographic strike near the former UST area. The dominant lithology is a poorly sorted fine grain silty sand with minor interstitial clay. The silty sand is typical of a shallow open marine environment. Most of the HAA-17 site does not have distinct clay beds down to a depth of about 40 feet. Wells AF-57, AF-55, and AF-54 penetrated a clay bed at about 40 feet depth. However, most other monitor wells were terminated above this depth. There is a massive clay unit to the southeast near Tubb Street at the base of the beach ridge. Also, shallow borings to the east of the drainage ditch at the base of the Pamlico beach ridge encountered shallow clay units. A geophysical survey conducted in 2000 by Argonne National Laboratory confirmed shallow clay units east of the drainage canal. Massive clays are not typical of the shallow open marine environment. The Pamlico beach ridge may have prograded over the marsh of an older beach ridge.

Lateral groundwater flow at HAA-17 conforms to the relatively steep slope to the southeast. Depth to the water table varies from about 2 feet to 5 ft bgs with a gradient on the slope of about 0.02 ft/ft. Groundwater migration rates at HAA-17 are unknown since slug tests have not been performed to determine hydraulic conductivities. There should be minor variation in groundwater flow directions at HAA-17 due to the relatively steep topographic slope. A summary of groundwater elevations at HAA-17 are included in Table 5-1.

A groundwater investigation at Building 1290 suggests that a groundwater divide exists near Strachan drive. Groundwater to the west of Strachan Drive flows to the southwest away from Building 1290 and the HAA-17 area (Figure 5-3a and Figure 5-3b.) The Building 1290 investigation shows that groundwater flow east of Strachan Drive conforms to the local topography and flows to the southeast toward former USTs 25 and 26. The horizontal groundwater gradient in the relatively flat area up gradient of USTs 25 and 26 is about 0.003 ft/ft. Monitor well data from July 2007 suggest a downward hydraulic gradient in the relatively flat area west of former USTs 25 and 26.

There are limited data at former USTs 25 and 26 to determine vertical hydraulic gradients. There are two sets of nested monitor wells at HAA-17. Monitor Well AF-27 is paired with deeper AF-42, and Monitor Well AF-07 is paired with deeper AF-40. Well pair AF-07/AF-40 is located on the slope near former USTs 25 and 26 and shows a slight upward to downward gradient of +0.05 feet to -0.54 feet from year 2000 to 2006. The well pair AF-27/AF-42 is located at the base of the Pamlico beach ridge next to the drainage canal. The vertical gradient at well pair AF-27/AF-42 shows a significant upward gradient of +2.35 feet to +3.59 feet from year 2000 to year 2003. However, there are no data from AF-27 after 2003. A potentiometric map presented in the UST 25 and 26 CAP, Addendum #2 showed shallow groundwater elevations decreasing towards the drainage ditch from both directions suggesting that the drainage canal may be a groundwater discharge barrier for the shallow groundwater, i.e., the drainage canal may capture all shallow groundwater in this area. However, potentiometric data from 2006 presented in Figure 5-4a and Figure 5-4b indicate groundwater flows past the canal.

5.3 Extent of Impacts

5.3.1 Groundwater Impacts

The dissolved TCE in groundwater at HAA-17 is centered at the former UST tank farm. TCE was previously detected at a maximum of 7,730 micrograms per liter (µg/L) in analyses from temporary boring AF-52. The dissolved TCE concentrations decrease in all directions from AF-52. Concentrations above 1 milligram per liter (mg/L) are limited to an area around AF-52 and AF-43/53 and an area near AF-45/55 and AF-63 at the other end of the former tank farm. Multiple investigations show that the dissolved TCE concentration in groundwater is significantly lower up gradient of the former UST tank farm. The highest TCE concentrations detected during the vertical profile study around Building 1336 were 437 µg/L in AF-73 and 57 µg/L in AF-74, both of which are about 200 feet upgradient of the former Tank Farm. Another investigation around Building

1336 resulted in the detection of 75 µg/L of TCE in groundwater at DPT-05 in approximately the same location as AF-74. Multiple groundwater investigations demonstrate that the former UST tank farm area was likely the primary source of TCE. Additional investigations up gradient of former USTs 25 and 26 yielded predominantly no detections of VOCs with only a few low dissolved TCE concentrations in groundwater.

During the Purge Area investigation, 34.8 µg/L of TCE was detected in groundwater from deep monitor well AT-MW-01 (40 to 45 ft bgs). TCE was detected at a concentration of 19.4 µg/L in a sample from DPT-01 at a similar interval (41 to 45 ft bgs). All other samples were below detection limits for TCE. The purge facility area is side gradient of the former tank farm. RCRA metals chromium and barium were detected in groundwater samples from the Purge Facility monitor wells. Total chromium was detected in one well and barium was detected in all five wells. The turbidity in the sample from MW-1, the only well where chromium was detected, was 80 Nephelometric Turbidity Units (NTUs) and the results were potentially attributable to particulates in the sample.

During the Building 1290 investigation, TCE was not detected near the building. Low microgram/liter concentrations were detected east of the Strachan Road groundwater divide. During the same investigation, groundwater east of the former tank farm and the drainage canal was also sampled. TCE was detected at a concentration of 483 µg/L in temporary boring DPT-10, which is east of the drainage canal near monitor well AF-35. During sampling of USTs 25 and 26 monitor wells, TCE was detected at 807 µg/L in shallow monitor well AF-72 (2.5 to 12.5 ft bgs) and at 604 µg/L in monitor well AF-51 (15 to 20 ft bgs), which are also east of the canal.

The vertical distribution of dissolved TCE in groundwater at HAA-17 shows variation with depth. Vertical profile analyses indicated that the highest TCE concentrations at the former Tank Farm were at approximately 20 to 30 ft bgs.

The available groundwater data show minor degradation of TCE. Temporary boring AF-52 contained 7730 µg/L TCE and 378 µg/L of degradation product 1,2-dichloroethene. The sample from MW-16S contained 27.3 µg/L of vinyl chloride and 54.7 µg/L of 1,1-DCE but no TCE above detection limits.

5.3.2 Soil Impacts

5.3.2.1 USTs 25 and 26 Area Soil Impacts

Soil samples that were collected during the CAP-Part A and CAP-Part B investigation for the former USTs 25 and 26 were analyzed for petroleum-related constituents only (BTEX, PAHs, TPH-DRO (Total Petroleum Hydrocarbons – Diesel Range Organics), and TPH-GRO (Total Petroleum Hydrocarbons – Gasoline Range Organics). These constituents are addressed under the GA EPD USTMP and soil samples collected solely for analysis of petroleum constituents during CAP investigations at former USTs 25 and 26 are not discussed in this work plan.

5.3.2.2 Purge Facility Soil Impacts

Between May and July 2006, surface soil, subsurface soil, and groundwater samples were collected at the Purge Facility (Figure 4-2). Soil samples were collected from three locations (SS-01 through SS-03) along a surface drainage pathway feature and from five monitor well borings (AT-MW-01 through AT-MW-05) for analysis of VOCs, SVOCs, and RCRA metals. No SVOCs or RCRA metals were detected at levels above HSRA notification concentrations. The only VOC detected was carbon disulfide, which was detected in samples from two locations. The HSRA Notification Concentration for carbon disulfide is the detection limit. However, carbon disulfide can be released into the environment from a variety of natural sources, including the metabolic action of soil bacteria and plants (World Health Organization 2002) and there is no evidence to indicate that these two isolated detections of low concentrations are attributable to an anthropogenic source. A summary of soil analytical data collected during the investigation of the Purge Facility is provided in Table 4-4.

5.3.2.3 Building 1290 Soil Impacts

Between October 2007 and January 2008, soil samples were collected around Building 1290 and downgradient to areas east of former USTs 25 & 26 as part of the Building 1290 investigation (Figure 4-2). Soil samples were collected from 20 locations (DPT-01 through DPT-20) following subsurface screening using MIP as discussed in Section 4.3. The samples were analyzed for VOCs. No VOCs were detected at levels above notification concentrations. A summary of soil analytical data collected during the investigation of Building 1290 is provided in Table 4-7.

5.4 Data Gaps

Previous investigations indicated that the Purge Facility and Building 1290 are not sources of the TCE plume near the former USTs 25 and 26 area. Analyses of TCE concentrations do not indicate any TCE sources upgradient of the former tank farm. The source(s) of the TCE impact to groundwater remains unknown.

A review of historical data shows that the highest concentrations of TCE were observed in groundwater samples collected from 20 to 30 ft bgs (Figure 4-3). The primary source of the TCE release is likely near vertical profile location AF-52 and monitor well AF-53, the locations with the highest observed TCE concentrations in groundwater. AF-52 and AF-53 are located between the former USTs 25 and 26 area and Building 1345. In 2000, TCE was detected at 7,730 µg/L at vertical profile AF-52 in the sample collected from 19-24 ft bgs. In 2001, TCE was detected at 2,410 µg/L in monitor well AF-53, screened 20-30 ft bgs. No monitor well currently exists to permanently monitor the TCE detected in vertical profile AF-52.

Gaps in the Conceptual Site Model where additional investigation is required include the following:

- Potential TCE source areas in the former tank farm area should be investigated and delineated.
- TCE in the three areas depicted on Figure 4-3 should be delineated to background concentrations consistent with HSRA requirements. These areas are proximate to the Purge Facility, a drycleaner facility, former location of UST 25 & 26, Special Weapons Facility and Weapon Cleaning Facility, which were previously identified as potential source areas (Figure 3-2).
- The history of activities in the impacted areas, specifically solvent use, should be researched further to enhance the understanding of potential sources of TCE.
- Additional investigation should be conducted around the Purge Facility to evaluate chromium and barium detections in groundwater.
- The clay units previously identified east of the former UST 25 & 26 location should be investigated to evaluate location and continuity.
- Slug tests or pumping tests have not been performed to date and should be conducted to calculate hydraulic conductivities.
- Additional data should be collected to verify vertical hydraulic gradients across the HAA-17 area.

- Surface water elevations in the drainage canal east and downgradient of former USTs 25 & 26 should be determined to establish the hydraulic nature of the stream (gaining or losing).
- Groundwater flow direction east of the drainage canal should be determined.
- Biogeochemical data should be collected to aid evaluation of anaerobic biodegradation of TCE.

Table 5-1
Groundwater Elevation Summary, 2006-2007
HAA-17
Hunter Army Airfield-Savannah, GA

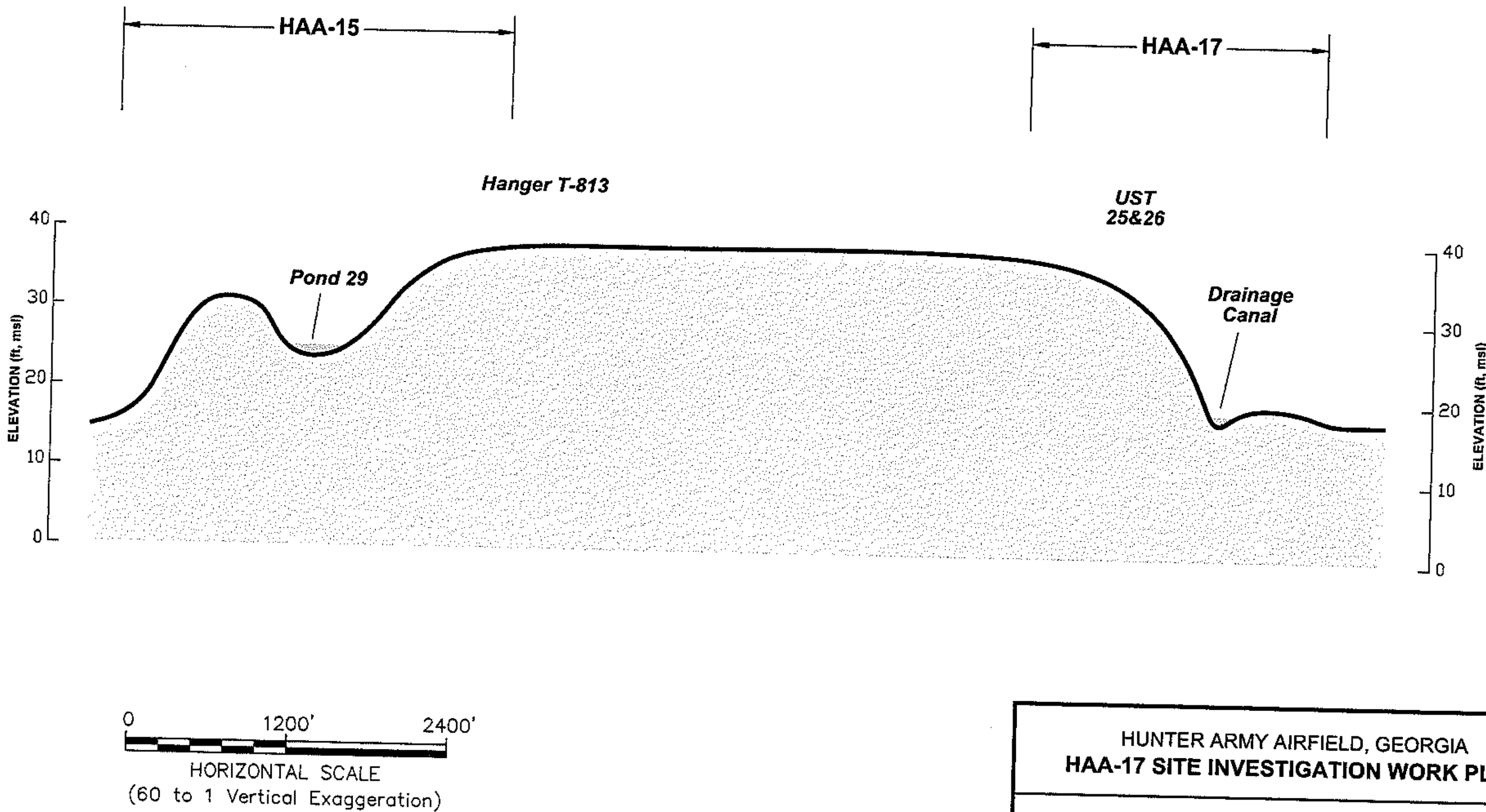
Well ID	Date	Top of Casing Elevation (ft above MSL)	Screened Interval (ft BGS)	Depth to Water (ft)	Groundwater Elevation (ft)
Purge Facility Investigation Water Level Data, May 12,2006					
AT-MW-1	5/12/2006	31.61	40.3 - 45.3	4.45	27.16
AT-MW-2	5/12/2006	31.86	2.3 - 12.3	3.69	28.17
AT-MW-3	5/12/2006	32.09	2.2 - 12.2	3.54	28.55
AT-MW-4	5/12/2006	32.79	2.3 - 12.3	4.79	28
AT-MW-5	5/12/2006	33.03	2.3 - 12.3	4.62	28.41
CAP Part B Investigation Water Level Data, July 19, 2006					
AF-01	7/19/2006	23.02	2.5 - 12.5	4.92	18.1
AF-02	7/19/2006	21.94	2.0 - 12.0	4.58	17.36
AF-03	7/19/2006	22.27	2.0 - 12.0	4.75	17.52
AF-04	7/19/2006	22.24	2.0 - 12.0	3.01	19.23
AF-05	7/19/2006	22.21	2.0 - 12.0	2.36	19.85
AF-07	7/19/2006	b	2.5 - 12.5	4.92	b
AF-08	7/19/2006	23.1	2.5 - 12.5	3.79	19.31
AF-09	7/19/2006	22.93	2.0 - 12.0	NR	destroyed
AF-11	7/19/2006	21.89	1.0 - 11.0	2.99	18.9
AF-12R	7/19/2006	22.56	3.5 - 13.5	8.35	14.21
AF-13	7/19/2006	22.79	2.5 - 12.5	2.99	19.8
AF-14	7/19/2006	23.04	1.4 - 11.4	2.91	20.13
AF-15	7/19/2006	23.28	1.5 - 11.5	3.95	19.33
AF-16	7/19/2006	22.17	1.6 - 11.6	NM	NM
AF-17	7/19/2006	18.93	2.0 - 12.0	destroyed	destroyed
AF-18	7/19/2006	20.13	1.3 - 11.3	3.88	16.25
AF-19	7/19/2006	19.68	1.4 - 11.4	1.19	18.49
AF-20	7/19/2006	22.84	3.0 - 13.0	4.54	18.3
AF-23	7/19/2006	23.25	3.0 - 13.0	4.44	18.81
AF-24	7/19/2006	22.85	2.0 - 12.0	2.57	20.28
AF-25	7/19/2006	15.03	0.1 - 10.1	NM	NM
AF-26	7/19/2006	17.65	2.0 - 12.0	3.32	14.33
AF-28	7/19/2006	17.11	2.0 - 12.0	destroyed	destroyed
AF-29	7/19/2006	19.06	2.0 - 12.0	4.5	14.56
AF-33	7/19/2006	18.07	2.3 - 11.8	2.6	15.47
AF-34	7/19/2006	17.85	1.4 - 10.9	6.02	11.83
AF-35	7/19/2006	17.63	1.2 - 10.7	4.18	13.45
AF-36	7/19/2006	17.52	1.4 - 10.9	3.45	14.07
AF-37	7/19/2006	20.06	4.4 - 14.3	damaged	damaged
AF-39	7/19/2006	22.12	4.4 - 14.3	4.53	17.59
AF-40	7/19/2006	22.78	28.5 - 33.0	5.34	17.44
AF-41	7/19/2006	22.33	28.5 - 33.0	not accessible	not accessible
AF-42	7/19/2006	19.03	28.5 - 33.0	0.9	18.13
AF-53	7/19/2006	22.93	20.0 - 30.0	NM	NM
AF-54	7/19/2006	22.43	32.4 - 42.4	4.11	18.32
AF-55	7/19/2006	22.76	24.0 - 34.0	4.23	18.53
AF-56	7/19/2006	22.99	19.9 - 29.9	NM	NM

Table 5-1
Groundwater Elevation Summary, 2006-2007
HAA-17
Hunter Army Airfield-Savannah, GA

Well ID	Date	Top of Casing Elevation (ft above MSL)	Screened Interval (ft BGS)	Depth to Water (ft)	Groundwater Elevation (ft)
AF-57	7/19/2006	22.21	57.8 - 62.8	3.72	18.49
AF-58	7/19/2006	22.32	2.7 - 12.7	8.71	13.61
AF-59	7/19/2006	22.33	2.3 - 12.3	4.14	18.19
AF-60	7/19/2006	23.77	20.0 - 30.0	2.7	21.07
AF-61	7/19/2006	23.47	20.0 - 30.0	3.73	19.74
AF-62	7/19/2006	22.11	3.0 - 13.0	NM	NM
Building 1290 Investigation Water Level Data, July 20, 2007					
MW-01D	7/20/2007	36.40	19.95 - 29.95	6.79	29.81
MW-01S	7/20/2007	36.43	5.72 - 15.72	6.75	29.95
MW-02D	7/20/2007	36.05	19.90 - 29.90	6.38	29.92
MW-02S	7/20/2007	36.05	4.3 - 14.3	6.28	30.02
MW-03D	7/20/2007	b	19.59 - 29.58	6.95	29.59
MW-03S	7/20/2007	b	6.70 - 11.70	6.78	29.81
MW-04D	7/20/2007	36.25	19.91 - 29.91	6.82	29.68
MW-04S	7/20/2007	36.23	5.66 - 15.66	6.69	29.81
MW-05D	7/20/2007	36.16	20.0 - 30.0	6.35	30.05
MW-05S	7/20/2007	36.14	5.80 - 15.80	6.32	30.08
MW-06S	7/20/2007	36.03	4.0 - 9.0	6.44	29.86
MW-07D	7/20/2007	36.93	24.6 - 34.6	6.85	30.08
MW-07S	7/20/2007	36.92	7.89 - 17.89	6.73	30.19
MW-08D	7/20/2007	36.72	14.50 - 24.50	6.74	29.98
MW-08S	7/20/2007	36.53	5.40 - 15.40	6.56	29.97
MW-09D	7/20/2007	37.35	20.39 - 30.39	9.65	27.7
MW-09S	7/20/2007	37.39	5.55 - 15.55	8.46	28.93
MW-12D	7/20/2007	37.27	24.3 - 34.3	7.8	29.7
MW-12S	7/20/2007	37.29	7.6 - 17.6	7.75	29.75
MW-13D	7/20/2007	36.81	20.01 - 30.01	7.11	29.7
MW-13S	7/20/2007	36.63	5.59 - 15.59	6.8	29.83
MW-15	7/20/2007	31.30	--	4.2	27.1
MW-16	7/20/2007	30.33	--	3.55	26.78

Notes:
MSL = mean sea level
BGS = below ground surface
TOC = top of casing
b = unable to open well cap during survey

CITY: (KNOXVILLE) DIV/GROUP: (ENV) DB:(A. SAUL) LD:(B.ALTOM) PIC:(M. FENNER) PM:(C. BERTZ) TM:(S.BOSTIAN/D.WILLIS)
G:\GIS\GP08HAFS\H17A\2009 SI WORKPLAN\F5-1 H17A_WP_Topo-Profile.dwg LAYOUT: TP SAVED: 3/20/2009 9:16 AM ACADVER: 17.1S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 3/20/2009 9:26 AM BY: ALTOM, BRENDA

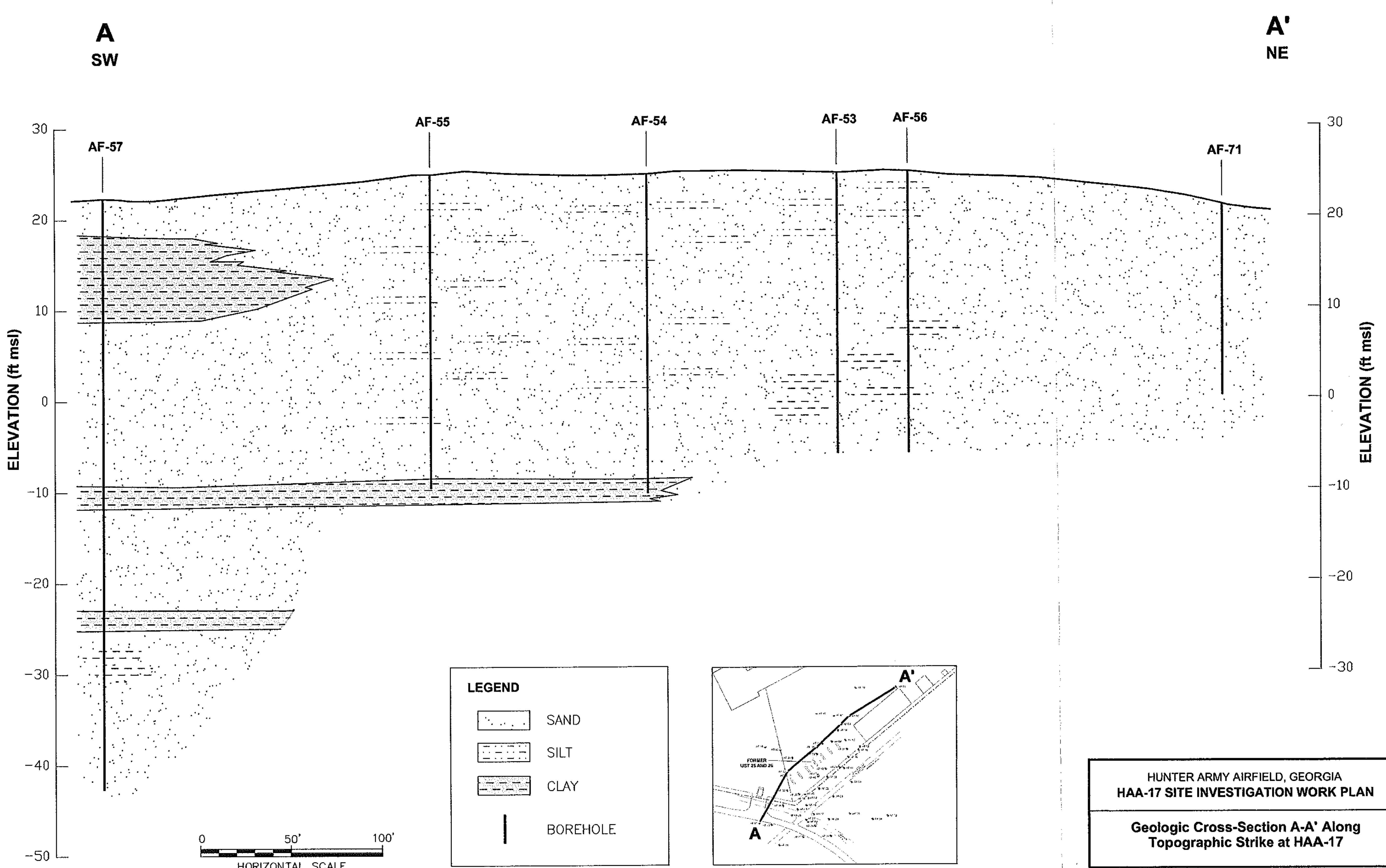


HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 SITE INVESTIGATION WORK PLAN

Topographic Profile
HAA-15 to HAA-17

ARCADIS

FIGURE
5-1

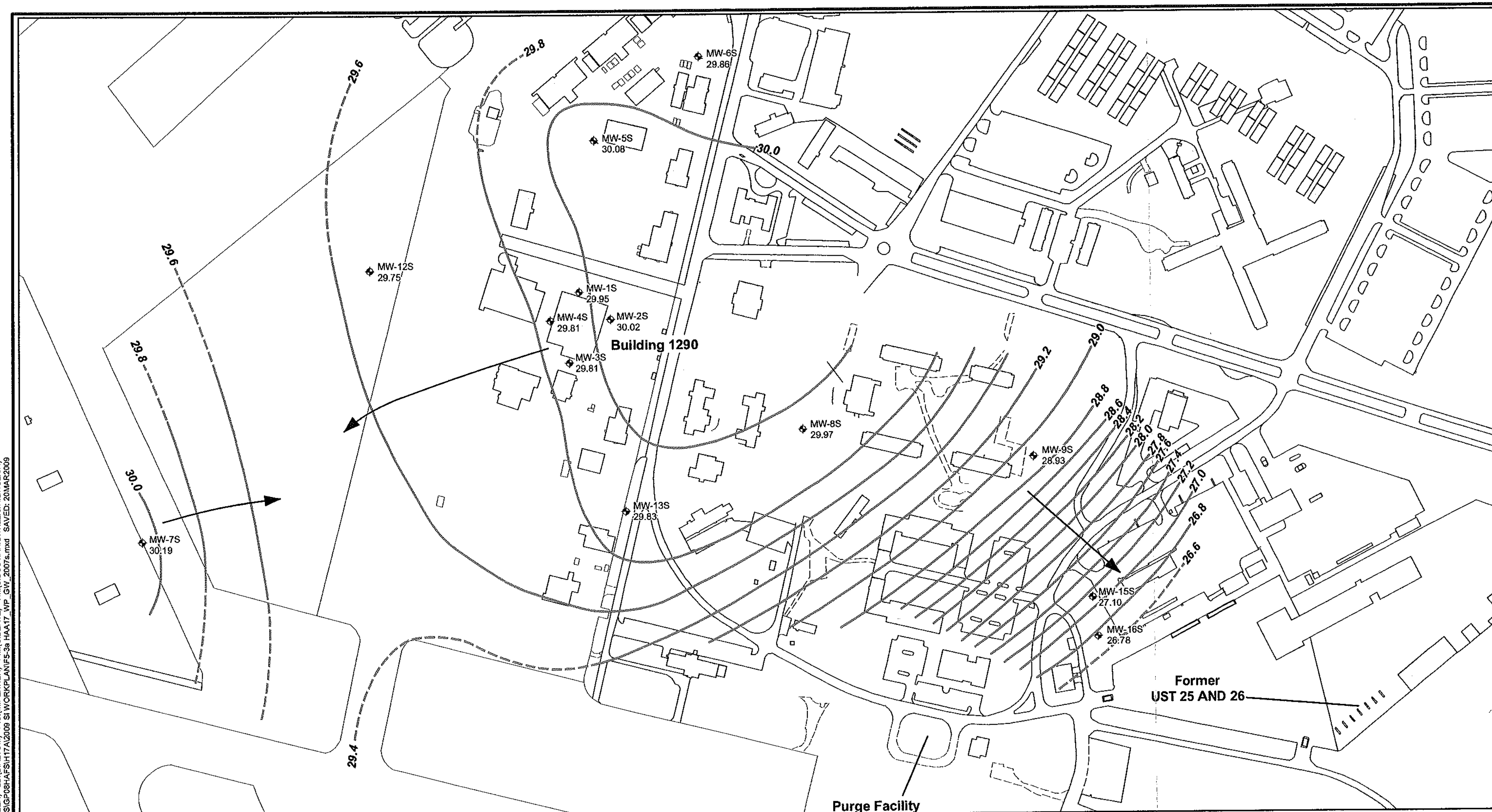


HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 SITE INVESTIGATION WORK PLAN

Geologic Cross-Section A-A' Along Topographic Strike at HAA-17

ARCADIS

FIGURE **5-2**



LEGEND

- Monitor Well (shallow)
- Potentionetric Contour (ft msl)
- (inferred where dashed)

30.19 Groundwater Elevation (ft msl)
Measured July 20, 2007

← Direction of Groundwater Flow

HUNTER ARMY AIRFIELD, GEORGIA

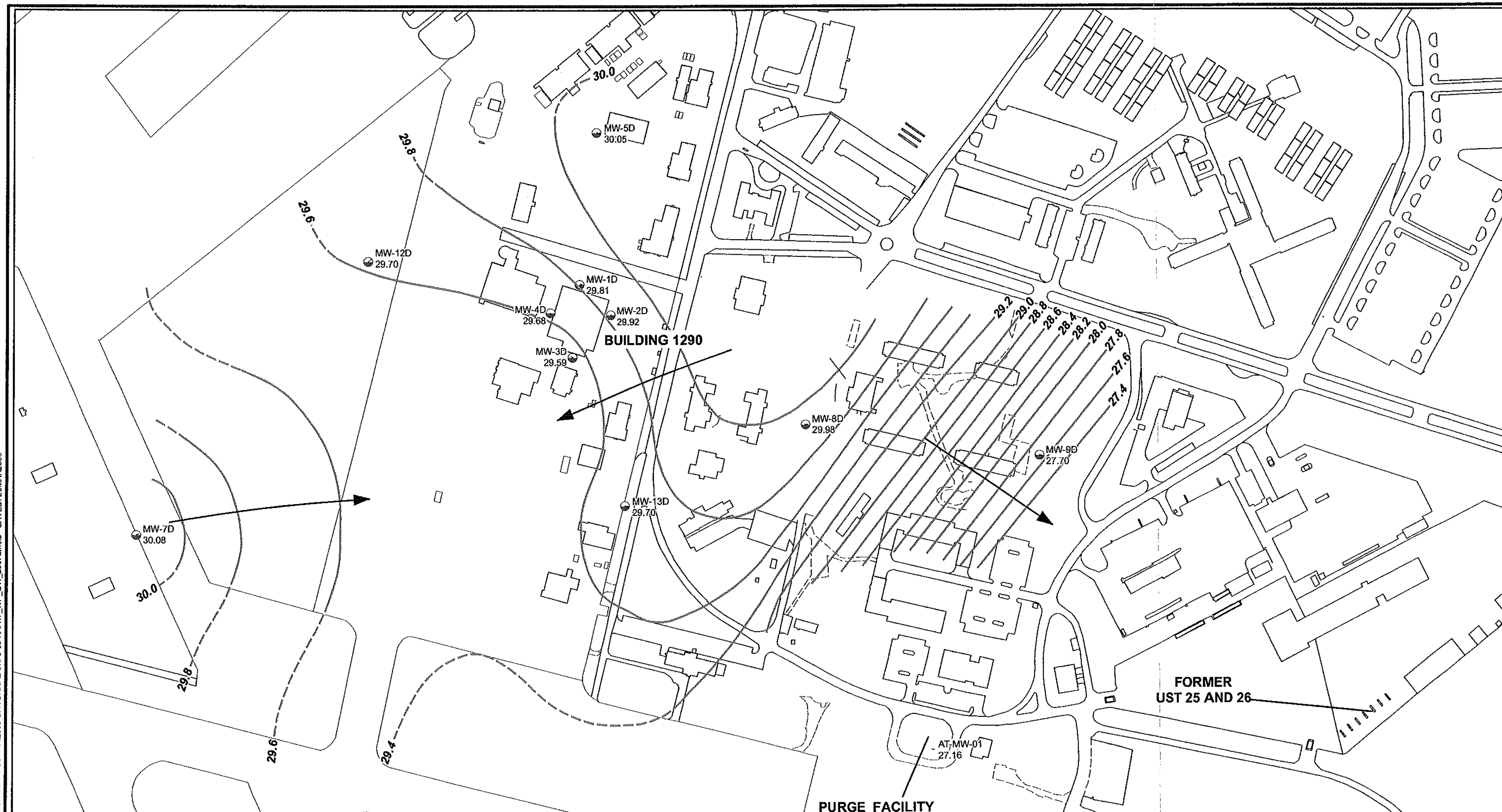
HAA-17 SITE INVESTIGATION WORK PLAN

Potentiometric Surface for Shallow Groundwater Building 1290 Wells (July 2007)

ARCADIS

FIGURE **5-3a**

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(L.GREEN) LD:(B.ALTOM) PIC:(M.FENNER) PM:(C.BERTZ) TM:(S.BOSTIAN/D.WILLIS/H.ENGLISH)
PROJECT: GP08HAFS.F17A.DBCSM PATH: G:\GIS\GP08HAFS\H17A\2009 SI WORKPLAN\F5-3a HAA17_WP_GW_2007a.mxd SAVED: 20MAR2009



LEGEND

- Monitor Well (deep)
- Potentiometric Contour (ft msl)
- (inferred where dashed)
- 30.08 Groundwater Elevation (ft msl) Measured July 20, 2007
- Direction of Groundwater Flow

0 300 600
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA

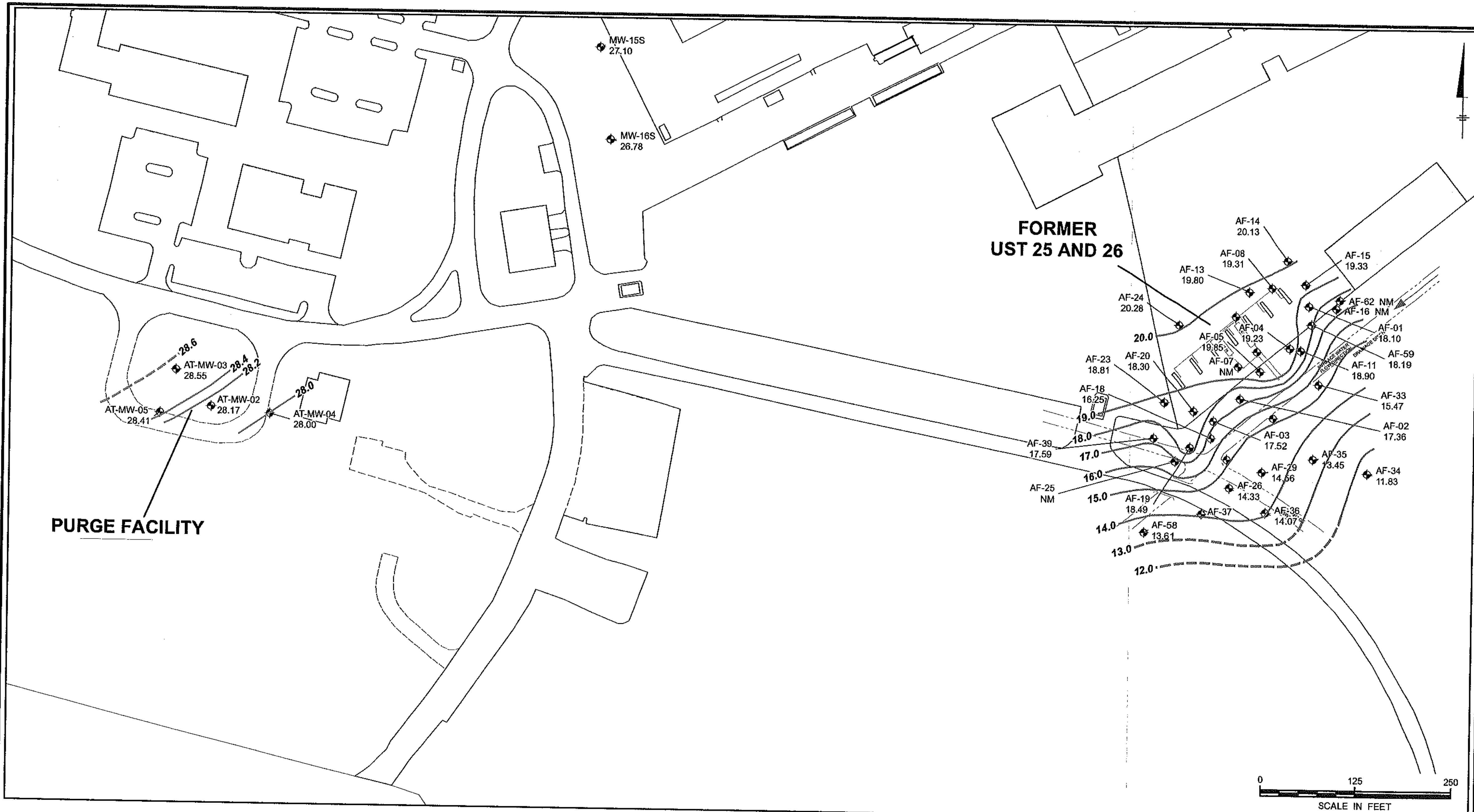
HAA-17 SITE INVESTIGATION WORK PLAN

Potentiometric Surface for Deep Groundwater Building 1290 Wells (July 2007)

ARCADIS

FIGURE **5-3b**

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(L.GREEN) LD:(B.ALTOM) PIC:(M.FENNER) PM:(C.BERTZ) TM:(S.BOSTAN/D.WILLIS/H.ENGLISH)
PROJECT: GP08HAFS.F17A.DBCSM PATH: G:\GIS\GP08HAFS\H17A\2009 SI WORKPLAN\F5-3b HAA17_WP_GW_2007d.mxd SAVED: 20MAR2009



LEGEND

- UST 25/26 Potentiometric Contour (ft msl)
- (inferred where dashed)
- Purge Facility Potentiometric Contour (ft msl)
- (inferred where dashed)
- Sample_locations_Merge

28.41 Groundwater Elevation (ft, msl)

NM Not Measured

NOTES:

1) Purge Facility elevations were collected on May 12, 2006.

2) Former UST 25 and 26 elevations were collected on July 19, 2006.

HUNTER ARMY AIRFIELD, GEORGIA

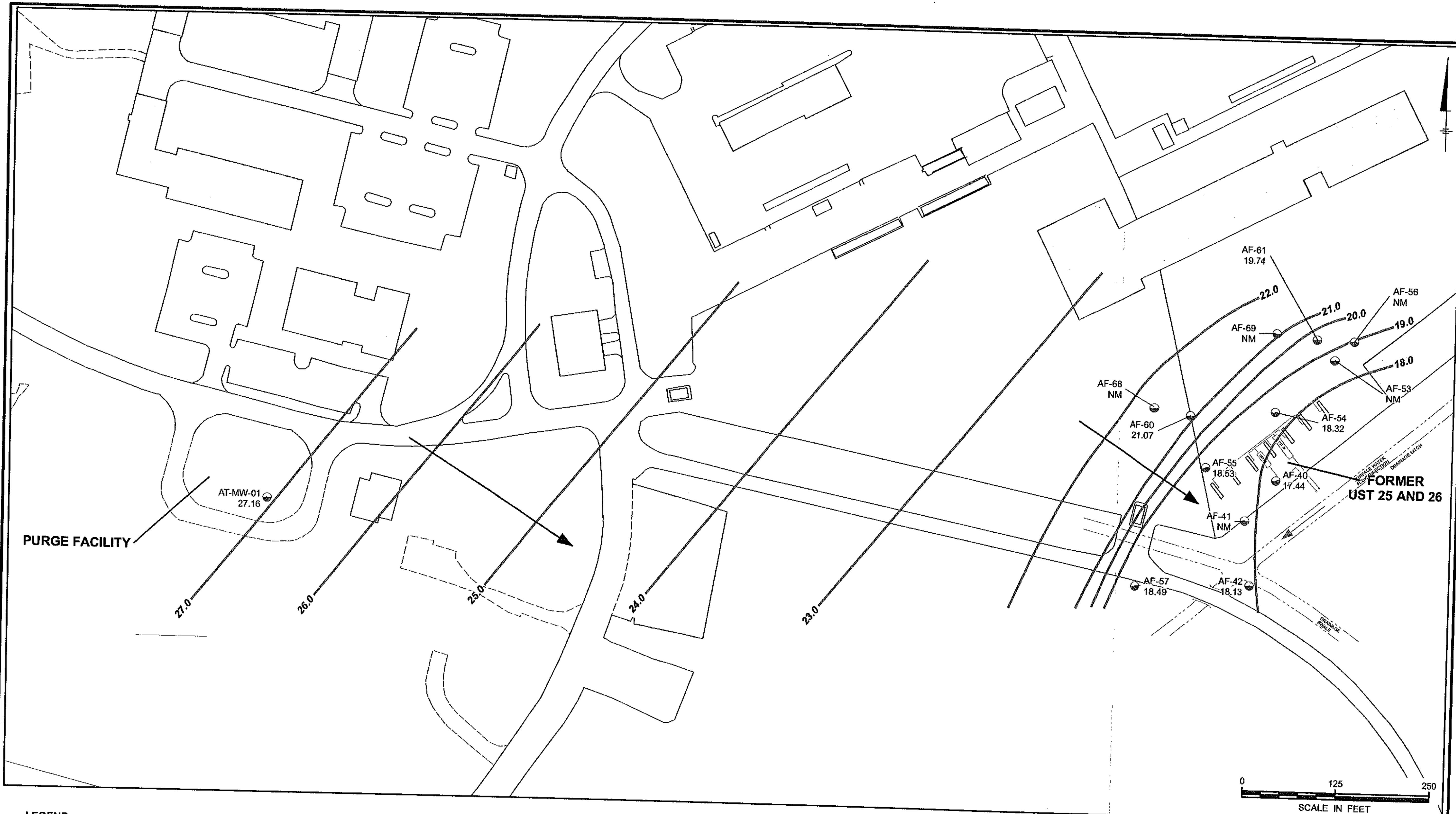
HAA-17 SITE INVESTIGATION WORK PLAN

Potentiometric Surface for Shallow Groundwater Purge Facility and UST 25 and 26 Wells (2006)

ARCADIS

FIGURE **5-4a**

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(L.GREEN) LD:(B.ALTOM) PIC:(M.FENNER) PM:(C.BERTZ) TM:(S.BOSTIAN/D.WILLIS/H.ENGLISH)
PROJECT: GP08HAFS.F17A.DBCSM PATH: G:\GIS\GP08HAFS\H17A\2009 SI WORKPLAN\F5-4a HAA17_WP_GW_2009s.mxd SAVED: 25MAR2009



LEGEND

- Monitor Well (deep)
- Potentiometric Contour (ft msl)
- 27.16 Groundwater Elevation (ft msl)
- NM Not Measured
- Direction of Groundwater Flow

NOTES:
1) Purge Facility elevations were collected on May 12, 2006.
2) Former UST 25 and 26 elevations were collected on July 19, 2006.

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 SITE INVESTIGATION WORK PLAN

Potentiometric Surface for Deep Groundwater Purge Facility and UST25/26 Wells (2006)

ARCADIS

FIGURE **5-4b**

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(L.GREEN) LD:(B.ALTOM) PIC:(M.FENNER) PM:(C.BERTZ) TM:(S.BOSTIAN/D.WILLIS/H.ENGLISH)
PROJECT: GP08HAFS.F17A.DBCSM PATH: G:\GIS\GP08HAFS\H17A\2009 SI WORKPLAN\F12 HAA17_WP_GW_2006d.mxd SAVED: 25MAR2009

6. Proposed Investigation

An investigation is proposed to address the knowledge gaps listed in Section 5.4. A primary focus will be delineation of the source(s) of TCE impacts in groundwater at HAA-17. The low concentrations of TCE in groundwater up gradient of former USTs 25 and 26 do not appear to be related to the more extensive impacts near the former USTs 25 and 26 area. The initial focus is to determine if the primary source(s) of TCE in groundwater is related to operations near the former UST farm. This will include investigating the use of TCE at the former UST tank farm, the up gradient area including Special Weapons Area, and the area east of the drainage canal. Investigation activities to delineate the extent of the TCE detected at the Purge Facility and east of Building 1290 are also proposed.

All procedures and techniques utilized for this investigation will conform to EPA Region 4 Science and Ecosystem Support Division (SESD) guidance and the approved Sampling and Analysis Plan (ARCADIS 2009). All soil and groundwater samples collected will be analyzed by Shealy Environmental Services, Inc., a certified Georgia laboratory. Any mobile analytical laboratory utilized for field analysis will also be a certified Georgia laboratory.

The activities comprising the investigation at HAA-17 include the following:

- Collection of water–level measurements from monitor wells associated with HAA-17
- Installation of two monitor well pairs and multiple surface water stadia to evaluate groundwater/surface water flow near the drainage canal
- Slug tests in representative wells to determine hydraulic conductivities in the shallow aquifer
- Sampling of existing monitor wells to confirm previous data
- Vertical profiles in suspected source areas using MIP technology
- Borings for soil and groundwater sampling to evaluate contaminant distribution and extent
- Installation of approximately 4 groundwater monitor wells
- Sampling of new and selected existing groundwater monitor wells. Biogeochemical analyses of groundwater in selected source area and background monitor wells will be included.

The vertical and horizontal profile of VOC contamination in soil and groundwater in suspected source areas will be investigated using MIP technology. Borings for the collection of soil and groundwater samples will be utilized for establishing the contaminant distribution and extent and to confirm source area MIP data. The MIP and installation of borings for soil and groundwater sampling will be conducted under one mobilization. The MIP investigation will be performed initially to determine and delineate the source(s) and focus the subsequent assessment effort.

6.1 Phase I Source Area Investigation

6.1.1 Water-Level Measurements

A complete set of water-level measurements will be collected from selected monitor wells installed at HAA-17. These water-level measurements will be taken to provide a comprehensive view of vertical and horizontal gradients in the area.

6.1.2 Groundwater/Surface Water Flow near Drainage Canal

Two deep monitor wells will be installed in the vicinity of the drainage canal to obtain data on groundwater flow east of the canal. The wells will be installed close to existing shallow monitor wells AF-03 and AF-35 to provide information on vertical gradients east of the canal. Surface water stadia will be installed to determine the relationship of groundwater to surface water. Proposed monitor well locations are presented on Figure 6-1.

6.1.3 Slug Testing

Slug tests will be performed in approximately six representative monitor wells to determine hydraulic conductivities in the shallow and deep intervals of the unconfined aquifer. Rising head and falling head slug tests will be conducted at each location.

6.1.4 Baseline Sampling of Monitor Wells

Selected monitor wells will be sampled to update analytical data for existing monitor wells. Low-flow techniques will be used to collect groundwater samples from the selected monitor wells. Field measurements will include pH, specific conductance, temperature, oxidation-reduction potential (ORP), dissolved oxygen (DO), and turbidity. Groundwater samples from TCE impacted areas will be analyzed for U.S. Environmental Protection Agency (USEPA) Method 8260. The groundwater samples from the Purge Facility monitor wells will also be analyzed for USEPA Method 6010 to determine barium and chromium concentrations.

6.1.5 Membrane Interface Probe

MIP borings will be installed in areas where TCE concentrations indicate proximity to source mass in the former USTs 25 and 26 area. Initial borings will be installed proximate to AF-52 and AF-53, where the highest historical concentrations of TCE were observed and proximate to AF-45 and 55, where concentrations above 1 mg/L were detected. The initial MIP borings will be advanced to the confining layer (approximately 40 ft bgs). The approximate locations are presented on Figure 6-1. The location of subsequent MIP borings will be based on initial results.

MIP is an in-situ tool installed with DPT. The MIP unit heats the soil and groundwater adjacent to the probe thereby increasing volatility and causing the vapor phase to diffuse across the membrane into an inert gas loop. The gas carries the vapors to a series of detectors housed at the surface. Continuous (2-foot increment) chemical profile logs are generated from each hole. The detectors used will include a photo-ionization detector (PID), a flame ionization detector, and an electron capture detector. The MIP unit includes a tool to measure sediment conductivity, which should accurately locate the clay beds within the silty sands and sand units. Sediment conductivities will be compared to existing nearby well logs to verify lithologies. MIP vapor concentration measurements and conductivity tests will be performed at 2-foot intervals from approximately 5 ft bgs to the underlying silty-clay confining layer at approximately 40 ft bgs. The initial MIP points will provide real-time data that will be used to locate subsequent MIP locations, soil borings and monitor wells. Concrete coring may be required for some locations and permission will be obtained prior to any intrusive activities. The intent of the MIP investigation is to initially determine elevated VOC concentrations near the source of the release. The MIP will not detect low (<100 µg/L) VOC concentrations. The MIP data will be used to locate temporary borings and ultimately permanent wells from which groundwater samples will be collected for laboratory analysis.

6.1.6 Temporary Borings

Borings will be installed to delineate the extent of the TCE plume associated with former USTs 25 and 26 as well as the low concentrations of TCE detected in groundwater during the investigations at the Purge Facility (AT-MW-01) and Building 1290 (MW-8D, DPT-01, and DPT-03). The proposed locations, which are presented in Figure 6-1, will be adjusted based on facility requirements and access and previous results.

A GeoProbe or equivalent DPT equipment will be utilized to install temporary borings. In the former tank farm area, the data from the MIP evaluation will be used to locate soil borings for collection of soil and groundwater samples to confirm the delineation of the source area(s). The temporary borings will be installed to the base of the Lower Unit aquifer at approximately 40 ft bgs. Selected temporary borings will be split spooned to total depth and lithologies recorded by a qualified geologist on lithologic logs. Unsaturated soil samples will be screened with a PID. The soil and groundwater samples will selected for analysis by USEPA Method 8260B based on PID readings, intervals identified by the MIP and/or evaluation of drainage pathways and other potential solvent sources.

The investigation derived waste (IDW) from the installation of borings for MIP and soil and groundwater sampling will be collected in U. S. Department of Transportation (DOT)-approved 55-gallon drums. A soil sample will be collected from each drum for characterization for disposal purposes. The locations of the soil borings will be surveyed by a land surveyor registered in the state of Georgia. All temporary borings will be grouted with cement from total depth to land surface to protect separation of aquifers.

6.1.7 Groundwater Monitor Wells

Additional 2-inch-diameter monitor wells may be installed in the source area if located and/or the dissolved plume area as necessary to define the contaminant distribution and monitor potential migration. The most likely scenario will be that an additional 4 to 6 monitor wells will be installed in the deep surficial groundwater at approximately 35 to 40 ft bgs. The number and locations of monitor wells will be based on the results of the soil and groundwater investigations previously described. The wells will be constructed of 2-inch-diameter Schedule 40 PVC. Specific depths will be based on lithologic logs from temporary borings and the MIP conductivity logs. Deep wells will have a 5-foot screen set to sample a specific interval identified with MIP and DPT results. Well screens will consist of a 2-inch inside diameter, flush threaded, 0.010-in. slotted PVC. Clean, inert, siliceous material shall be used to construct a uniform and continuous filter pack. Grain size will be applicable to the screen used. A seal measuring 1-foot thick consisting of a bentonite grout shall be pumped into the annular space above the filter pack. Monitor wells will be completed at ground surface within steel meter boxes painted to FS/HAAF standards. The surface completions will be flush because the wells will be located around buildings or in populated areas. The monitor wells will be surveyed for location and elevation by a land surveyor registered in the state of Georgia. All soil wastes from installation of monitor wells will be segregated by borehole and collected in DOT-approved 55-gallon drums.

6.1.8 Sampling of New and Existing Monitor Wells

Groundwater samples will be collected from the new monitor wells installed as described. Existing wells will also be sampled to confirm the results of previous soil and groundwater investigations and to obtain biogeochemical data to facilitate remedy design. Low-flow techniques will be used to collect groundwater samples from the selected monitor wells. Field measurements will include pH, specific conductance, temperature, ORP, DO, and turbidity. The groundwater will be analyzed for VOCs in accordance with USEPA Method 8260. In addition, select samples collected at monitor wells designated as source area and background wells will be analyzed for biogeochemical parameters. The proposed biogeochemical parameters are listed in Table 6-1. Monitor well samples collected at the Purge Facility will be analyzed for total and dissolved chromium and barium.

6.1.9 Vapor Intrusion – Indoor Air Pathway

After source delineation is complete, buildings in the area will be evaluated for susceptibility to vapor intrusion. Building construction relative to distribution of contaminant mass and potential exposure pathways will be analyzed.

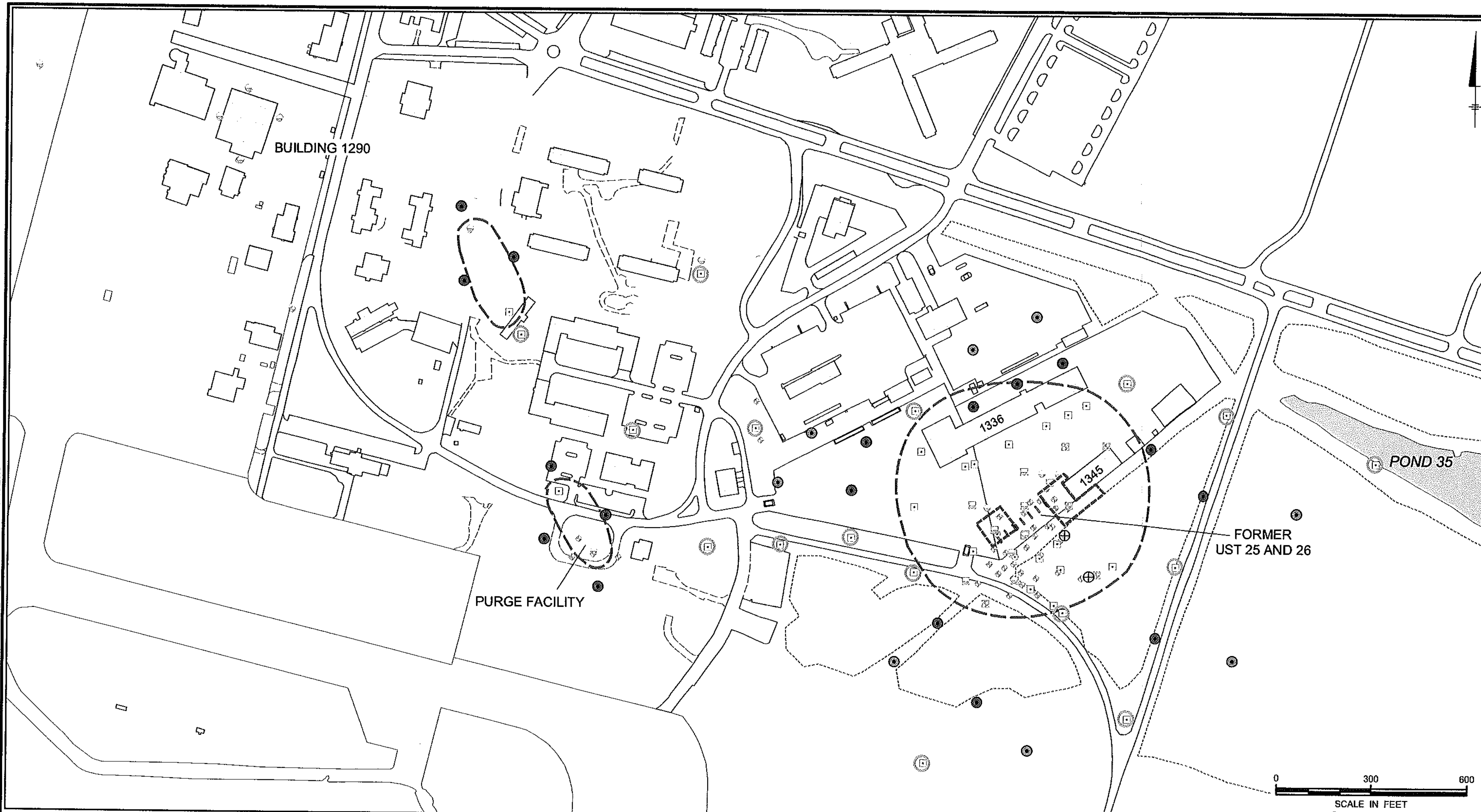
6.2 Phase II Delineation Investigation

The intention of the Phase I investigation is to fully delineate the source(s) and limits of contamination. If gaps in the Conceptual Site Model are discovered after the Phase I scope is complete, an additional investigation of soil or groundwater will be performed as determined to complete delineation. Additional soil sampling, monitor well installations and groundwater sampling may be performed to fully characterize the HAA-17 TCE release. Phase II investigation activities will be discussed informally with the GA EPD prior to implementation.

Table 6-1
Recommended Biogeochemical Analytical Parameters
HAA-17
Hunter Army Airfield - Savannah, Ga

Parameter	Analytical Method	Technical Protocol	Preservative	Reporting Limit	Holding Time
Biological Oxygen Demand	SM5210 B	40 CFR Part 136	Cool 4°C	0.2 mg/L	48 hours
Nitrite (NO2)	SM4110 B / 300.0 / E352.1	40 CFR Part 136	Cool 4°C	0.2 mg/L	48 hours
Nitrate (NO3)	SM4500-NO3- / 300.0 / E353.2	40 CFR Part 136	Cool 4°C	0.2 mg/L	48 hours
Chlorides (Cl)	SM4500-B, -C, -D, -E / 300.0 / 9250	40 CFR Part 136 / SW-846	Cool 4°C	0.2 mg/L	28 days
Total Iron	SW6010	SW-846	pH <2 with HNO3, Cool 4°C	0.025 mg/L	180 days
Ferrous Iron (Fe2+)	SM3500-FE-D / SW7199M	40 CFR Part 136 / SW-846	Cool 4°C or HCl pH<2	0.025 mg/L	Analyze ASAP
TOC (dissolved)	SM5310-B, -C, -D / 9060	40 CFR part 136 / SW846	HCl pH<2	5 mg/L	14 days
Alkalinity	SM 2320-B / 310.2	40 CFR Part 136	Cool 4°C	4 mg/L	48 hours
Sulfate (SO4)	SM4110-B / 300.0 / 375.2	40 CFR Part 136	Cool 4°C	1 mg/L	28 days
Sulfide (S)	SM4500-S2-F, -D, -G	40 CFR Part 136	ZnAC or ZnAc + NaOH	2 mg/L	48 hours
VOCs	SW8260	SW846	HCl pH<2	various	14 days
Volatile Fatty Acids	E300.0	40 CFR Part 136	Cool 4°C		
Carbon Dioxide (CO2)	AM20GAX	N/A	benzalkonium chloride	0.6 mg/L	14 days
Methane (CH4)	AM20GAX	N/A	trisodium phosphate	0.15 ug/L	14 days
Ethane & Ethene	AM20GAX	N/A	trisodium phosphate	5 ng/L	14 days
Turbidity	NA	YSI 6820 water quality meter	NA	Range: 0-1000 NTU	NA
Conductivity	NA	YSI 600XL or 6820 water quality meter	NA	Range: 0 to 100 mS/cm	NA
Temperature	NA	YSI 600XL or 6820 water quality meter	NA	Range: -5 to +45°C	NA
Dissolved Oxygen (DO)	NA	YSI 600XL or 6820 water quality meter	NA	Range: 0 to 20 mg/L	NA
pH	NA	YSI 600XL or 6820 water quality meter	NA	Range: 0 to 14 standard units	NA
Oxidation-Reduction Potential (ORP)	NA	YSI 600XL or 6820 water quality meter	NA	Range: -999 to +999 mV	NA

Notes:
NA - not applicable
ASAP - as soon as possible
mg/L - milligrams per liter
ug/L - micrograms per liter
ng/L - nanograms per liter
mV - millivolts
mS/cm - millisiemens per centimeter
°C - degrees Celsius
NTU - turbidity units



LEGEND

- Approximate Treeline of Wooded Area
- Area of Detected TCE
- Monitor Well (shallow)
- Monitor Well (deep)
- Temporary Piezometer
- Vertical Profile/Direct Push Technology
- VOCs not detected with MIP/DPT to silty-clay layer at 40 to 45 ft bgs
- Proposed Monitor Well (deep)
- Proposed Initial Boring
- Proposed Secondary Boring (if needed to define extent)
- Proposed Initial MIP Area

NOTES:
1) AF- and B159- samples are associated with the UST 25 and 26 CAP Part B investigation (1999-2003).
2) AT-MW- samples are associated with the Purge Facility investigation (2006).
3) MW- and DPT- samples are associated with the Building 1290 investigation (2007-2008).

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 SITE INVESTIGATION WORK PLAN

Proposed Monitor Wells and Boring Locations

ARCADIS

FIGURE **6-1**

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) LD:(B.ALTOM) PIC:(M.FENNER) PM:(C.BERTZ) TM:(S.BOSTIAN/D.WILLIS/H.ENGLISH)
PROJECT: GP08HAFS.F17A.DBCSM PATH: G:\GIS\GP08HAFS\H17A\2009 SI WORKPLAN\F6-1 HAA17_WP_PLocs.mxd SAVED: 25MAR2009

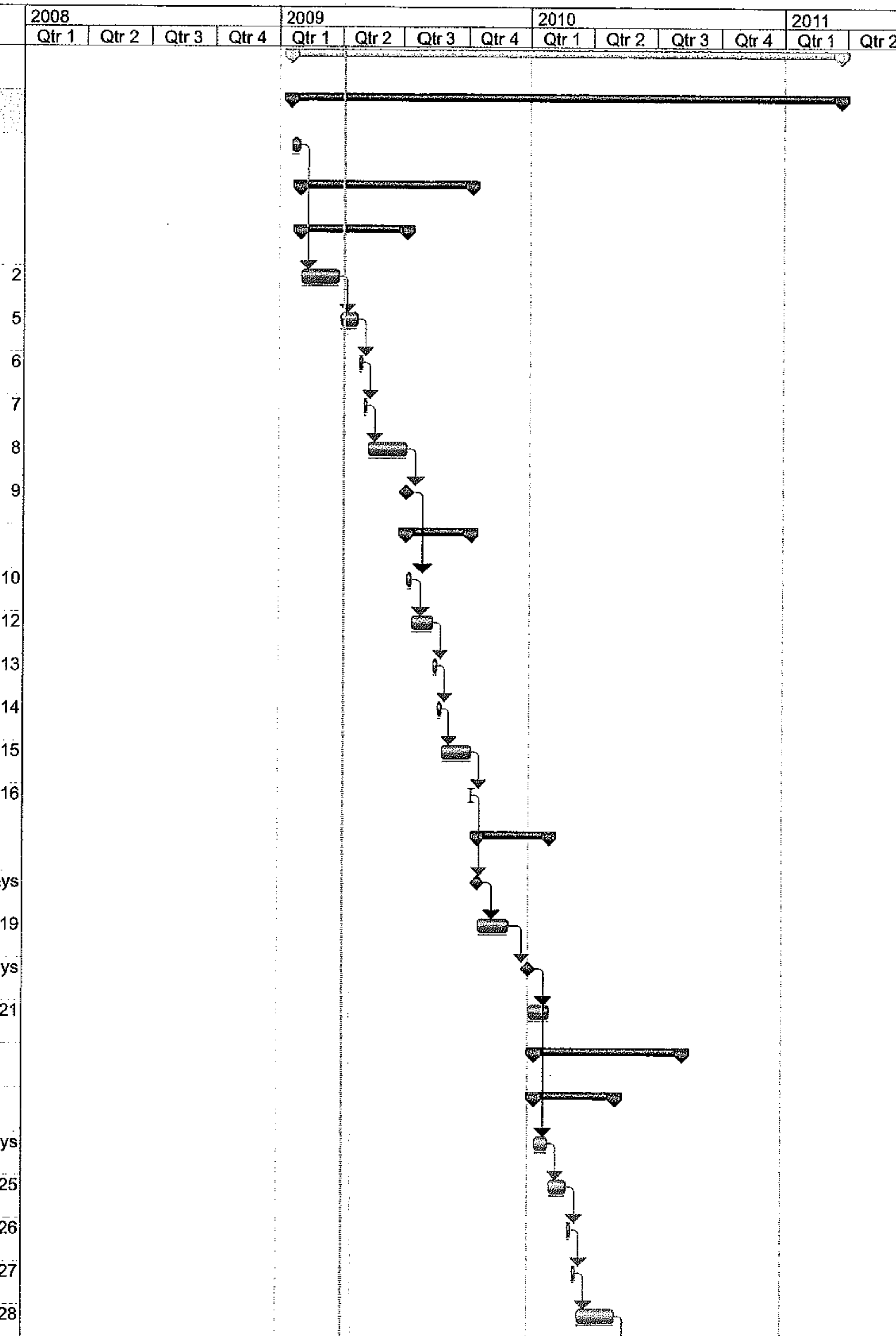
7. Closing Summary

The extent of groundwater impacted by TCE near the former USTs 25 and 26 at HAA-17 has not been sufficiently defined. The intent of this investigation is to determine the location and fully delineate the primary TCE source(s) that have impacted groundwater at HAA-17 as well as define the limits of TCE impacted groundwater. The source(s) are most likely in the vicinity of the former USTs 25 and 26 area. Therefore, the initial investigation is focused on the former USTs 25 and 26 and surrounding areas. Flexibility has been built into the investigation scope to allow the investigation to be adapted to newly acquired data that may indicate other source scenarios. Investigation activities will also be conducted around the purge facility and areas east of building 1290 where concentrations exceeding HSRA thresholds were detected.

When sufficient data have been obtained to provide a consistent and complete Conceptual Site Model that includes source and extent, the results of the investigation will be included in a revised CSR. A proposed schedule for this site is included as Figure 7-1.

Figure 7-1: HAA-17 Project Schedule
Fort Stewart and Hunter Army Airfield

ID	WBS	Task Name	Duration	Start	Finish	Predecessors
0	0	**Ft Stewart / HAAF Schedule - Proposed**	**555 days**	**Mon 1/19/09**	**Thu 3/24/11**	
1	**1**	**HAA 17: TCE GROUNDWATER IMPACTS UST 25/26**	**555 days**	**Mon 1/19/09**	**Thu 3/24/11**	
2	1.1	HSRA Notification	10 days	Mon 1/19/09	Fri 1/30/09	
3	**1.2**	**HAA 17 CSR Work Plan**	**176 days**	**Mon 2/2/09**	**Thu 10/8/09**	
4	**1.2.1**	**HAA 17 CSR Work Plan Rev 0**	**110 days**	**Mon 2/2/09**	**Tue 7/7/09**	
5	1.2.1.1	Prepare Draft HAA 17 CSR Work Plan	40 days	Mon 2/2/09	Fri 3/27/09	2
6	1.2.1.2	Army Review of Draft	20 days	Mon 3/30/09	Fri 4/24/09	5
7	1.2.1.3	ARCADIS Revisions	5 days	Mon 4/27/09	Fri 5/1/09	6
8	1.2.1.4	Army Submittal of Final CSR Work Plan Rev 0	5 days	Mon 5/4/09	Fri 5/8/09	7
9	1.2.1.5	GAEPD Review of CSR Work Plan Rev 0	40 days	Mon 5/11/09	Tue 7/7/09	8
10	1.2.1.6	GAEPD comments on CSR Work Plan Rev 0	0 days	Tue 7/7/09	Tue 7/7/09	9
11	**1.2.2**	**HAA 17 CSR Work Plan Rev 1**	**65 days**	**Wed 7/8/09**	**Wed 10/7/09**	
12	1.2.2.1	Prepare RTCs and HAA 17 CSR Work Plan Rev 1	5 days	Wed 7/8/09	Tue 7/14/09	10
13	1.2.2.2	Army Review of RTCs and CSR Work Plan Rev 1	20 days	Wed 7/15/09	Tue 8/11/09	12
14	1.2.2.3	ARCADIS Revisions	5 days	Wed 8/12/09	Tue 8/18/09	13
15	1.2.2.4	Army Submittal of RTCs and CSR Work Plan Rev 1	5 days	Wed 8/19/09	Tue 8/25/09	14
16	1.2.2.5	GAEPD Review of CSR Work Plan Rev 1	30 days	Wed 8/26/09	Wed 10/7/09	15
17	1.2.3	Regulatory Approval HAA 17 CSR Work Plan Rev 1	1 day	Thu 10/8/09	Thu 10/8/09	16
18	**1.3**	**HAA 17 Field Investigation**	**71 days**	**Sun 10/18/09**	**Sun 1/31/10**	
19	1.3.1	Phase 1 Field Investigation Mobilization	0 days	Sun 10/18/09	Sun 10/18/09	17FS+10 edays
20	1.3.2	Phase 1 Field investigation Completion	45 edays	Sun 10/18/09	Wed 12/2/09	19
21	1.3.3	Phase 2 Field investigation Mobilization	0 days	Fri 1/1/10	Fri 1/1/10	20FS+30 edays
22	1.3.4	Phase 2 Field Investigation Completion	30 edays	Fri 1/1/10	Sun 1/31/10	21
23	**1.4**	**HAA 17 CSR**	**151 days**	**Mon 1/11/10**	**Wed 8/11/10**	
24	**1.4.1**	**HAA 17 CSR Rev 0**	**85 days**	**Mon 1/11/10**	**Fri 5/7/10**	
25	1.4.1.1	Prepare Draft HAA 17 CSR	15 days	Mon 1/11/10	Fri 1/29/10	21FS+5 days
26	1.4.1.2	Army Review of Draft CSR	20 days	Mon 2/1/10	Fri 2/26/10	25
27	1.4.1.3	ARCADIS Revisions	5 days	Mon 3/1/10	Fri 3/5/10	26
28	1.4.1.4	Army Submittal of Final CSR Rev 0	5 days	Mon 3/8/10	Fri 3/12/10	27
29	1.4.1.5	GAEPD Review of CSR Rev 0	40 days	Mon 3/15/10	Fri 5/7/10	28

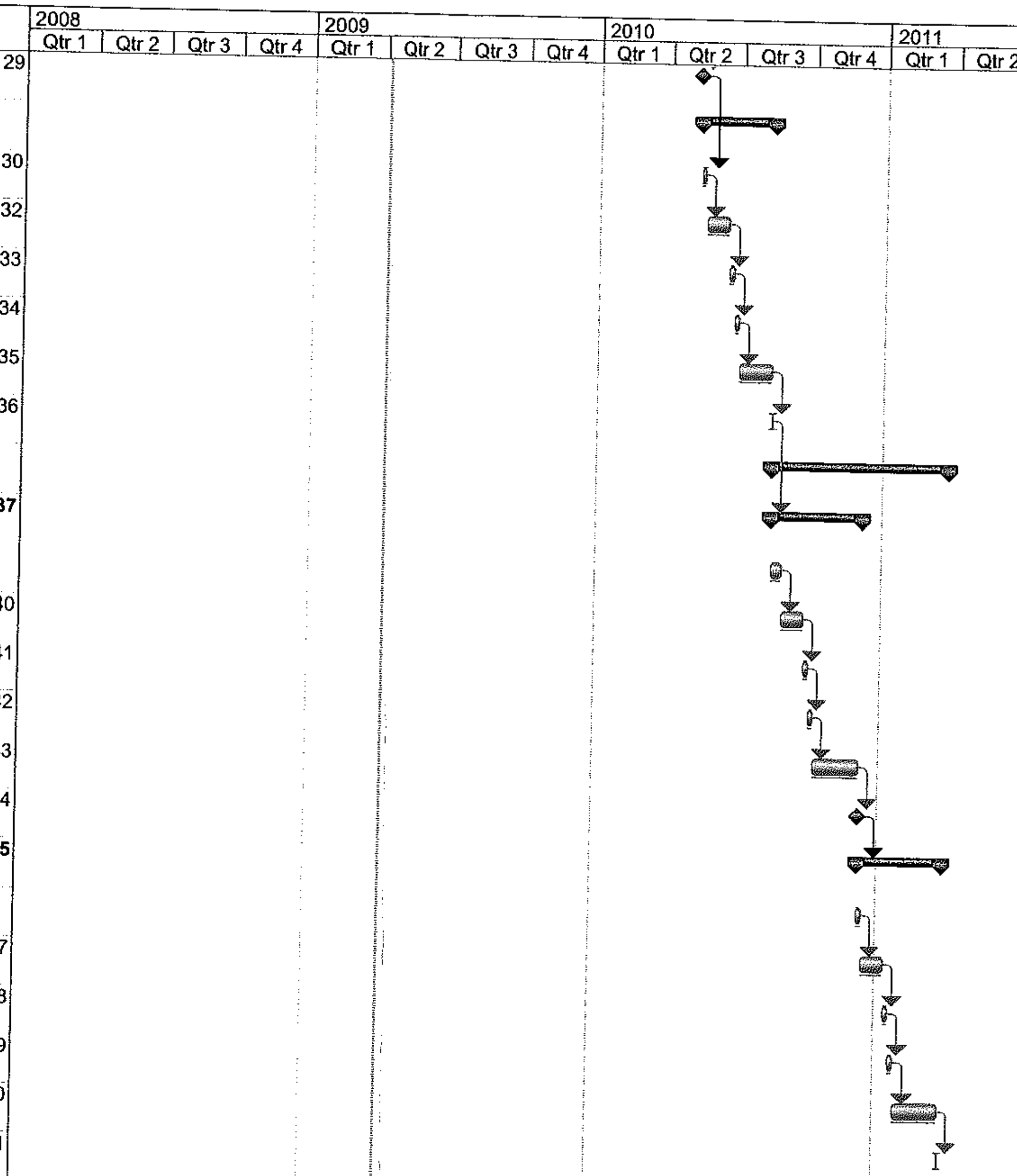


ARCADIS
Date: Fri 4/3/09

Task Duration | Milestone ◆ | Summary

Figure 7-1: HAA-17 Project Schedule
Fort Stewart and Hunter Army Airfield

ID	WBS	Task Name	Duration	Start	Finish	Predecessors
30	1.4.1.6	GAEPD comments on CSR Rev 0	0 days	Fri 5/7/10	Fri 5/7/10	29
31	**1.4.2**	**HAA 17 CSR Rev 1**	**65 days**	**Mon 5/10/10**	**Tue 8/10/10**	
32	1.4.2.1	Prepare RTCs and HAA 17 CSR Rev 1	5 days	Mon 5/10/10	Fri 5/14/10	30
33	1.4.2.2	Army Review of RTCs and CSR Rev 1	20 days	Mon 5/17/10	Mon 6/14/10	32
34	1.4.2.3	ARCADIS Revisions	5 days	Tue 6/15/10	Mon 6/21/10	33
35	1.4.2.4	Army Submittal of RTCs and CSR Rev 1	5 days	Tue 6/22/10	Mon 6/28/10	34
36	1.4.2.5	GAEPD Review of CSR Rev 1	30 days	Tue 6/29/10	Tue 8/10/10	35
37	1.4.3	Regulatory Approval HAA 17 CSR Rev 1	1 day	Wed 8/11/10	Wed 8/11/10	36
38	**1.5**	**HAA17 CAP**	**156 days**	**Thu 8/12/10**	**Thu 3/24/11**	
39	**1.5.1**	**HAA 17 CAP Rev 0**	**80 days**	**Thu 8/12/10**	**Mon 12/6/10**	**37**
40	1.5.1.1	Prepare Draft HAA 17 CAP	10 days	Thu 8/12/10	Wed 8/25/10	
41	1.5.1.2	Army Review of Draft CAP	20 days	Thu 8/26/10	Thu 9/23/10	40
42	1.5.1.3	ARCADIS Revisions	5 days	Fri 9/24/10	Thu 9/30/10	41
43	1.5.1.4	Army Submittal of Final CAP Rev 0	5 days	Fri 10/1/10	Thu 10/7/10	42
44	1.5.1.5	GAEPD Review of CAP Rev 0	40 days	Fri 10/8/10	Mon 12/6/10	43
45	1.5.1.6	GAEPD comments on CAP Rev 0	0 days	Mon 12/6/10	Mon 12/6/10	44
46	**1.5.2**	**HAA 17 CAP Rev 1**	**75 days**	**Tue 12/7/10**	**Wed 3/23/11**	**45**
47	1.5.2.1	Prepare RTCs and HAA 17 CAP Rev 1	5 days	Tue 12/7/10	Mon 12/13/10	
48	1.5.2.2	Army Review of RTCs and CAP Rev 1	20 days	Tue 12/14/10	Wed 1/12/11	47
49	1.5.2.3	ARCADIS Revisions	5 days	Thu 1/13/11	Wed 1/19/11	48
50	1.5.2.4	Army Submittal of RTCs and CAP Rev 1	5 days	Thu 1/20/11	Wed 1/26/11	49
51	1.5.2.5	GAEPD Review of CAP Rev 1	40 days	Thu 1/27/11	Wed 3/23/11	50
52	**1.5.3**	**Regulatory Approval Final HAA 17 CAP**	**1 day**	**Thu 3/24/11**	**Thu 3/24/11**	**51**



ARCADIS

Date: Fri 4/3/09

Task Duration — Milestone ◆ — Summary

8. References

ARCADIS 2009. Sampling and Analysis Plan and Quality Assurance Project Plan, Ft. Stewart Military Reservation and Hunter Army Airfield, Georgia. February.

Earth Tech, Inc. 1999. Corrective Action Plan-Part A Report for Facility ID: 9-025008, Underground Storage Tanks 25 & 26 at Building 1343, Hunter Army Airfield, Georgia. March.

SAIC. 2008. Data Summary Report for the TCE Plume at Building 1290, Hunter Army Airfield, Georgia. August.

SAIC. 2007. Site Investigation Report for the Purge Facility at Hunter Army Airfield, Georgia. February.

SAIC. 2004. Data Summary Report for the 2003 Vertical-Profile Investigation for USTs 25 & 26, Facility ID#9-025008, Building 1343, Hunter Army Airfield, Georgia. April.

SAIC. 2003. Corrective Action Plan–Part B Addendum #2 for USTs 25 & 26, Facility ID #9-025008,Building 1343, Hunter Army Airfield, Georgia. April.

SAIC. 2001. Corrective Action Plan–Part B Addendum #1 for USTs 25 & 26, Facility ID #9-025008,Building 1343, Hunter Army Airfield, Georgia. June.

SAIC. 2000. Corrective Action Plan-Part B for USTs 25 & 26, Facility ID #9-025008, Building 1343, Hunter Army Airfield, Georgia. February.

World Health Organization. 2002. Concise International Chemical Assessment Document 46 - Carbon Disulfide. Geneva, Switzerland.

ARCADIS

Appendix A

Geophysical Investigation Report

(Reference: UST 25 & 26 CAP-Part B Addendum #1 (Facility ID #9-025008) June 2001)

Direct-push Electrical Logging (DP e-log)

Direct-push electrical logging (DP e-log) is a modification of conventional borehole resistivity logging techniques in that no pre-existing borehole or well is required. The direct-push probe is attached to the leading end of the tool string and advanced into the subsurface using the percussion hammer and hydraulic slides on the direct push vehicle. A track mounted Geoprobe 66DT probing system was used to direct push the e-logging probe at the FBTS at YPG.

The Geoprobe Model SC400 probe was used for this project, which consists of a four-electrode Wenner array and measures 15 inches long by 1.5 inches in diameter. Measurements are made by applying an electric current to the outer two electrodes and recording the voltage difference between the inner two electrodes (Christy et al., 1994). The measurement is transmitted via a pre-strung coaxial cable to signal processing hardware at the surface where a real-time log (measurement at 0.05 ft intervals) is displayed on a laptop computer. A string pot mounted on the mast of the DP unit tracks the depth and speed of advancement of the probe.

Global Positioning System (GPS)

The Trimble Pro XR/XRS global positioning system was used to determine the State Plane coordinates for geophysical survey grid, fence corners, well locations, and other surface features at 260th Motor Pool. The Trimble Pro XR/XRS uses the RACAL satellite subscription service to provide real-time differential correction during data collection. Quality control of the GPS surveying was maintained by positioning the "rover" unit at points with a known location, and by occupying several grid coordinates within the survey grid so as to reduce stretching errors.

Gridding, Contouring, and Presentation of Data

The EM-31 and EM-61 data are presented as color-contoured maps depicting lateral variations in the respective data, and the 2D-resistivity data are displayed as color-coded profile sections depicting vertical and lateral changes. Maps are constructed from the quadrature-phase (conductivity) for EM-31, and coil-difference for the EM-61. The processing steps used to convert the profile data to a map image are:

Correct the data to the local grid frame. Fiducial markers, consisting of the profile location, end points, and intermediate points are used to stretch individual profiles to the correct lengths used by the survey grid. The intermediate markers are required so that stretching errors associated with uneven walking speeds and changes in terrain can be minimized.

Transformation to final grid frame. GPS measurements are made on selected grid stakes and the true spatial coordinate for the stake is determined. From 5 to 10 stakes are occupied in order to reduce survey errors associated with the initial grid construction. A data rotation and transformation program uses this information to convert the local grid frame information to a real-world coordinate system (usually a Universal Transverse Mercator projection). This transformation allows incorporating the geophysical data into a GIS based system in order to aid the interpretation.

Gridding. The data were gridded using the Kriging algorithm of the commercial software code SURFER. The Kriging method will construct a reasonably accurate grid surface, though artifacts are produced at the grid edges and where long-distance interpolation is required in sparsely populated regions.

Color Contouring. The generated grids are displayed as color-contoured maps where green-to-blue colors represent relative lows, and red-to-white colors, relative highs. The contour-range, interval, and color-scheme used for individual grids was designed to provide the best possible detail of identified anomalies while simultaneously suppressing visible instrument and/or external noise. Mapped features such as fence lines and surface debris are overlain onto the final image to aid and improve the interpretation.

APPENDIX B: Geophysical Instrumentation

Overview

Results from the borehole geophysical surveys are presented in this Appendix for the 7 borings or wells entered. Table B.1 provides a short summary by boring or well ID and methods used. Figures B.1 through B.4 show the logging results for each boring or well by profile line. The locations for the 7 geophysical logging points are shown in Figure 2 in the main body of text.

Table B.1. Geophysical methods used for each boring or well.

Well/Boring ID	Figure #	DP e-log	Borehole Geophysical Logging	
			EM Induction	Natural Gamma
X1-1	B.1	No	Yes	Yes
X1-2	B.1	Yes	No	No
X2-1*	B.2	Yes	Yes	Yes
X2-2	B.2	Yes	No	No
X3-1*	B.3	Yes	Yes	Yes
X3-2	B.3	Yes	No	No
X4-1	B.4	Yes	No	No
AF-31/42	B.4	No	Yes	Yes

- All three methods used at this location

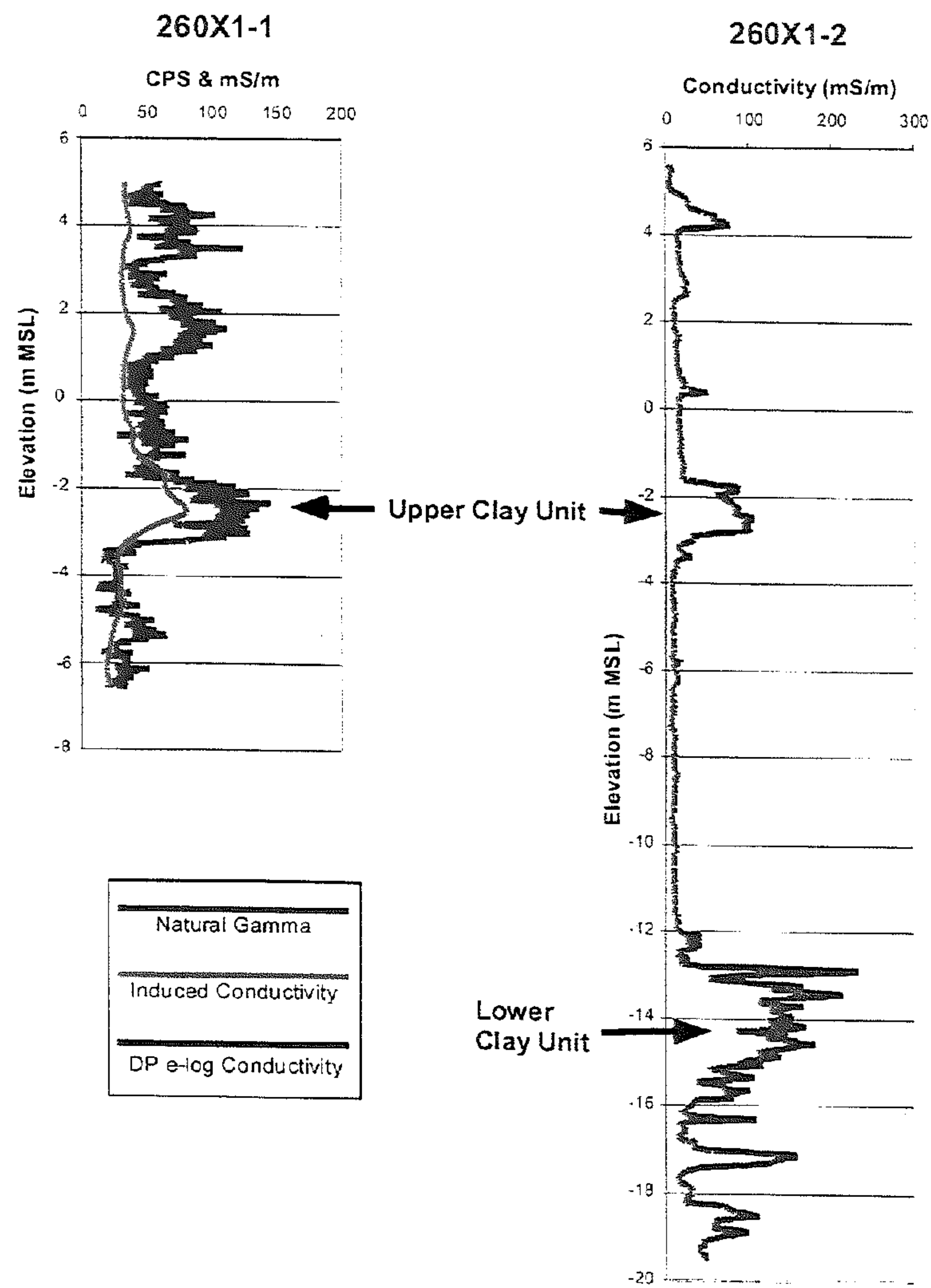


Figure B.1. Subsurface geophysical logs collected along Resistivity Profile 1. See Figure 2 for survey locations.

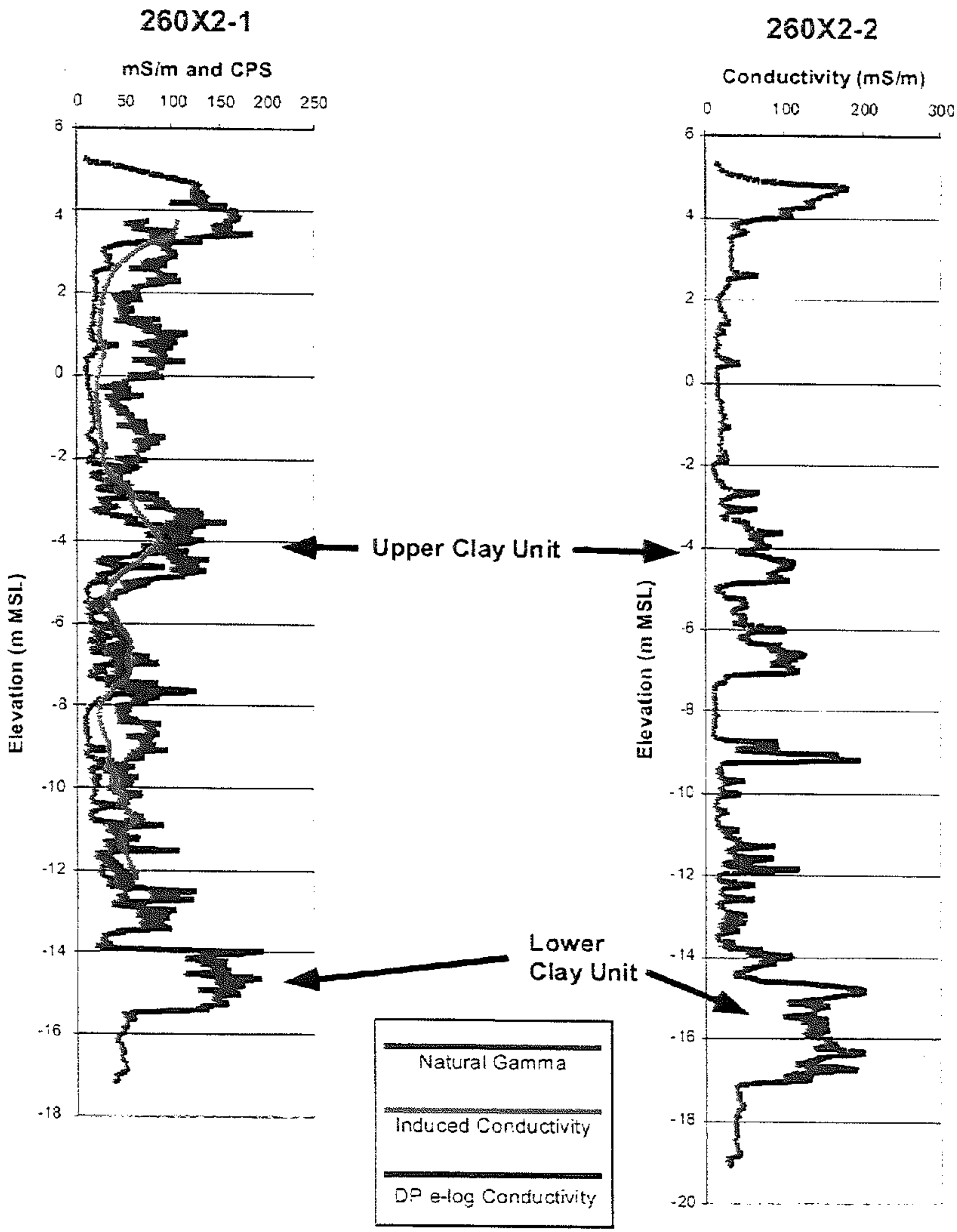


Figure B.2. Subsurface geophysical logs collected along Resistivity Profile 2.
See Figure 2 for locations

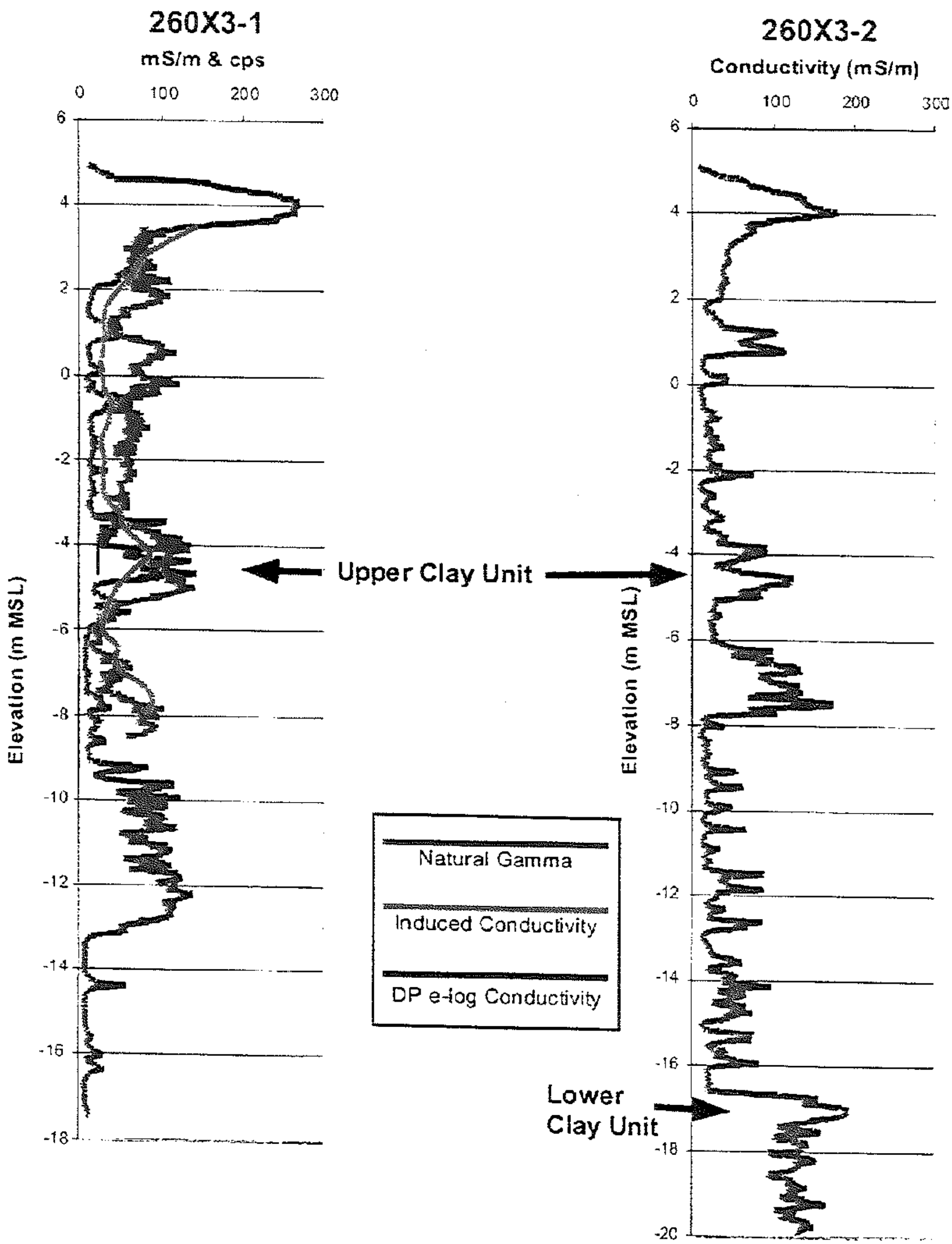


Figure B.3. Subsurface geophysical logs collected along Resistivity Profile 3. See Figure 2 for survey locations.

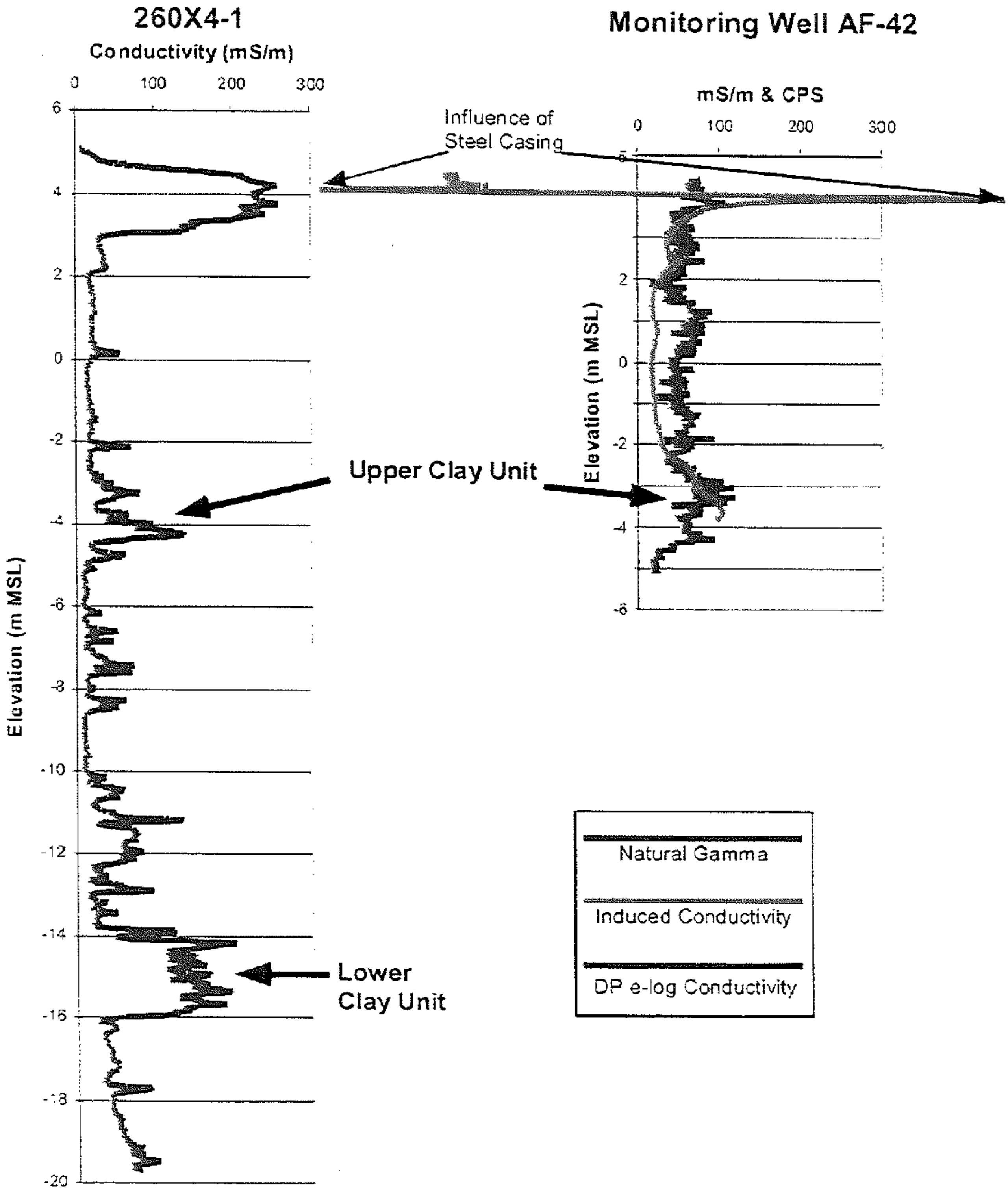


Figure B.4. Subsurface geophysical logs collected along Resistivity Profile 4 and at monitoring well AF-42. See Figure 2 for locations.

Table B.2. Upper Clay Unit Parameters

Well/Boring ID	Electrical Conductivity (mS/m)		Gamma (CPS)	Elevation, Top of UCU (meters ASL)	Thickness (meters)
	DP e-log	EM Induction			
X1-1	N/A	75	115	-1.8	1.9
X1-2	90	N/A	N/A	-1.8	1.8
X2-1	90	75	105	-3.0	1.6
X2-2	80	N/A	N/A	-3.0	1.6
X3-1	95	85	110	-3.8	1.3
X3-2	75	N/A	N/A	-3.6	1.5
X4-1	90	N/A	N/A	-3.0	1.8
AF-31/42	80	100	100	-2.5	1.8

Table B.3. Lower Clay Unit Parameters

Well/Boring ID	Electrical Conductivity DP e-log (mS/m)	Elevation, Top of LCU (meters ASL)	Thickness (meters)
X1-1	N/A	N/A	-
X1-2	130	-12.5	2.9
X2-1	140	-14.0	1.5
X2-2	140	-14.5	2.5
X3-1	N/A	-17.5*	-
X3-2	130	-16.5	3.5
X4-1	145	-14.0	2.0
AF-31/42	N/A	N/A	-

* Estimated at the bottom of the boring, LCU not encountered

ATTACHMENT A

GEOPHYSICAL INVESTIGATION REPORT

THIS PAGE INTENTIONALLY LEFT BLANK.

Report to Sponsor

Geophysical Investigation of the 260th Motor Pool Site at HAAF, Georgia

By

M.D. Thompson, S.F. Miller and J.M. Cooper

Center for Environmental Restoration Systems
Energy Systems Division
Argonne National Laboratory

for

Melanie Little

Hunter Army Airfield

Savannah, Georgia

Interim Project Report

June 2001

TABLE OF CONTENTS

List of Tables

List of Figures

Geophysical Investigation of the 260th Motor Pool site at HAAF, Georgia

Overview

The 260th Motor Pool site at Hunter Army Airfield (Figure 1) is currently under environmental investigation for sub-surface TCE contamination. Chemical analysis of groundwater monitoring wells indicates that TCE is present at shallow depths (2-4 m) beneath the ground surface in the wooded area southeast of the 260th Motor Pool.

The geology beneath the site consists of coastal plain sediments comprised of interbedded sand and clay layers. Two clay horizons, the Upper Clay Unit (UCU) and the Lower Clay Unit (LCU), have been identified by geophysical methods and may act as potential barriers for the migration and pooling of TCE products beneath the 260th site. The UCU occurs at depths of 7 to 9m below the ground surface and the LCU at depths of 13-22m below ground level.

As part of the investigation, geophysical surveys were conducted at the 260th Motor Pool site to better characterize subsurface geology controlling the migration and entrapment of TCE contaminants (DNAPL). Additional geophysical surveys were also performed to determine whether an uncontrolled burial site was present. Geophysical methods used consisted of electro-magnetic (EM) terrain conductivity surveying, EM metal detection, two-dimensional electrical resistivity imaging (2D-ERI), and borehole electric and natural-gamma logging.

Results from modeling the 2D-ERI data provide gross spatial distributions and trends of electrical properties of the subsurface, which are correlated with the underlying geology. In situ geophysical measurements were also performed using available monitoring wells and direct-push techniques. Both electrical and natural-gamma methods were run which allow discriminating between clay and non-clay intervals. The borehole geophysical surveys clearly indicated the depth and thickness of discrete clay layers at the boring, whereas, the surface geophysical methods are used to extrapolate between borings.

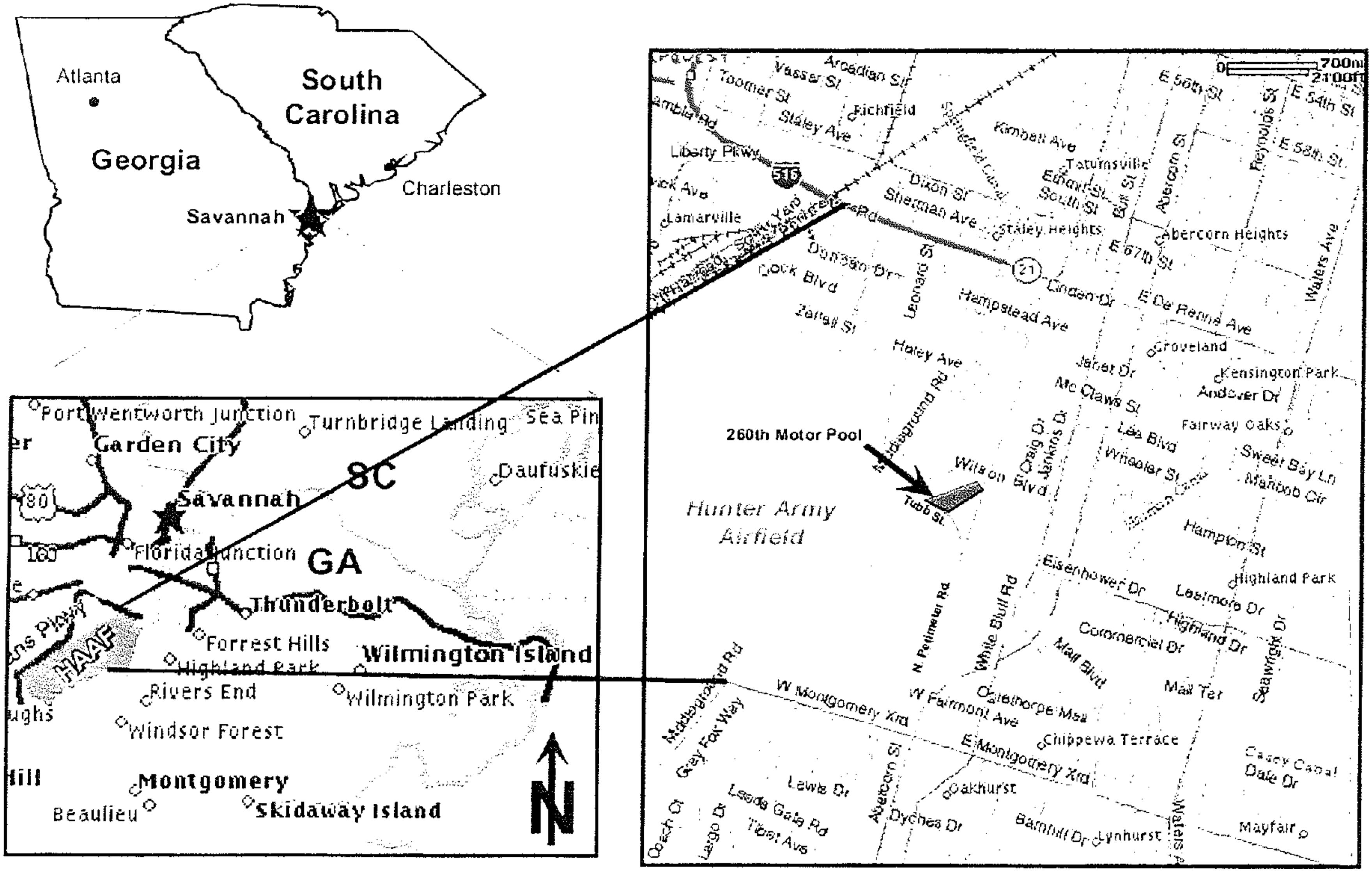


Figure 1. Location map for the 260th Motor Pool and Hunter Army Airfield (HAAF), Savannah, Georgia.

Geology

Stratigraphic units of concern at the 260th Motor Pool include the Pliocene-Holocene Unit and the underlying Miocene Aquiclude (Confining Unit).

Pliocene-Holocene Unit

Holocene deposits are characterized by sand, clay, and lesser amounts of gravel; Pleistocene deposits by arkosic sand and gravel containing discontinuous clay beds; and Pliocene deposits by phosphatic, micaceous and clayey sand. Numerous in-filled channels, some of which extend into and potentially through the Miocene aquiclude, also characterize units within the Pliocene-Holocene series.

Miocene Aquiclude (Confining Unit)

The Miocene Aquiclude is composed of mainly clastic deposits containing low-permeability clays, silts, clayey silts, and sandy or silty clays that act as confining units in the Savannah area. The thickness of the Miocene deposits range in thickness from over 100ft in the Savannah area to being locally absent, or nearly so, off Hilton Head Island and the Beaufort area (Foyle et al, 1999).

Geophysical Surveys

Geophysical surveys were conducted during two rounds, April 2000 and Oct./Nov 2000. This allowed assessing what seasonal effects would occur on the resulting geophysical models, and allowed adjusting survey parameters in attempt to improve the resolution of the resulting models. Surveys consisted of two-dimensional electrical-resistivity imaging (2D-ERI), borehole geophysical logging, electromagnetic (EM) terrain-conductivity mapping, and EM metal detection. The survey locations are shown in Figure 2 with the 2D-ERI profiles denoted as solid red lines, the EM grid as a magenta color, and the borehole geophysical measurement points as solid-blue circles. The 2D-ERI and borehole geophysical surveys were conducted in order to map the vertical distribution and lateral continuity of clay layers underlying the field site. EM terrain-conductivity and metal detection surveys were conducted in the wooded area southeast of the motor pool in order to determine whether an uncontrolled burial site was present. A more thorough description of the instrumentation and geophysical methods is provided in Appendix A.

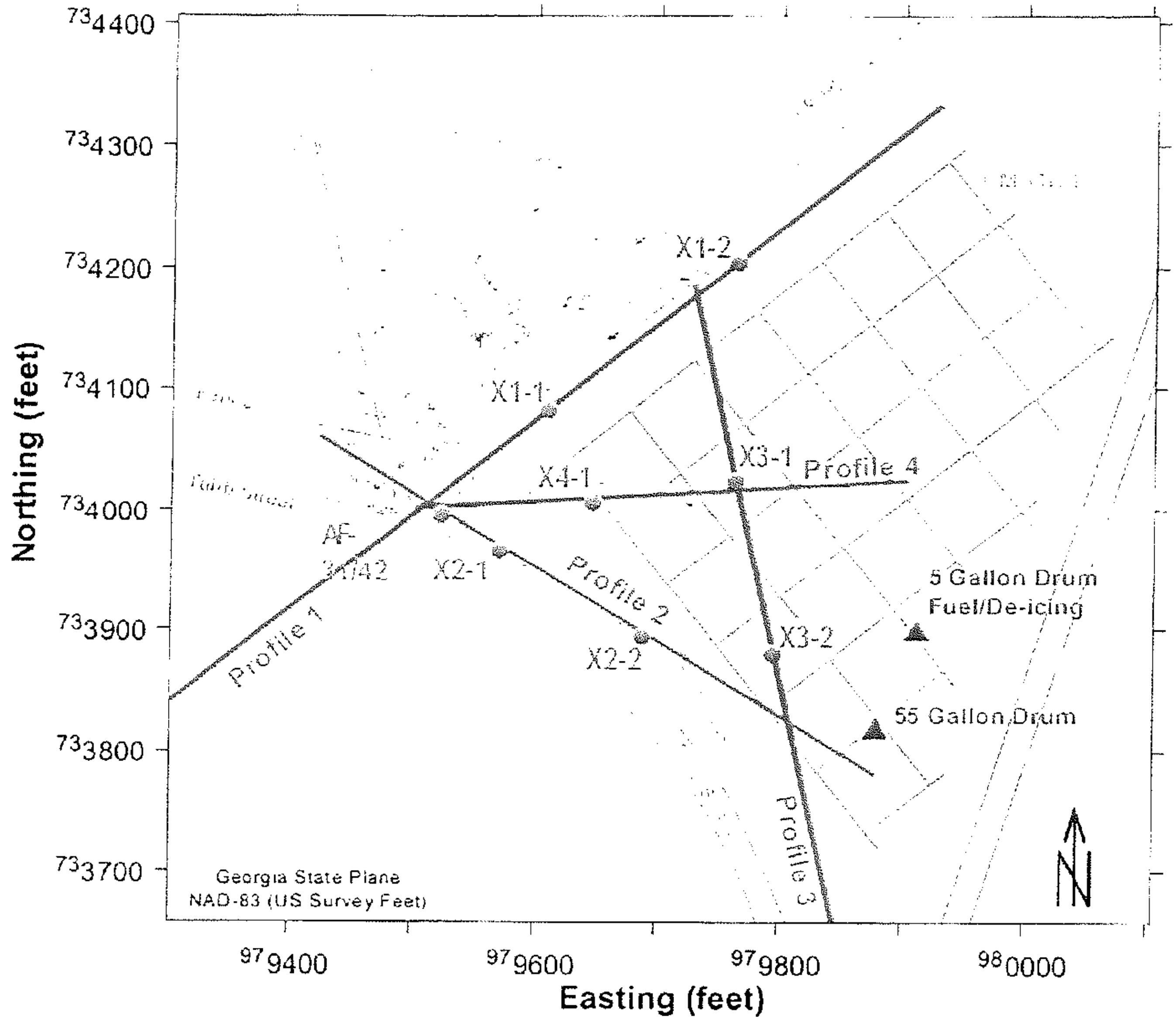


Figure 2. Locations of Geophysical Surveys at the 260th Motor Pool.

2-D Electrical Resistivity Imaging (2D-ERI)

2D electrical-resistivity data were collected along 4 profiles (Figure 2) at the 260th site using an AGI Sting/Swift system (see Appendix A for a more thorough discussion of the methodology and use of this instrument). Each profile was surveyed twice, first in April 2000 during wet soil conditions, then in October/November 2000 in dry soil conditions brought upon by a summer long drought. Only Schlumberger arrays were used because they produced relatively clean data sets with stable inversion models. Details and comparisons of the repeat measurements are discussed below.

Data collected during the second round were generally noisier and of poorer quality than that collected during the initial round (April 2000), and models constructed from the second round of data yield higher modeling errors than the April round. Drier soil conditions are believed to be major cause for the increased noise and model errors. In this case, the electrical-contact between the ground and the electrodes is reduced and the contrast between low- and high-resistivity zones is increased. One major drawback to the increased noise is that a greater degree of modeling artifacts occurs in the form of extreme high and low bulls-eyes. These features are noted where present.

The initial targets for the 2D-ERI investigation were the depth and lateral continuity of the upper and lower clay units (UCU and LCU) underlying the site. The LCU proved too great in depth to be fully resolved using the 2D-ERI method. This is in part due to the near surface conditions and in part due to resolution limits imposed by modeling algorithm (fuzzier solution with depth). A distinct decrease in electrical resistivity, however, occurs at depths where borings adjacent to the profiles indicate the top of the LCU. The UCU is only partially resolved on the 2D-ERI profiles due primarily to its thinness (<2.5 m).

Profile 1 is oriented southwest to northeast and lies south of and parallel to the main drainage ditch adjacent to the 260th Motor Pool fence (See Figure 2). The resulting 2D-ERI models are shown in Figure 3 with the April 2000 data in the top panel, and the second round model results in the lower panel. This convention is observed for each profile. The first round of data collection used an electrode spacing of 6m and 42 total electrodes, which provided a total profile length of 246m. The second round used a 3m-electrode spacing with 56 electrodes, resulting in a 245m long profile. The decreased electrode spacing for the second round survey was used in an attempt to increase the resolution of the model.

A 15m thick high-resistivity (>100 ohm-m) layer dominates the resulting models constructed for Profile 1 (Figure 3). The top of this high-resistivity zone averages approximately 2m in depth on the southwestern half of the profile and shallows to the NE until it is just below the ground surface (coordinate 138X and greater). The bottom of this layer averages approximately 20m in depth below ground level. Lateral continuity of this layer is lost between profile coordinates 84X and 138X, where zones of lower resistivity break the high-resistivity layer.

Low-resistivities (<40 ohm-m) underlie the high-resistivity layer and are probably caused by clay intervals in the lower clay unit (Miocene). The resolution of the 2D-ERI model at depth does not allow determining a precise interface for the top of these clay units. The actual interface most likely occurs during the transition from high-to-low resistivity, perhaps in the 60-80 ohm-m contour range. In a gross sense, though, the lower clays (Miocene) occur at an average depth of approximately 15-20m below ground level. Undulations upwards of 5m occur at the top of these low-resistivity units, though at this juncture it is unclear whether changing moisture conditions or true changes in the elevation of the clays is occurring.

An almost 10m rise in the clay surface is observed between profile coordinates 102X and 120X on the second round model shown in Figure 3. This coincides with an upward shift and thinning of the high-resistivity zone in this area (the initial round of data suggested a low point in the clay surface at this location). One explanation is that the rise is a modeling artifact produced by the modeling algorithm to handle the noisier data. Note that the overlying high-resistivity zone almost triples in resistivity (~100 to ~300 ohm-m) from the first to the second round. An alternate explanation is that drier soil conditions have enhanced the contrast between sand/silt and clay intervals, and the top of the low-resistivity material coincides with the top of the upper clay unit.

Profile 2 is oriented northwest to southeast, runs sub-parallel to Tubb Street, and the resulting 2D-ERI models are shown in Figure 4 (see Figure 2 for the profile location). Both survey rounds used an electrode spacing of 3m and a total of 56 electrodes, resulting in a profile length of 165m. The initial survey in April, however, used a base array of 28 electrodes and two roll-along extensions of 14 electrodes each to construct the profile, whereas the October survey used a single

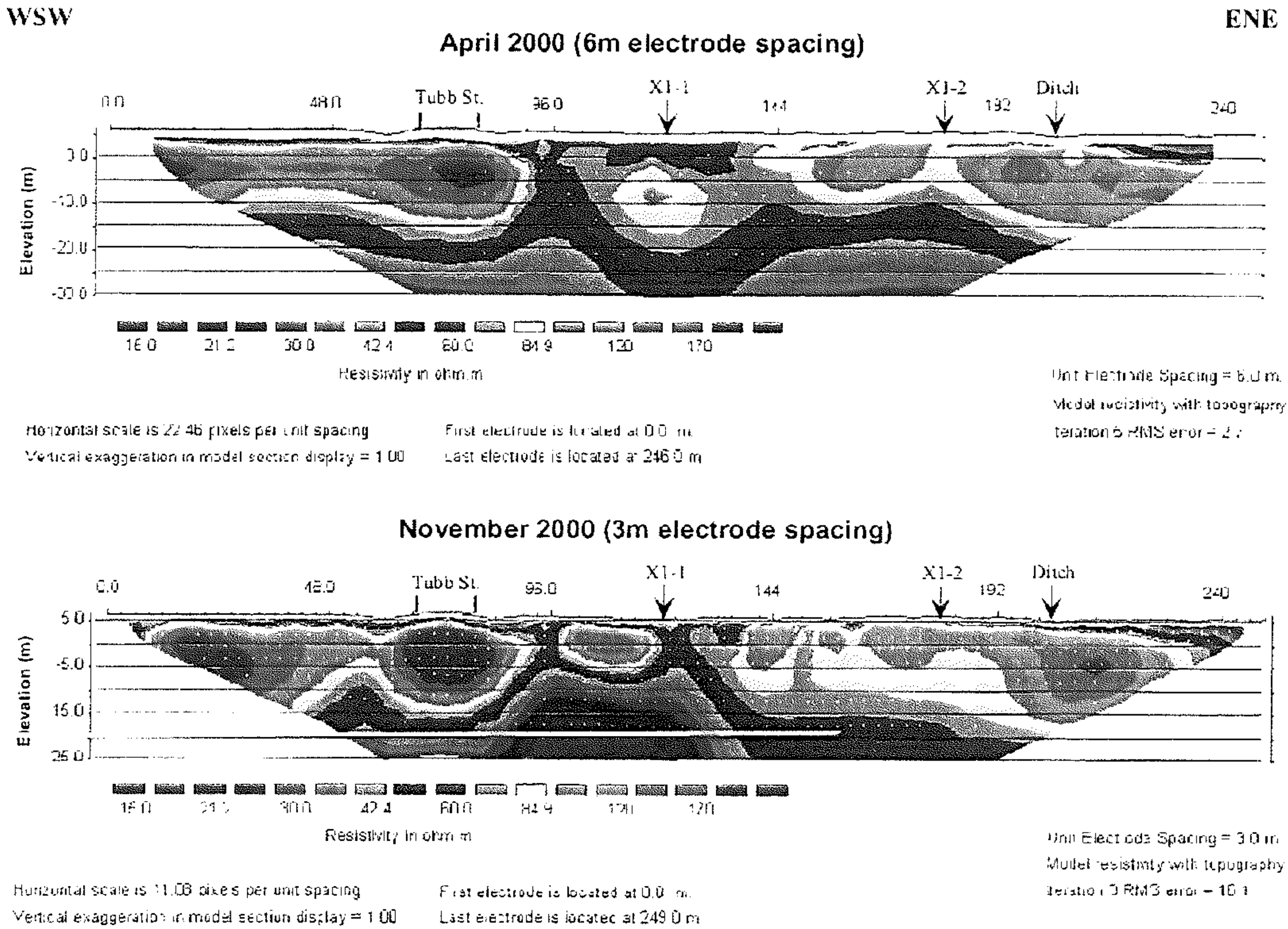


Figure 3. April 2000 (top) and November 2000 (bottom) 2D-ERI results for Profile 1.

array of 56 electrodes The later geometry has the advantages of bridging gaps inherent in the collection of roll-along surveys and allows penetrating to greater investigation depths.

The two 2D-ERI models constructed for Profile 2 (Figure 4) compare favorably, except for the following two areas: a near surface, resistivity-high bulls-eye beneath profile position 111X, and zones of increased resistivity on the northwest end of the profile on the October survey. These differences are attributed to the drier soil conditions brought on by the summer-long drought. In this case, the drier soil conditions have increased the electrical contrasts between the clay and silt/sand intervals, and the modeling algorithm is over-estimating the true resistivity.

A thin (2-3m thick) low-resistivity layer (<20 ohm-m) is observed just below the ground surface on Profile 2 (Figure 4). This layer begins near profile position 36X and exits at the southeast end of Profile 2.

A layer of moderate-to-high resistivity (>70 ohm-m) immediately underlies the near-surface low-resistivity layer at an average depth of 2m. This high-resistivity appears as a thicker zone in the northwest third of the profile, where it averages 8-10m in thickness on the April data set and reaches approximately 12m in thickness beneath profile position 57X. The high-resistivity layer thins towards the southeast to an average thickness of 5m, and maintains this thinner state across the rest of the profile. The "layer-cake" geo-electrical response on the southeastern half of the April model is consistent with the underlying geology. The thicker electrically resistive structure between profile coordinates 45-63X may be indicative of a thicker coarser grained interval. Also note that this part of the profile crosses an area with sub-surface TCE contamination.

Near-surface, high-resistivity features observed on the northwest end of the profile are most likely associated with fill material used for construction of the motor pool's parking apron. A near-surface high-resistivity bulls-eye observed in the October data near profile position 25X is most likely caused by the drainage ditch.

The presence of clay units is inferred for causing the underlying low-resistivities in the southeast two-thirds of the profile. The top of this low-resistivity occurs in the 8-to-10m-depth range in the southeastern 2/3 of the profile, and at a minimum depth of 15-to-20m in the northwest. This change depth is similar in magnitude to that observed on Profile 1.

Figure 5 shows the 2D-ERI modeling results for Profile 3, which was acquired along an approximate north-to-south transect along the western edge of a gravel roadbed extending through

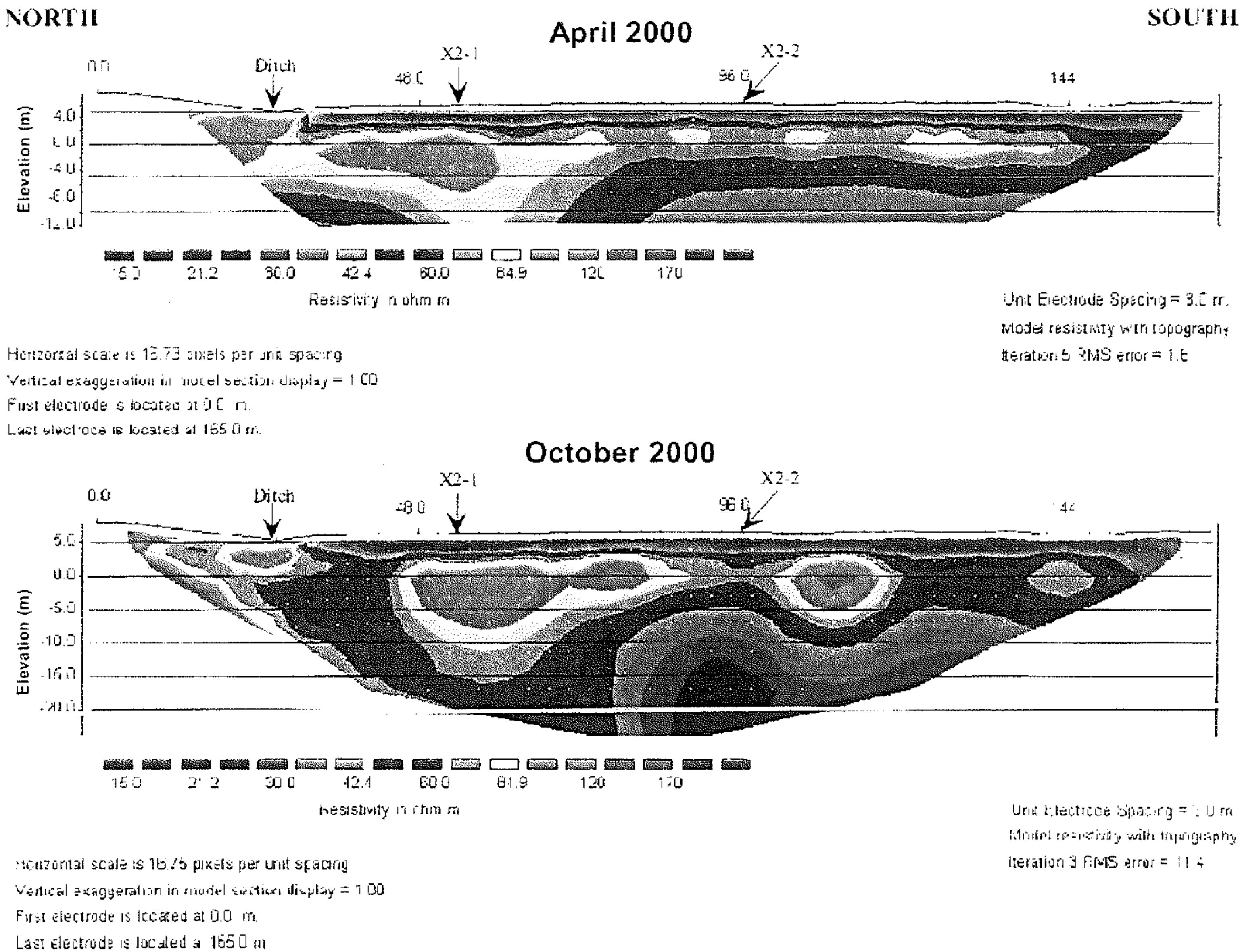


Figure 4. April (top) and October (bottom) Resistivity Models for Profile 2

the wooded area (see Figure 2 for location). The initial survey in April used a base array of 28 electrodes and two roll-along extensions of 14 electrodes each to construct the profile, and the November survey used a single array of 56 electrodes. The geo-electric model for the April data (top panel, Figure 5) displays very low model error, whereas the November survey (bottom panel, Figure 5) yielded a very noisy data set with a correspondingly high modeling error. Processing of the November survey required using additional data smoothing and horizontal filtering that was not implemented for any of the other profiles.

Model results (Figure 5) show an approximately 2m thick, near-surface low-resistivity layer (<20 ohm-m) that extends across most of the profile. This layer begins near profile position 25X and ends near position 144X. A near-surface layer of similar low-resistivity and thickness is observed on the other three profiles, and is interpreted to be a naturally occurring feature.

Underlying the low-resistivity layer is a 7-9m thick layer of moderate-to-high-resistivity (>70 ohm-m) that extends across the profile. In the April model, this layer decreases in resistivity towards the south where it becomes a low-to-moderately resistive zone (35-60 ohm-m). The November model, however, does not indicate a decrease in resistivity to the south for this layer, but shows pronounced lateral discontinuities. Note also that the resistivity of this layer is much greater than observed on the April model. The discontinuities in the November model (bottom panel, Figure 5) are interpreted as artifacts introduced by the modeling algorithm (pinching out or necking problem). In addition, drier soil conditions are interpreted to have increased the electrical contrast between the clays and silt/sand layers, and the model algorithm is either under- or overshooting the resistivity value for individual zones.

Another zone of low resistivity immediately underlies the moderate-to-high resistivity layer. The top of this low-resistivity zone occurs at a depth of approximately 9-to-11m, and the November model indicates that this horizon is from 7-to-10m in thickness. An apparent increase in resistivity within this zone below profile position 66X is most likely a modeling artifact.

High-resistivities are observed at the base of the November model, suggesting the presence of sand or coarser-grain intervals. This zone occurs at a depth consistent with Miocene units.

Profile 4 is oriented west-to-east, and bisects the study area along a line of monitoring wells (Figure 2). Both the April and November surveys utilized an electrode separation of 3 m and began at the same point; however, slightly different geometric configurations were used. The

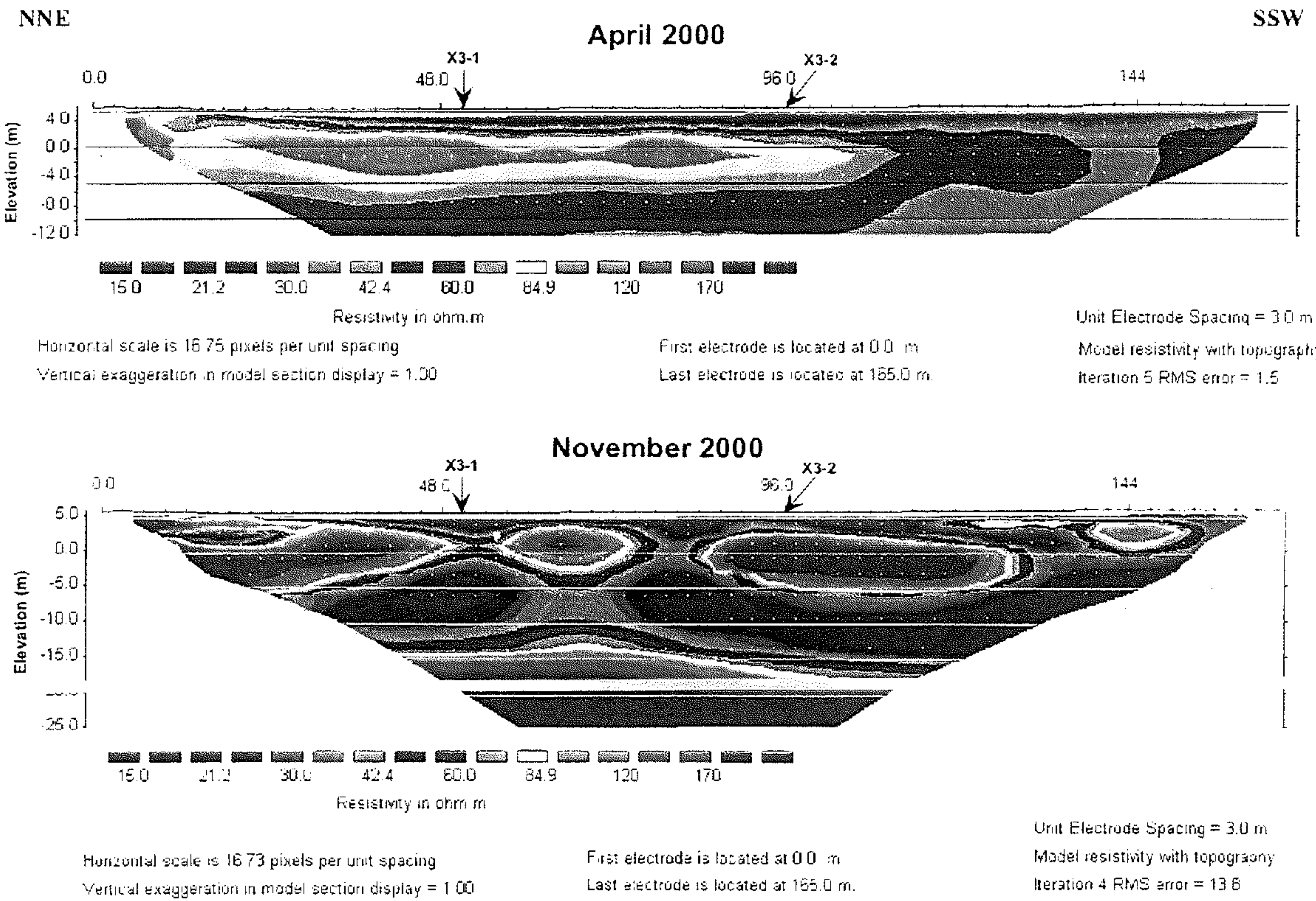


Figure 5. 2D-ERI models for Profile 3. April (top) and November (bottom), 3m electrode spacing.

April survey consisted of a base array of 28 electrodes and a single roll-along of 14 electrodes for a total line length of 123m. The November survey consisted of a single array of 56 electrodes for a total line length of 165m. The later array geometry increased depth of exploration from approximately -10 to -20 m MSL with no loss of data resolution in the near surface.

Modeling results for Profile 4 are presented in Figure 6. Like the previous three profiles, the November data suffer from a significant increase in noise that is attributed to drier soils brought on by the summer-long drought. General trends within the data are preserved, however. For both models, a thin low-resistivity layer that is approximately 2m thick is present just below the ground surface. Low-resistivity layers of similar dimension and position are also observed on the other three profiles, suggesting a common and most likely natural condition.

The western half of the profile is underlain by a high-resistivity layer (>80 ohm-m) that reaches a thickness of upwards of 15m. Profiles 1 and 2 also show a thicker, high-resistivity zone in this general region. Towards the east, the high-resistivity layer thins to approximately 7-9m. The November model exhibits an increased lateral discontinuity for this horizon in the eastern half of the profile, which is attributed to the drier soil conditions and relatively noisier data.

At depth, low-resistivities underlie the eastern half of the profile with top at approximately 6-8m in elevation (11-13m depth). The November model suggests a very thick (>10m) low-resistivity zone, though it is unclear at this time if the model is fully resolving deeper features.

No evidence for burial activity is indicated on Profile 4 (especially the November data which extended further into the wooded area).

Borehole Geophysical Logging

Borehole geophysical surveying was conducted in order to map the vertical distribution (top, bottom, and thickness) of clay horizons adjacent to the 260th Motor Pool, as well as the electrical properties of the subsurface to help interpret the 2D-ERI models. Borehole methods used consisted of direct-push conductivity (DP e-log), EM induction (conductivity), and natural-gamma surveys. The methods used, and the PVC cased holes or wells surveyed, are given in Table 1.

Table 1. Geophysical methods used for each PVC cased hole or well.

Well/Boring ID	DP e-log	Borehole Geophysical Logging	
		EM Induction	Natural Gamma

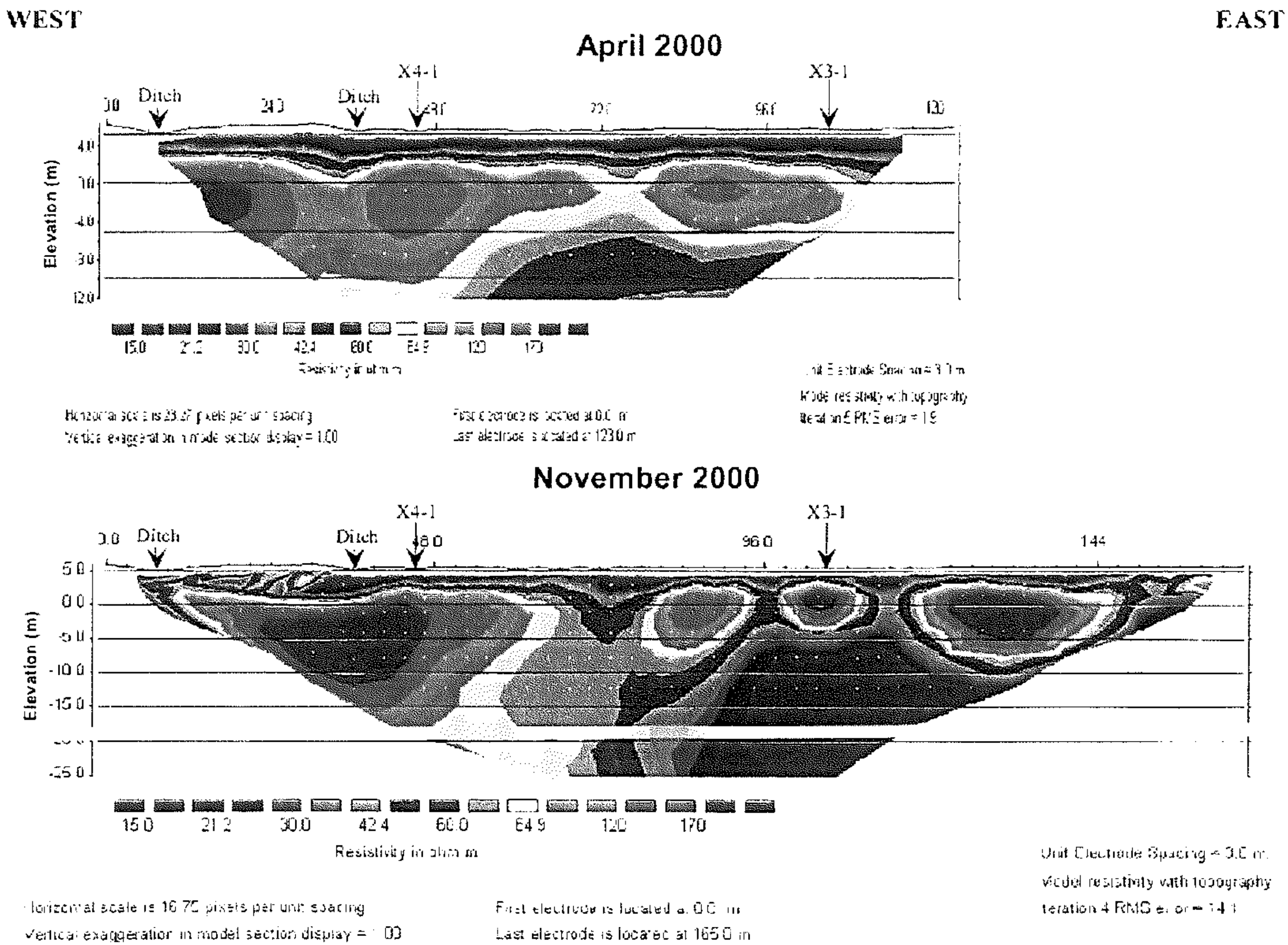


Figure 6. Resistivity Modeling Results for Profile 4, April (top), November (bottom), 3m electrode separation

X1-1	No	Yes	Yes
X1-2	Yes	No	No
X2-1*	Yes	Yes	Yes
X2-2	Yes	No	No
X3-1*	Yes	Yes	Yes
X3-2	Yes	No	No
X4-1	Yes	No	No
AF-31/42	No	Yes	Yes

* All three methods used at this location

The rationale for using the above tools is that clay horizons can be distinguished from silt/sand intervals using both radiological and electrical properties. Clay sediments include relatively high amounts of naturally-occurring, gamma-ray emitting potassium-40 and daughter isotopes of the uranium- and thorium- decay series, yielding a significantly greater response than sand intervals on natural gamma logs (Keys, 1990). Clay sediments are also more electrically conductive than sand or silt intervals, and exhibit a significantly greater response on conductivity logs. Changes in borehole conductivity, however, may also arise from variations in the concentration of total dissolved solids (TDS) within borehole fluids (Keys, 1990), and thus mask sand/clay changes. The combined use of electrical and passive radiation tools assists in determining borehole fluid versus formation effects.

Direct-push Conductivity Surveys (DP e-log)

Six electrical-conductivity DP e-logs were collected at the 260th site by the U.S. Army Corps of Engineers (Savannah) using a GeoProbe rig fitted with a Wenner-array tip. The DP e-log method provides an in situ measurement of the electrical properties of the underlying soil and sediment. Locations of the GeoProbe direct push points are indicated on Figure 2, and plots of the resulting DP e-logs are provided in Appendix B. DP e-log positions were located at predetermined sites on 2D-ERI profiles to test the model results and to aid in their interpretation (see Figure 2 for locations). Two of the DP e-logs (X2-1 and X3-1) were subsequently cased with 2 inch PVC to permit borehole geophysical logging with the EM induction and natural-gamma tools.

EM Induction and Natural-Gamma Borehole Surveys

Borehole geophysical measurements were performed in one well (AF-31/42) and three of the GeoProbe installed PVC casings at the 260th site using the natural-gamma (HLP-2375/S) probe and an EM induction (EMP-2493) tool. A Mount Sopris MGX data logger was used to manipulate the tools (see Appendix A for further discussion of these instruments). Two of the PVC cased holes surveyed using the EM induction and natural-gamma tools also had DP e-logs collected, which allows directly comparing the DP e-log with the EM induction data. Plots of the EM induction and natural-gamma logs are presented in Appendix B.

Results of Borehole Geophysics

A clay horizon, termed the Upper Clay Unit (UCU), was detected at an average depth of 8m by the borehole geophysical logs (Figures B.1 – B.4). The natural-gamma response for this unit lies within a consistent range of 100-115 counts per second (CPS), which makes it readily identifiable on the GeoProbe holes, X1-1, X2-1, and X3-1, where the average background is in the 60-70 CPS range (Figures B.1 – B.3 and Table B.2). Stronger background levels observed in Well AF-42 (80 CPS, Figure B.4) tend to mask the UCU. These stronger background levels are interpreted to arise from materials used in the construction of the well. None of the PVC cased holes/wells logged with the natural-gamma tool penetrated the Lower Clay Unit (LCU).

Five of the DP e-log and EM-induction surveys (X2-1, X2-2, X3-1, X3-2, and X4-1) indicate the presence of a high-conductivity, near-surface layer, that averages 2m in thickness. This zone directly correlates with the low-resistivity (high-conductivity) near-surface layer imaged on the 2D-ERI profiles. Direct push points X1-1 and X1-2 do not show this near-surface, high-conductivity layer and it is absent on the corresponding parts of the 2D-ERI models for profiles 1 and 2.

EM induction logs collected using the EMP-2493 downhole tool in PVC cased holes X2-1 and X3-1 compare favorably with DP e-logs recorded for those points. In general, the DP e-logs provide higher resolution than the induced method, which allows detecting thinner conductive zones. The induced response mimics that of the DP e-logs; however, the response is smoothed across finer layers and the range of values as a whole are significantly dampened.

The UCU is identified as a 1.3-to-2.5m thick zone ranging from 75-to-100 milli-siemens per meter (mS/m) in conductivity (Figures B.1 – B.4, and Table B.2). This horizon is consistent in depth and thickness for the 100-115 CPS natural-gamma zone identified as the UCU. The DP e-logs tend to better define the top and bottom of this horizon, whereas the EM induction logs, due primarily to the length of the EM induction tool, tend to smear the upper and lower contacts. The effect is that the induction log appears as a filtered or averaged reduction of the DP e-log data.

In some cases (X1-2 on Figure B.1) the UCU starkly contrasts with the surrounding sediment where the background conductivities range from 20-to-30 mS/m. In other cases, notably push points X2-2 and X3-1 and X3-2, the UCU defines the top of a sequence of clay horizons (or stringers). Push point X3-1 for example indicates an approximately 4m thick clay zone underlying the UCU (elevation of –9 m), whereas on X2-2 and X3-2 this intermediate zone is approximately 2m thick and occurs at a higher elevation (-6 m).

Taken as a whole, the borehole electrical data suggest a 7 to 9m depth range for the top of the UCU. Except for the near-surface, high-conductivity zone, the electrical properties for the interval above the UCU appear to reflect sand and silt sediments. Minor clay stringers are interpreted to be present due to thin 1m-thick zones of moderately higher conductivity (50-to-70 mS/m). Clay horizons are more prevalent beneath the UCU as evidenced by an increase in the number of electrically conductive zones.

Only the DP e-logs penetrated into the LCU (except X3-1), which occurs as an electrically conductive unit at depths of 13 to 22 m below ground level (elevations of –12.5 to –16.5m, mean sea level, Table B.3). Thickness of the LCU ranges from 1.6m (X2-1) to almost 4m (X3-2), and the LCU exhibits a consistent range of 130-145 mS/m in conductivity. This distinguishes it from the UCU and other overlying clay zones, each of which tends to be lower in conductivity (80-100 mS/m). Thus the 4m thick electrically conductive zone (~100 mS/m) observed on X3-1 at an elevation of approximately –9m (Figure B.3) cannot be interpreted as part of the LCU.

Structure and isopach maps of the UCU were constructed from the DP e-log data and are shown in Figures 7 and 8, and a structure map of the top-of-the LCU is shown in Figure 9. These maps serve to provide boundary information for the potential migration direction and pooling locations for subsurface contaminant. The top-of-the UCU (Figure 7) shows a consistent slope towards the southeast from an elevation of approximately -2m at probe points X1-1 and X1-2 to about -3.5m in elevation at location X3-1. The isopach map (Figure 8) indicates that the UCU is thinnest under location X3-1.

Elevation: Top of the Upper Clay Unit

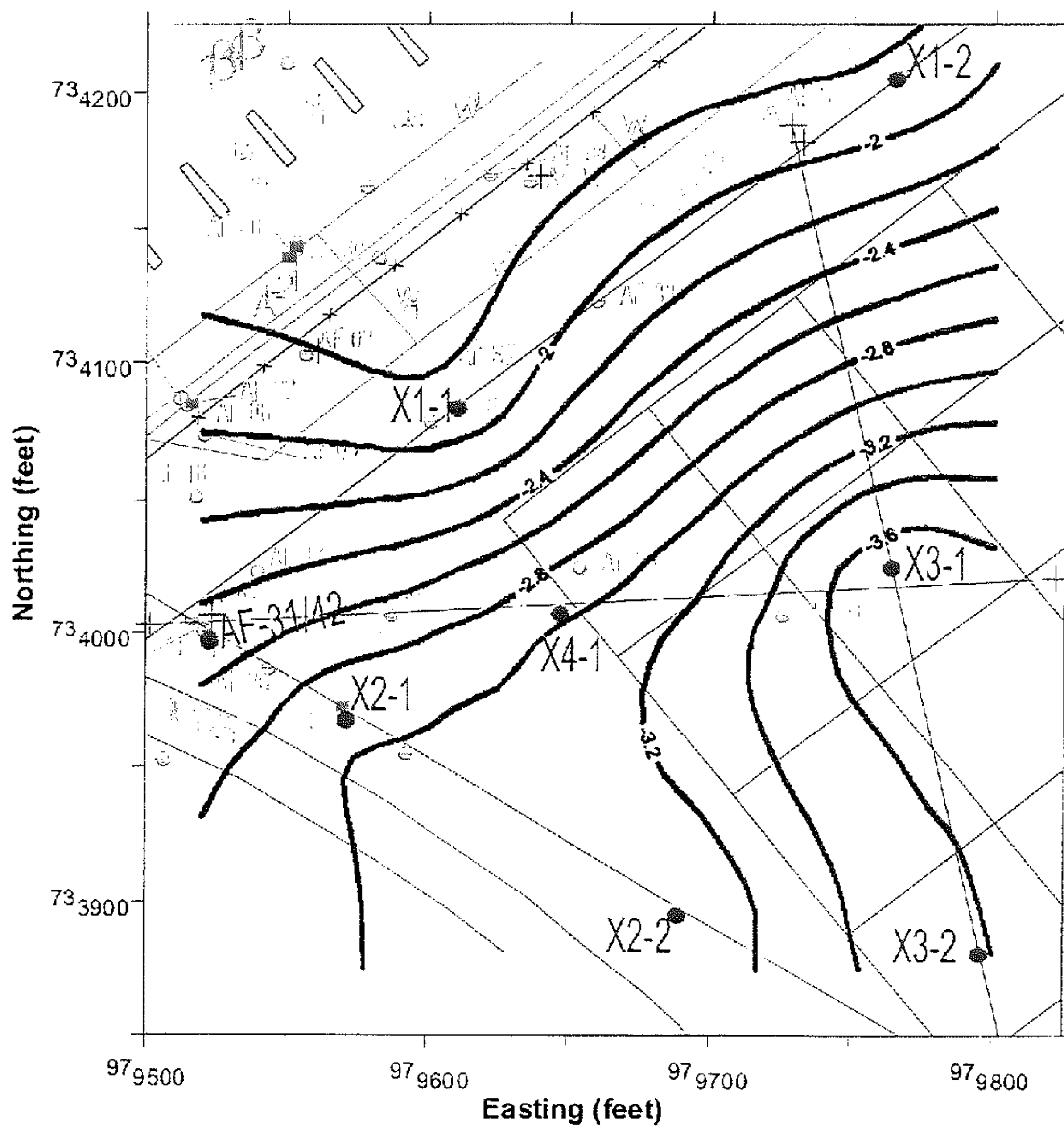


Figure 7. Structure Map of the Top of the Upper Clay Unit.
Elevation in meters relative to sea-level.

Isopach: Upper Clay Unit

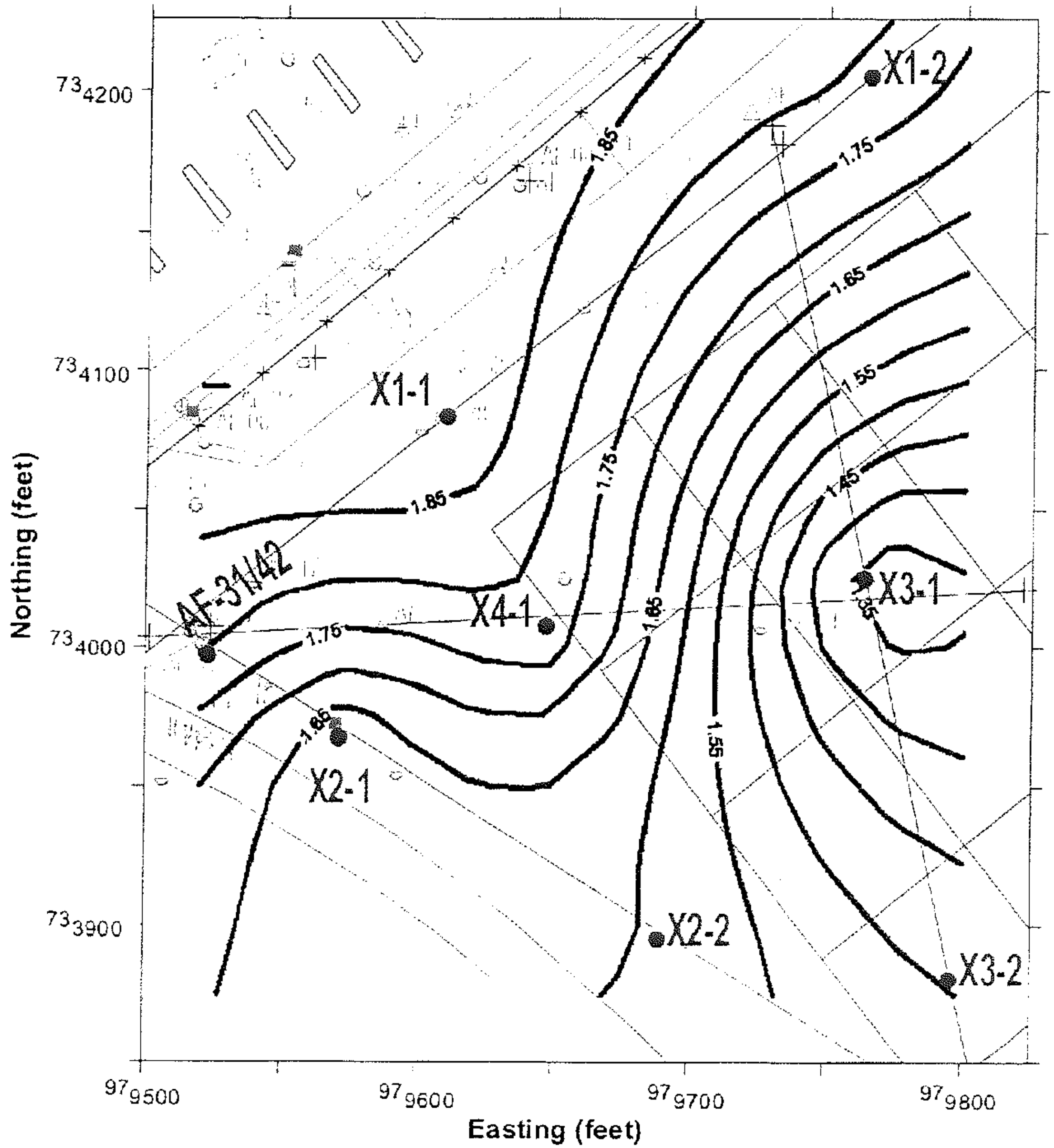


Figure 8. Isopach Map (meters) of the Upper Clay Unit

Figure 9 is a map showing the elevation of the top-of-the LCU and the contours are in meters relative to mean sea level. A topographic low for the top-of-the LCU is present beneath the X3-1 and X3-2 push probe locations. Probe point X3-2 encountered the LCU at an elevation of -16.5m, and an elevation of -17.5m is inferred for X3-1. The X3-1 push probe location did not encounter the LCU, which extended to -17.5m in elevation.

The structure maps (Figures 7 and 9) indicate that DNAPL migration would likely occur in a southwest direction towards the X3-1 location.

Electromagnetic Terrain Conductivity and Metal Detection Mapping

EM terrain conductivity mapping measures lateral variations in electrical-conductivity in the upper 2-to-4 m of the subsurface. Disposal and burial activities usually perturb the natural electrical conditions, which allows mapping trench and pit features. EM metal detection supplements the terrain conductivity data by determining whether metallic debris is buried under a particular site. The Geonics EM-31 and EM-61 instruments were used to collect the terrain-conductivity and metal-detection data, respectively. A more thorough description of the use of these instruments is provided in Appendix A.

Data were collected along NE-SW oriented transects spaced at 5 m intervals in the grid area shown in Figure 2. The primary purpose for these surveys was to determine whether unrecorded burial or disposal activities had occurred in the wooded area southeast of the motor pool. The impetus for these surveys was the discovery of areas with surface debris (pots, bottles, corrugated steel siding, etc), a partially exposed 55 gallon drum (no markings), and a 5 gallon drum (fuel/de-icing compound) during the initial phase of geophysical surveying. The resulting survey grid was constructed to encompass these features.

Figures 10 and 11 show the results for the EM-31 terrain-conductivity and EM-61 metal detection surveys. Each data set is presented as a color-contoured anomaly map with roads and cultural features overlain. The gridded data have been rotated and scaled into the Georgia State Plane (U.S. Survey Feet) coordinate system and locations of anomalies of interest are given in these coordinates.

A northeast-southwest trending zone of high-conductivity (>58 mS/m) dominates Figure 10. This zone is interpreted to be a natural feature due to its size and shape. Zones of low-conductivity (<30 mS/m) are present along the southeast and northwest edges of the survey area.

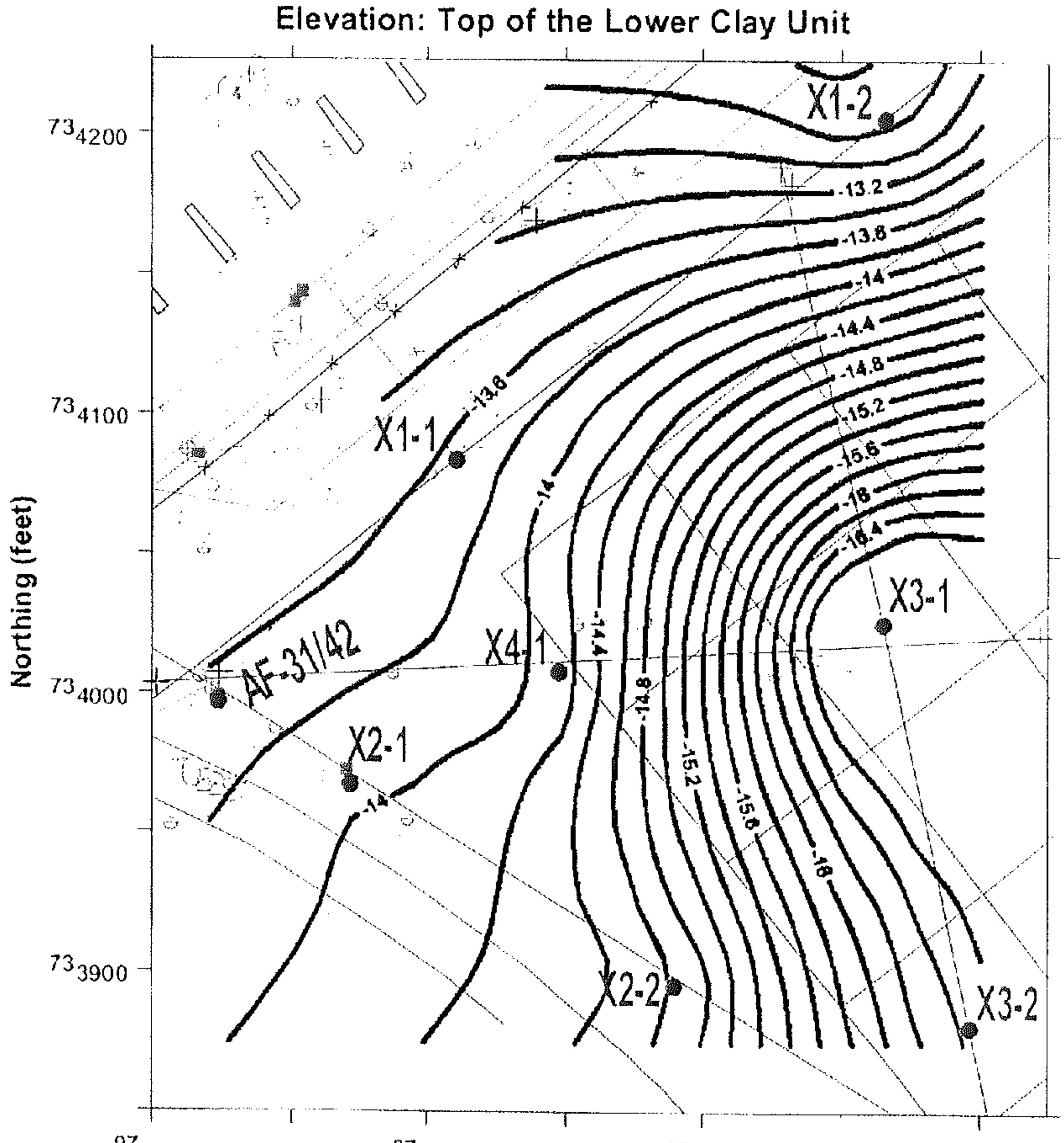


Figure 9. Structure Map of the Top of the Lower Clay Unit. Elevation is in meters relative to mean sea-level. The elevation of the LCU under boring X3-1 is estimated, and could be lower than shown.

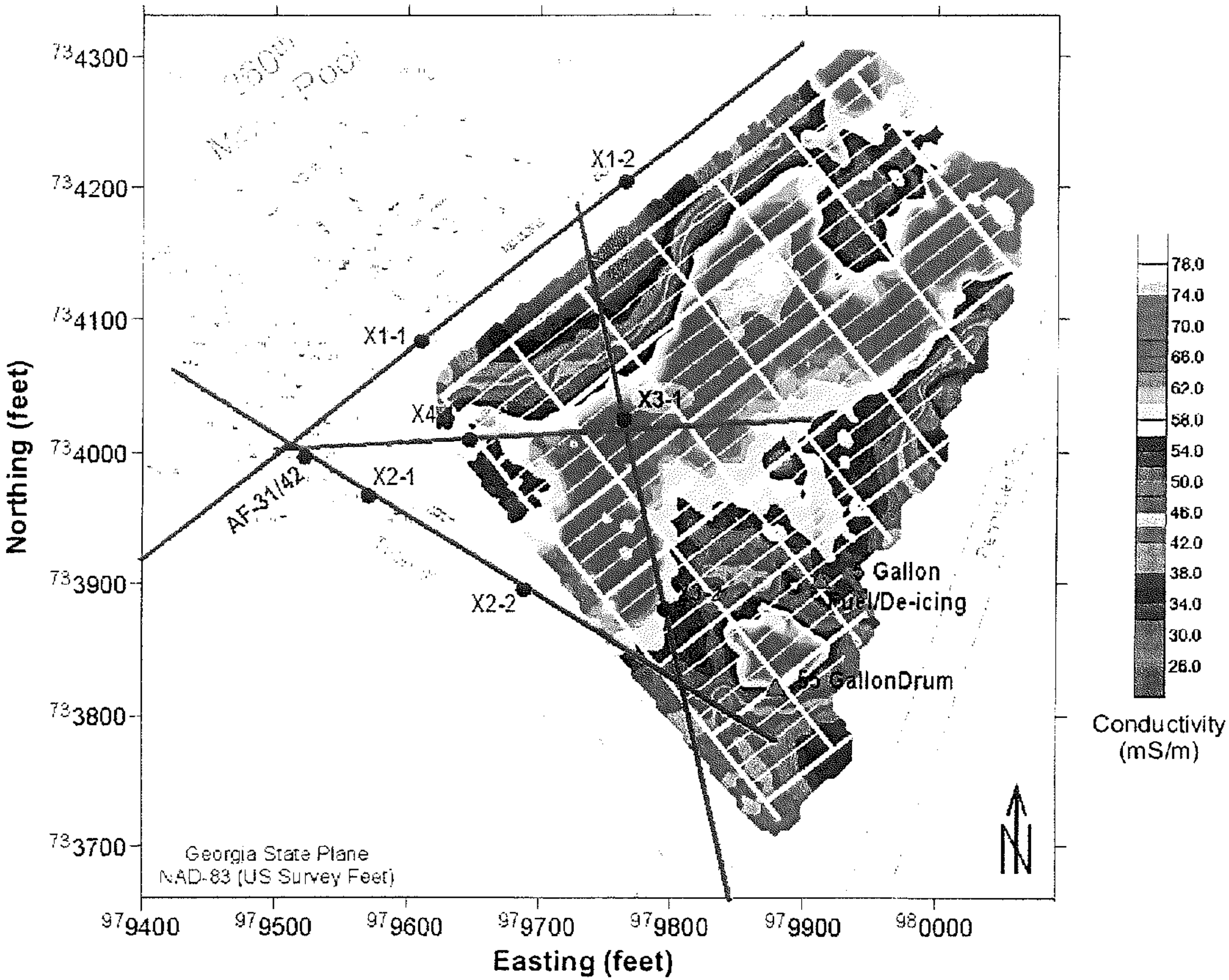


Figure 10. EM-31 Terrain Conductivity Anomaly Map

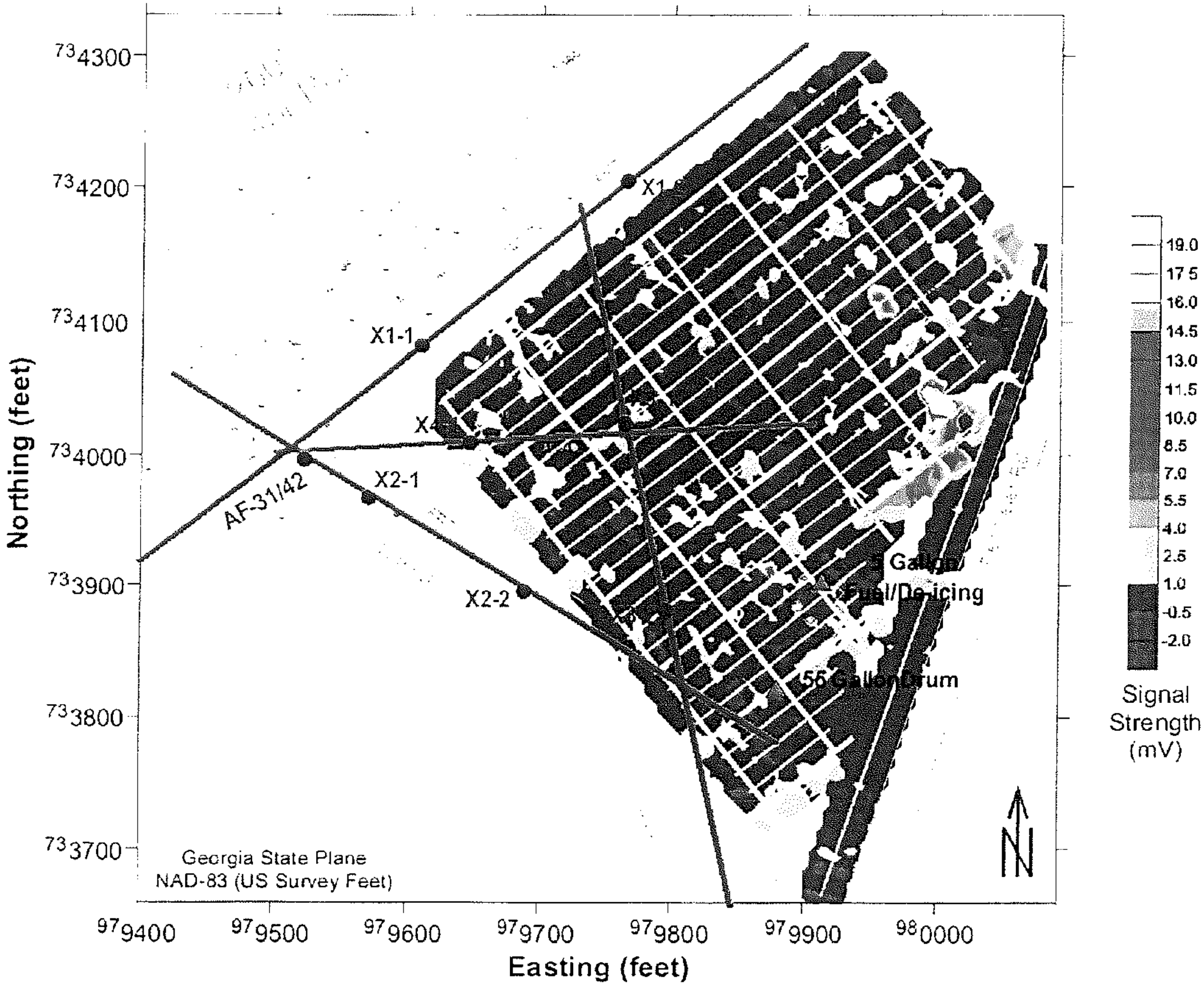


Figure 11. EM-61 Coil Difference Anomaly Map

The construction material used for the road most likely causes the southeastern low-conductivity zones. Excavation of the drainage ditch northwest of the grid may be the cause for the low-conductivity zones observed along the edge of the drainage ditch.

Other features observed on Figure 10 consist of a 20x12 m zone of high-conductivity located immediately north of where the 55 gallon drum was discovered, and an E-W elongated low-conductivity zone located approximately 10-12 m west of where the 5 gallon drum was found. The high-conductivity zone is tentatively interpreted as a natural feature due to its similarity to the NE-SW trending high that dominates the figure. The low-conductivity zone, however, may be related to the presence of a drainage ditch that cuts west-to-east through the grid at this location.

The metal detection results presented in Figure 11 do not indicate the presence of any pervasive burial activity southeast of the 260th Motor Pool. Minor amounts of buried debris are likely present along the SE edge of the grid (980000X, 734050Y) and are interpreted to be associated with where surface debris was dumped. The proximity to the existing road has perhaps allowed some uncontrolled dumping to occur. Two other zones that likely contain shallowly buried metal are present NW (979950X, 734125Y) and NNE (980025X, 734150Y) of this feature. Depth analyses performed on the above anomalies indicate a maximum burial depth of slightly less than 1 meter.

Buried debris is likely present immediately west of where the 5-gallon drum (fuel/de-icing compound) was discovered. This debris is just north of where the conductivity-low is observed (Figure 10), and may be related to minor amounts of dumping/burial. A drainage ditch cuts through the wooded area in this vicinity.

Discussion

The 2D-ERI data have mapped an electrically resistive layer that ranges from 7 to 15m in thickness. The electrically resistive zone is believed to correlate with sands and silts of Pliocene to Holocene in age, and represent a potential contaminant storage and or migration zone. Overlying this layer is a thin, near-surface, low-resistivity (conductive) layer that may be the source for the high-anomalies observed on the EM anomaly map (Figure 10), and underlying the resistive layer are zones of lower-resistivity interpreted as clayey intervals. The overall layer-cake interpretation is consistent with the local geology described for the HAAF region.

The base of the high-resistivity zone coincides with the Upper Clay Unit (UCU) where the resistive layer is thinner. This condition occurs along the southern half of Profile 2, all of Profile 3 and the western half of Profile 4. The top of the Lower Clay Unit (LCU) has probably been mapped where the high-resistivity layer is thickest, which occurs along Profile 1, and the northern and western ends of Profiles 2 and 4. In these cases, the UCU was not imaged by the resistivity data.

Comparison of 2D-ERI and Borehole Geophysical Data

Even though the 2D-ERI data indicate simple model of an electrically resistive layer overlying a more conductive zone (sands and silts overlying clayey intervals), consideration must still be given to the actual detail afforded by this type of data. To do this, comparisons of the 2D-ERI models (resistivity models) and the borehole geophysical logging results are given in Figures 12 through 15. In general, the 2D-ERI data provide gross geo-electrical structure though individual clay units are not fully resolved. The 2D-ERI data, at best, allow determining the approximate top for these clayey zones.

Figure 12 shows the results along Profile 1. The UCU does not appear to have been imaged by the 2D-ERI data as evidenced by the results for the X1-1 and X1-2 borings. At X1-1, a 2m thick layer is indicated for the UCU with a resistivity of 13-14 ohm-m (75 mS/m), yet the resistivity model only indicates the presence of higher-resistivities in the 35-50 ohm-m range. This range does, however, correspond to base line values for X1-1 (30-40 ohm-m or 25-33 mS/m) indicated on the EM induction log (magenta line).

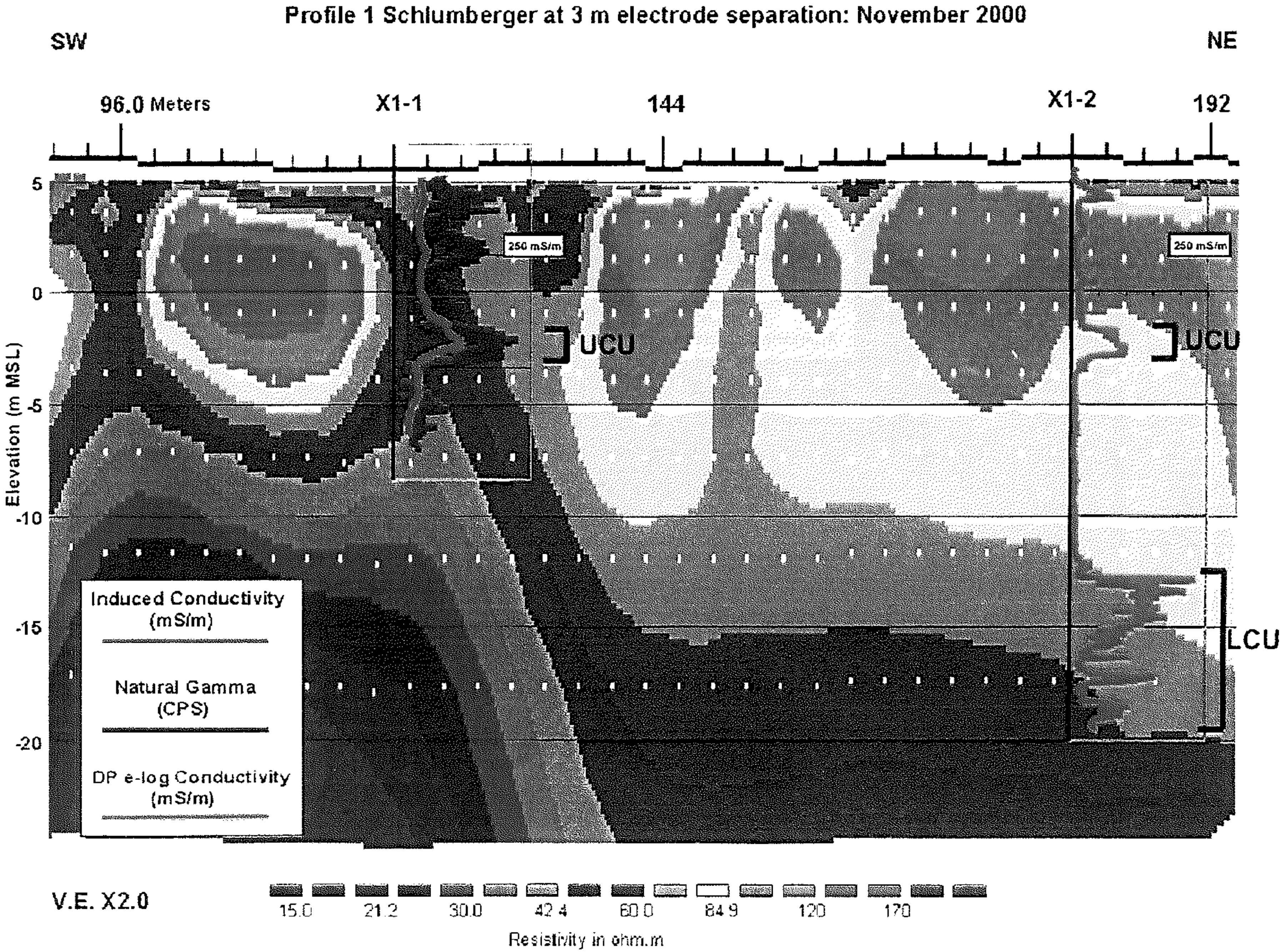


Figure 12. Comparison of Downhole and 2D-ERI results for Profile 1.

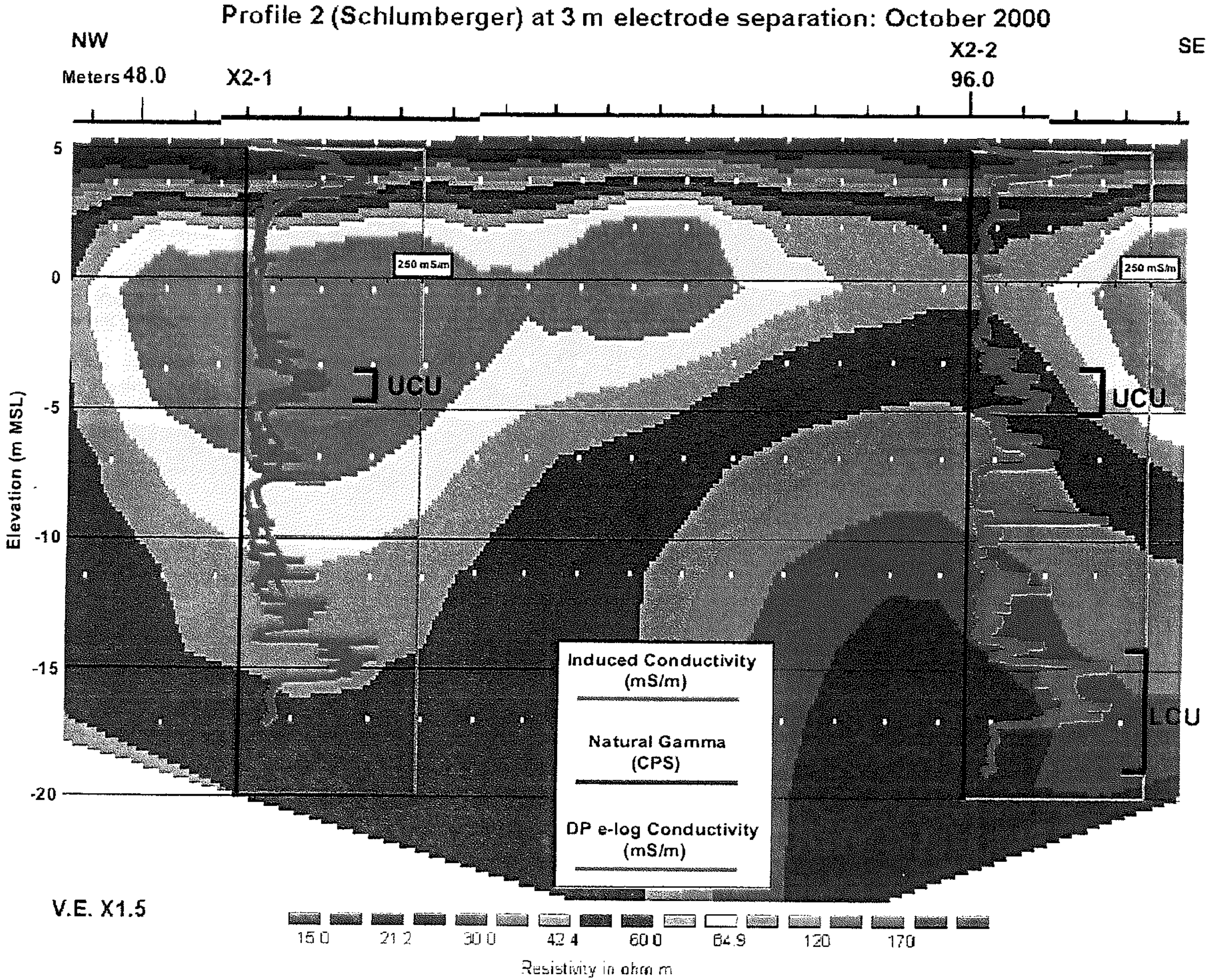


Figure 13. Comparison of Downhole and 2D-ERI results for Profile 2.

Profile 3 (Schlumberger) at electrode separation: November 2000

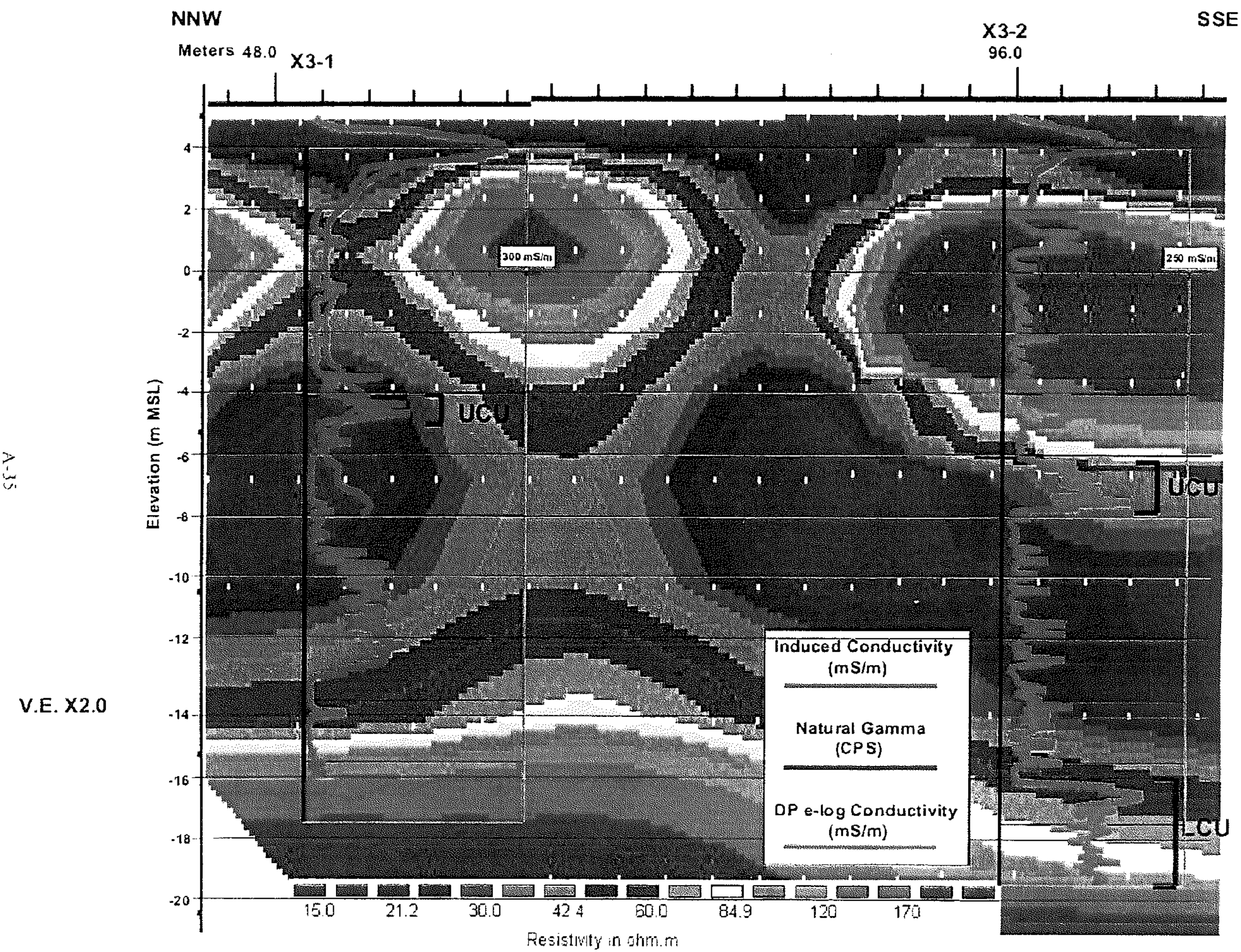


Figure 14 Comparison of Downhole and 2D-ERT results for Profile 3.

Profile 4 (Schlumberger) at 3 m electrode separation: April 2000

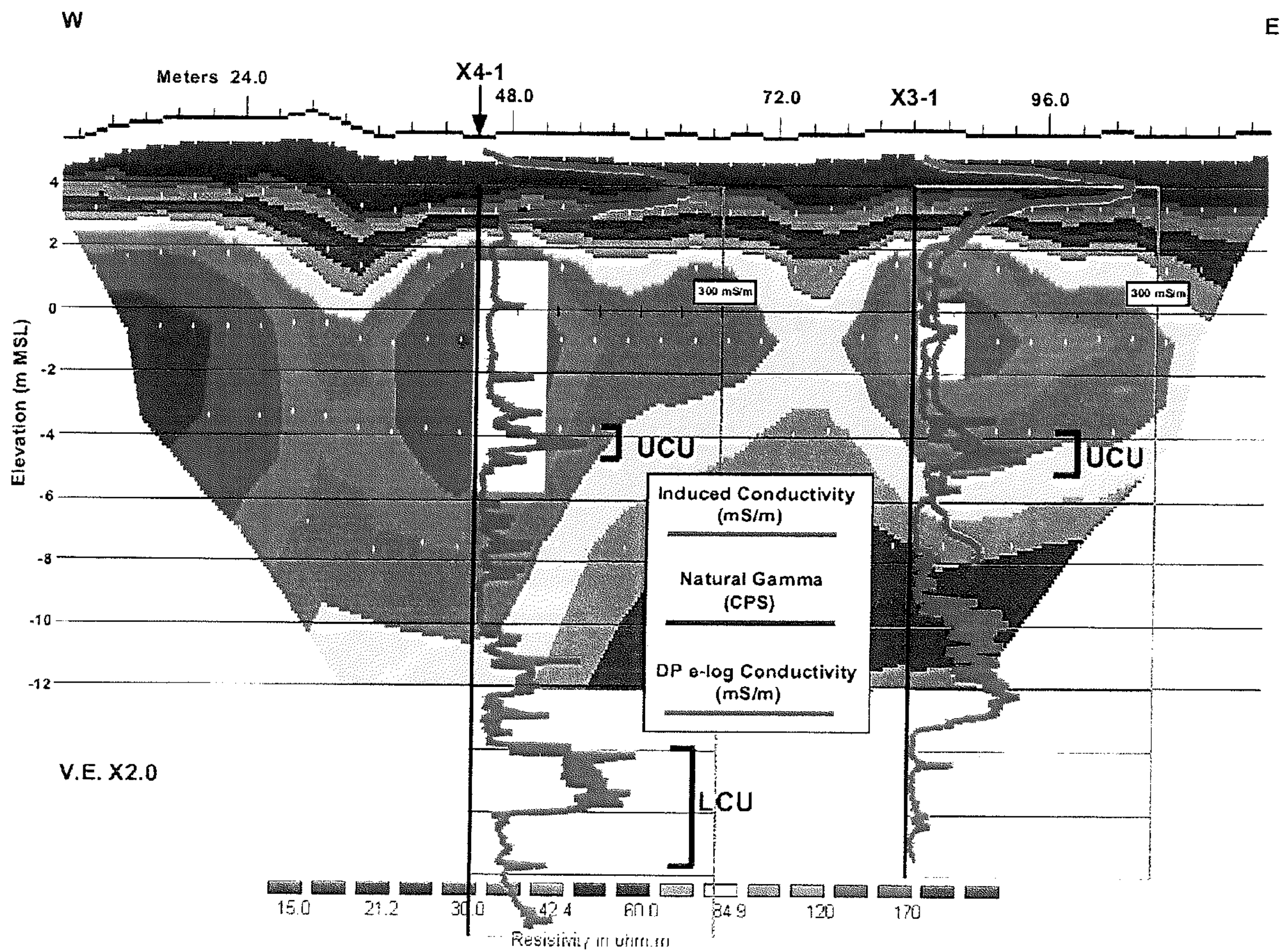


Figure 15. Comparison of Down' and 2D-ERI results for Profile 5.

At boring location X1-2, the top of the UCU coincides with a subtle change from approximately 100 ohm-m (brown color) to about 85 ohm-m (yellow color) and not the true observed change of 100 to 10 ohm-m (10 mS/m to 100 mS/m on Figure B.1). The top of the LCU at Boring X1-2 also coincides with a subtle decrease in resistivity, from 85 ohm-m (yellow) to 65 ohm-m (green) on the 2D-resistivity model. The measured decrease (DP e-log) indicates a true change from 100 to approximately 15 ohm-m for this interval.

A similar interpretation can be made at location X2-1 on Profile 2 (Figure 13). In this case, however, the UCU does not appear to be imaged at all as a resistive zone has been modeled at its appropriate depth. Based on the DP e-log results, the top of the UCU occurs in the transition from high to low resistivity. The UCU is thinner here (<1.5m) and below the vertical resolution of the 2d-ERI model. Also, the DP e-log indicates fewer clay intervals in the –25 - -10m elevation range than observed at location X2-2.

A better correlation between the 2D-ERI model and the borehole geophysical data is observed at location X2-2 on Figure 13. Here, both the 2D-ERI model and DP e-log data indicate a near-surface, low-resistivity zone (<10 ohm-m, >100 mS/m). This near-surface agreement also occurs at position X2-1. Underlying the low-resistivity zone is an approximately 8m thick zone of increased resistivity, which corresponds to the decrease in electrical conductivity observed on the DP e-log. The 2D-ERI model indicates a thick, low-resistivity zone towards the base of the model at X2-2. The DP e-log, on the other hand, indicates a series of clay horizons and not one thick zone. This discrepancy highlights limits in the vertical resolution of the 2D-ERI method at greater depths.

The 2D-ERI model for Profile 3 and the X3-1 and X3-2 borehole geophysical logs are shown in Figure 14. Both the DP e-logs and the 2D-ERI model indicate a near-surface, low-resistivity (< 10 ohm-m) layer of approximately 2m in thickness. The DP e-log data indicate an approximately 7m thick zone of higher resistivity (50-90 ohm-m) underlying the near-surface layer. The corresponding parts of the 2D-ERI models also show a 7-8m thick zone of higher resistivity, though the value is greatly over-estimated at the X3-2 location. The over estimation is most likely due to the extremely dry soil conditions.

The top of the UCU has been approximated by the 2D-ERI model for Profile 3 (Figure 14) as a change to low-resistivities at depth (position of the UCU on the DP e-log). Below this elevation the correlation between the 2D-ERI and DP e-log data falls apart. For the X3-1 location, the low-resistivities exhibited by the 2D-ERI model could be caused by the UCU and intermediate clay zone (-4 to –14 m elevation range). However, at X3-2, the 2D-ERI model and DP e-log appear to be of opposite sense. Here the resistivity model indicates low-resistivities where the DP e-log indicates higher resistivities, and vice versa for the LCU.

Figure 15 shows the comparison between the 2D-ERI model for Profile 4 and the logging results for borings X4-1 and X3-1. A near-surface, low-resistivity zone of approximately 2m in thickness is indicated by both the X4-1 and X3-1 surveys, and the 2D-ERI model. Underlying this near-surface zone is a layer of higher-resistivity. Note that for the X4-1 location, the resistivity layer is modeled by the 2D-ERI data to extend to at least -10m in elevation, and does not resolve the numerous clay strings or the UCU. The LCU is below the maximum depth imaged by the 2D-ERI model, though the resistivity model does hint at decreasing resistivities at depth. The 7m thick, high-resistivity zone located at position X3-1 on Figure 15 corresponds to an intermediate, electrically-resistive zone between the near-surface and UCU on the DP e-log.

Conclusions

Both the DP e-log and borehole geophysical technologies have demonstrated that they are suitable for mapping key geologic units at the 260th Motor Pool site. A clay horizon, termed the Upper Clay Unit (UCU) was observed on all 8 of the borings/wells logged by the geophysical methods, and a clay zone termed the Lower Clay Unit (LCU) was observed on 5 of the borings.

This UCU appeared at a consistent depth and had a unique geophysical response, such that it is interpreted to be laterally continuous beneath the field site. In particular, depth and thickness of the UCU are readily discernable on the borehole geophysical logs, and these data were integrated to produce structure and isopach maps. A general thinning and decrease in elevation towards the southeast is observed for the UCU.

The LCU occurs at depths of 18 to 22 m below ground surface and its upper surface shows a general decrease in elevation towards the southeast. The LCU was more electrically conductive than the UCU and other shallow clay horizons, which allows using it as a basal marker horizon.

The lateral continuity of the UCU and LCU indicate that they can act as a barrier to the migration of DNAPL. If the DNAPL pools on top of either unit, then the likely migration direction will be to the southeast towards probe point X3-1.

The 2D-ERI data have mapped an electrically resistive layer that ranges from 7 to 15m in thickness. This electrically resistive zone is believed to correlate with sands and silts of Pliocene to Holocene in age, and represent a potential contaminant storage and/or migration zone. The base of the high-resistivity zone coincides with the UCU where the resistive layer is thinnest and with the top of the LCU where the high-resistivity layer is thickest. The overall layer-cake interpretation for resistivity data is consistent with the regional geology for HAAF.

Electromagnetic terrain-conductivity and metal-detection surveys do not indicate the presence of an undocumented disposal or burial site in the wooded area SE of the 260th Motor Pool. The 2D-ERI data collected along Profiles 1, 3, and 4 also do not show any features consistent with burial or disposal activity. The surface debris present is probably due to isolated dumping incidents and does not represent a systematic disposal. Buried debris will likely be found at two small regions that are indicated by high-anomaly response on Figure 11. Maximum depth of burial is probably less than 1 m.

Recommendations

Based upon the success of the subsurface geophysical technologies, it is recommended that any further characterization of geology within the 260th Motor Pool site include DP E-log and well-log geophysical surveys where feasible. To constrain and map the UCU with geophysical well-logging techniques, wells that extend to at least 12m in depth (-6m MSL) are required. Furthermore, metal casing precludes the use of the induction method, which severely limits the capability of a well-log geophysical program. For this reason, viable wells will have to be cased with PVC.

Geophysical survey results at the 260th site indicate that the 2D-ERI method might be suitable for mapping the UCU if a tighter electrode spacing (<3m) is used. The 2D-ERI method may also be suitable for mapping the LCU if gross structural features are desired (e.g. approximate depth and lateral-continuity). Modeling results when combined with limited GeoProbe DP e-logging points provides a sufficient level of confidence in the interpretation of the 2D-ERI data.

References

Christy, Collin D., T.M. Christy, V. Wittig, 1994. A Percussion Probing Tool for the Direct Sensing of Soil Conductivity. In: *Proceedings of the Eighth National Outdoor Action Conference and Exposition*. NGWA.

Foyle, A.M., V.J. Henry, C.R. Alexander, 1999, *Miocene Aquiclude Mapping Project: Phase – I Findings Report*, Georgia Department of Natural Resources, Atlanta, Project Report 39.

Geonics Limited, 1994, EM-61 High Sensitivity Metal Detector Operating Manual, Geonics Ltd., Mississauga, Canada, 70 p.

Geonics Limited, 1991, EM-31 Operating Manual (for Models with Two Digital Meters), Geonics Ltd., Mississauga, Canada, 61 p.

Geoprobe Systems, 1998. Geoprobe SC400 Soil Conductivity Probe, Product Bulletin No. PBSC40398. Kejr Inc., Salina, Kansas.

Golden Software, 1999, SURFER for Windows, Gridding and Contouring, 809 14th St., Golden, Colorado.

Keys, S.W., 1990, Borehole Geophysics Applied to Ground-water Investigations; Techniques of Water-Resources Investigations of the United States Geological Survey, Book 2, Chapter E2. U.S. Government Printing Office, 150 p.

Loke, M.H., 1998, RES2DINV ver 3.3 for Windows 3.1, 95 and NT: Rapid 2D Resistivity & IP inversion using the least-squared method. Distributed by Advanced Geosciences, Inc., Austin, TX, 66 p.

Pawlowski, J.R., R. Lewis, T. Dobush, and N. Valleau, 1995, An Integrated Approach for Measuring and Processing Geophysical Data for the Detection of Unexploded Ordnance, Symposium on the Application of Geophysics to Engineering and Environmental Problems, Orlando, FL, Environmental and Engineering Geophysical Society, pp. 965-982.

McNeill, J.D., 1980, Electromagnetic Terrain Conductivity Measurements at Low Induction Numbers, Technical Note TN-7, Geonics, Ltd., Mississauga, Canada, 15 p.

RIMROCK Geophysics, 1992, SIPT2 Refraction Processing Software, Version 3.2, Boulder, Colorado.

Scott, J.H., 1973, "Seismic Refraction Modeling by Computer," Geophysics, *38*(2):271–284.

Scott, J.H., 1977, SIPT *A Seismic Refraction Inverse Modeling Program for Time-Share Terminal Computer Systems*: U.S. Geol. Survey, Open-File Reports 77-366, 27 p.

APPENDIX A: Geophysical Instrumentation

Overview

Geophysical investigations conducted at the 260th Motor Pool at HAAF were designed to detect whether uncontrolled burial/disposal activities had occurred, and to map the continuity and structure of the underlying geology. Instrumentation used to collect geophysical data at HAAF consisted of the following:

- Geonics EM-31 electromagnetic conductivity meter
- Geonics EM-61 electromagnetic induction meter
- Sting/Swift 2D-Electrical Resistivity Profiling System
- GeoProbe Direct Push Resistivity/Conductivity Meter
- MGX Downhole Induction and Natural-Gamma Logging System
- Trimble Pro XRS Global Positioning Instrument

Electromagnetic Terrain-Conductivity Surveying

Electromagnetic-induction instruments (EM-31 and EM-34) are used to measure the electrical conductivity of the near-surface, and can also be used to locate buried metallic objects. A transmitter coil is used to induce an electrical current into the ground, and the receiver coil measures the strength of the secondary magnetic field generated by these currents. Two components of the secondary magnetic field are recorded: 1) the quadrature-phase component which is used to measure the ground conductivity, and 2) the inphase component which is used for metallic detection due to its extreme sensitivity to large metallic objects (Geonics Ltd., 1991). The electrical conductivity of the ground is nearly linearly proportional to strength of the quadrature-phase component and is given in units of milli-siemens per meter (mS/m). The inphase measurement is the ratio between the secondary magnetic field to the primary field, and is expressed in parts per thousands (ppt).

The coils can be oriented in either a vertical dipole or horizontal dipole configuration. For the vertical dipole case, the axes of the coils are oriented perpendicular to the ground surface, and for the horizontal dipole, the axes are parallel to the ground surface. For both cases, the coils are maintained in a coplanar state. The vertical dipole orientation is generally preferred over the horizontal dipole because it provides for a greater investigative depth and is less sensitive to near surface variations.

The separation between the transmitter and receiver coils is the primary component that determines the depth of penetration. Table A-1 lists the depth of investigation for different coil orientations and separations for the Geonics EM-31 and EM-34 meters. The "Maximum Depth" is roughly the depth at which 90% of the instrument response has occurred (0.75x horizontal coil spacing; 1.5x vertical coil spacing). The "Effective Depth" is the depth range where the instrument's overall response is the greatest. Thus, layers within the "Effective Depth" range contribute most to the measured conductivity.

Conductivity values obtained in EM surveying represent weighted mean values of all the layer conductivities from the ground surface to the maximum depth that is sensed by the EM instrument (McNeill, 1980). If the underlying rock or sediment is uniform, the measured conductivity value will be the true conductivity. The amount of contribution to the measured conductivity from a single layer depends on its conductivity, depth, and thickness. Deeper layers contribute less to the final value than do near-surface layers.

Table A- 1. Effective penetration depth of the EM-31 and EM-34 Instruments

Instrument	Coil Orientation	Maximum Depth	Effective Depth
EM-31 (3.3 m)	Horizontal Dipole	2.5 m	0-2 m
	Vertical Dipole	5.5 m	0.5-2.5 m
EM-34 (20 m)	Horizontal Dipole	15 m	0-13 m
	Vertical Dipole	30 m	3-16 m
EM-34 (40 m)	Horizontal Dipole	30 m	0-26 m
	Vertical Dipole	60 m	6-32 m

Geonics EM-31

The EM-31 transmitter and receiver coils are housed in a 3.5m long sensor boom, and a single person can operate the instrument. A nominal depth of investigation of 5.5m is realized when measurements are made using the vertical-dipole mode. Measurements are collected at ½ second intervals, and the quadrature and inphase components are collected simultaneously. This allows discrimination between anomalies sourced by buried metallic objects from those that are either lithologically or hydrologically controlled. Additional information consisting of the profile position, starting, and ending points, as well as fiducial mark locations along the profile, were recorded with an OMNI 720 data logger (Polycorder). This information is then downloaded to a personal computer for processing and display.

Geonics EM-61 Metal Detector

The Geonics EM-61 is a portable electromagnetic induction instrument that measures the secondary magnetic field generated from buried metallic debris. The EM-61 uses a stacked, dual-coil configuration in order to allow discriminating between buried and surface-borne metallic debris. The EM-61 is capable of detecting buried metallic items to a depth of 3.3 m (10 ft). Data are recorded on three channels, which include an upper-coil response, lower-coil response, and coil-difference. The strength of the resulting secondary magnetic field is measured in millivolts (mV). These data, along with the survey geometry, are recorded on an OMNI 720 data logger, and are later downloaded to an IBM compatible personal computer for processing and display.

The dual coil configuration used by the EM-61 allows for discriminating between metallic objects that are more deeply buried than from those that are either at the surface, or are buried at a shallow depth (less than half-foot). Metal objects at or near the ground surface will produce approximately the same response from the upper- and lower-coils, whereas buried targets will produce a stronger response from the upper coil than from the lower coil, with the difference in response increasing with depth. Subtracting the lower coil response from the upper coil response produces a data set that effectively suppresses the anomaly signature from metallic debris at the ground surface, while simultaneously enhancing the signature for more deeply buried targets. In practice, maintaining meticulous field notes marking the locations of surface debris encountered during the survey augments discrimination of surface objects.

A depth estimate for individual targets can be determined from the ratio between the upper- and lower-coil values at the peak of the corresponding anomaly (see Pawlowski et al., 1995). Software developed by Geonics Ltd. for the EM-61 metal detector automates this process by providing a graphical display of the profile data, and a real-time calculation of the depth. The algorithm used by the Geonics software is accurate for small, ball-shaped objects that are buried at a shallow depth, but will over-estimate the target depth for larger and/or more deeply buried targets. Clusters of small, shallow-buried objects will produce a secondary magnetic field that appears to be sourced from a larger and more deeply buried object (Geonics Ltd., 1994).

2-D Electrical Resistivity Imaging

Two-dimensional electrical resistivity imaging (2D-ERI) is conducted using an Advanced Geosciences, Inc. (AGI) Sting/Swift™ automatic multi-electrode system and earth resistivity meter. Earth resistivity measurements are accomplished by passing an electric current between two electrodes and measuring the potential difference (voltage) between two separate electrodes. The measured voltage is a factor of the resistance of the earth material and the geometry of the electrode array. Resistivity, an intrinsic property of the earth, is then calculated using the measured voltage, the electric current strength, and a geometric factor for the electrode array. The calculated resistivity value is actually an "apparent-resistivity" because it includes the resistances of all the material that the electrical current passes through. A modeling procedure is then used to convert the measured apparent-resistivity data into earth-layer resistivity sections.

The electrodes used to measure the voltage difference are arranged in various geometries called arrays, and the calculated apparent-resistivity value is interpreted to represent a depth point at the center of an individual array. Depth of measurement is related to width of electrode separation, with greater electrode separation resulting in greater depths of penetration. Classically, two different techniques are used to determine the electrical resistivity of earth materials. In vertical electrical sounding (VES), electrodes are expanded about the center of an array to generate a layered electrical section at a single point (vertical profile). The horizontal profiling technique uses an array with a fixed electrode separation, which is marched along a line to image lateral variations at a constant depth.

The 2-D ERI method combines VES and lateral profiling in a single survey without the time-consuming process of constantly moving electrodes and reconnecting cables. In 2D-ERI a single cable connects a linear array of electrodes (28 to 56 in this study), which are turned on and off using a preprogrammed sequence via a controller box. The raw apparent-resistivity data are typically displayed as a pseudosection where the lateral position of the measurement point is placed at the center of the corresponding electrode array, and the depth of the measurement increases with increasing electrode spacing. Apparent-resistivity pseudosections are useful for performing quality-control checks and for examining whether cultural objects have impacted the data set.

Apparent-resistivity pseudosections are converted, through a process termed inversion, into an electrical-resistivity cross-section showing true earth-layer resistivities. RES2DINV, a commercially available program, was used to perform the two-dimensional inversion modeling (Loke, 1998). During the inversion, the subsurface is divided into a number of blocks equal to or less than the number of measurement points. A smoothness-constrained, least-squares inversion routine is used to estimate the resistivity value of each block, and finite-element or finite-difference forward modeling algorithm is used to calculate the resulting pseudosection. The model is iteratively corrected until an apparent-resistivity pseudosection calculated from the model converges with the measured apparent-resistivity pseudosection. A root-mean-square (RMS) error calculation of the difference between the two apparent-resistivity pseudosections is used as a measure of the degree of fit for the model. Maximum convergence often occurs within 3 to 5 iterations, after which RMS values do not change significantly and the model may start to become unstable (Loke, 1998). The model conversion threshold (change between iterations) is normally set to 5% to avoid producing unrealistic model results (due to instability).

In some cases the apparent-resistivity data were manually edited to remove "bad" data points prior to inversion. These "bad" points are usually due to electrode grounding problems and to the presence of cultural interference (underground utilities). Other steps taken to improve the model quality are to incorporate topographic information and to verify a good coupling between the electrode and ground. Contact resistance checks are used prior to measurement to check for poor electrode-ground coupling, and those electrode positions with a coupling resistance greater than 1 kilo-ohm are soaked with a salt-water solution to enhance electrode/earth coupling.

Figure A-1 shows an output example from the RES2DINV program. The upper panel contains the measured apparent resistivity data, the middle panel is the computed (modeled) apparent-resistivity data, and the lower panel is the resulting resistivity cross-section. It must be understood that the models are constructed of distinct blocks and the method used to display this information smoothes over these blocks using a color-contouring scheme. Because the vertical and horizontal resolution is tied to the dimensions of each block, depth and thickness for individual anomalies will not be accurate. In general, both the vertical and lateral resolutions of the models decrease with depth.

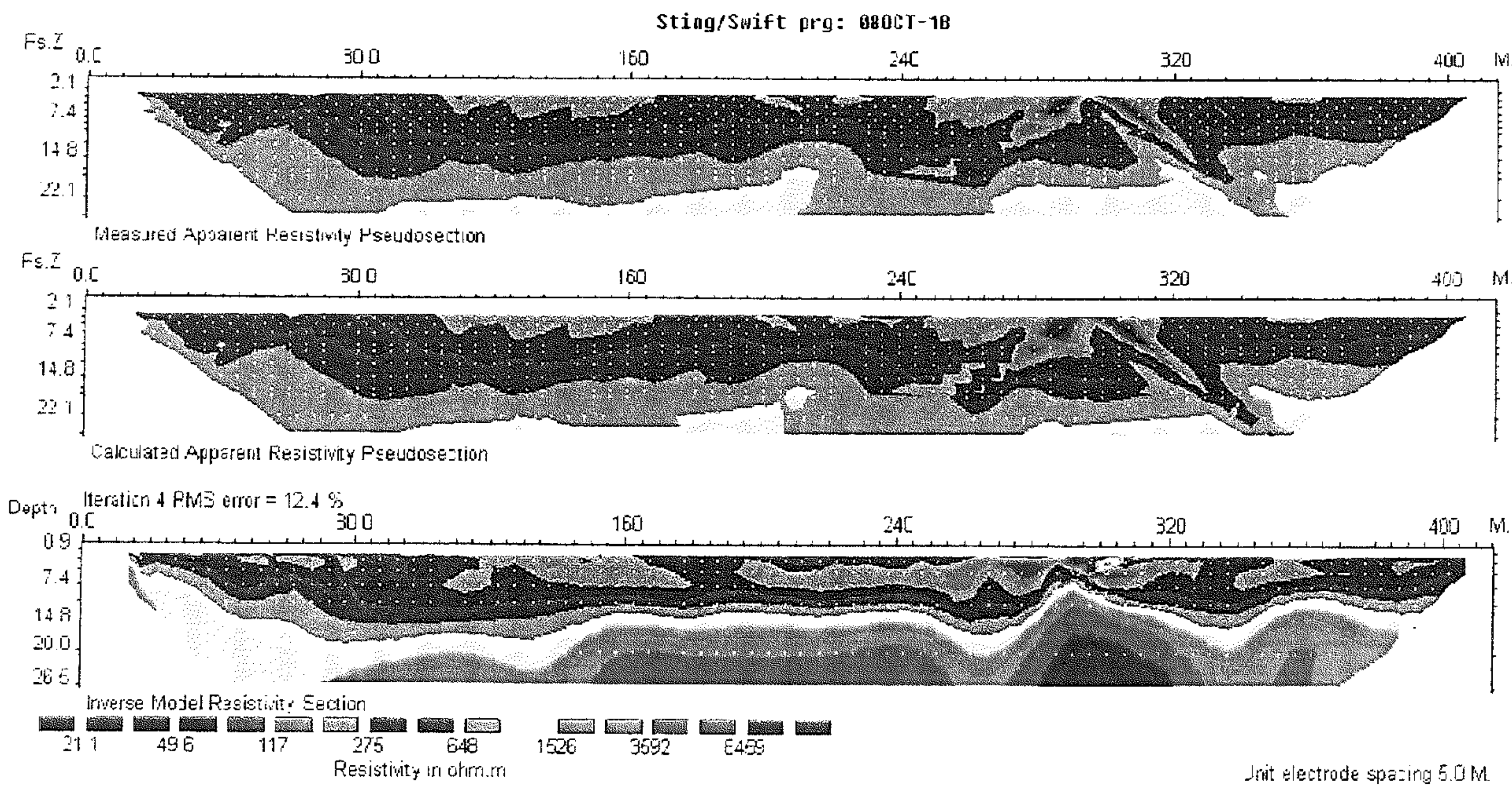


Figure A.1. Example output from RES2DINV program.