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Final Compliance Status Report
Revision 1
HAA-17 – Installation-Wide Groundwater including TCE Groundwater Contamination

Hunter Army Airfield
Savannah, Georgia
HSI Site No. 10903

Revision 1 - March 2012
Original Report - April 2011

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Acronyms

ARCADIS	ARCADIS U.S., Inc.
ASV	alternative screening value
BERA	Baseline Ecological Risk Assessment
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylene
CAP	Corrective Action Plan
COC	constituent of concern
COPEC	constituent of potential ecological concern
CSM	Conceptual Site Model
CSR	Compliance Status Report
DCA	dichloroethane
DCE	dichloroethene
DO	dissolved oxygen
DOT	Department of Transportation
DPT	direct push technology
ECD	electron capture detector
ELCR	excess lifetime cancer risk
EPC	exposure point concentration
EPD	Environmental Protection Division
ERA	Ecological Risk Assessment
ESV	ecotoxicity screening value
FID	flame ionization detector
HAAF	Hunter Army Airfield
HI	hazard index
HQ	hazard quotient
HSI	Hazardous Sites Inventory
HSRA	Hazardous Site Response Act
IDW	investigation-derived waste
IRA	Interim Remedial Action
kg	kilogram
L/day	liter per day
MIP	Membrane Interface Probe
MCL	maximum contaminant level

mg/day	milligrams per day
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
µg/L	micrograms per liter
MIP	membrane interface probe
msl	mean sea level
NTU	Nephelometric Turbidity Unit
ORP	oxidation-reduction potential
PAH	polyaromatic hydrocarbon
PID	photo ionization detector
PQL	practical quantitation limit
PVC	polyvinyl chloride
RAGS	Risk Assessment Guidance for Superfund
RCRA	Resource Conservation and Recovery Act
RRS	risk reduction standard
RSL	Regional Screening Level
SAC	Strategic Air Command
SAIC	Science Applications International Corporation
SESD	Science and Ecosystem Support Division
SI	Site Investigation
SLERA	Screening Level Ecological Risk Assessment
SMDP	scientific management decision point
SVOC	semivolatile organic compound
TCE	trichloroethene
UCL	upper confidence limit
USACE	U.S. Army Corps of Engineers
USAEC	U.S. Army Environmental Command
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
USTMP	Underground Storage Tank Management Program
VOC	volatile organic compound

Executive Summary

Hunter Army Airfield (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 airfield. The U.S. Army Environmental Command (USAEC) retained ARCADIS (ARCADIS U.S., Inc.) on behalf of HAAF to investigate soil and groundwater associated with the impacted area designated as site HAA-17. A Hazardous Site Response Act (HSRA) Release Notification/Reporting Form was submitted to the Georgia Environmental Protection Division (EPD) on April 27, 2009. On November 20, 2009, Georgia EPD assigned the HAA-17 site as Hazardous Sites Inventory (HSI) Site No. 10903. This Compliance Status Report (CSR) has been generated based on historical datasets as well as data generated in the recent investigations conducted from November 2009 through January 2012. Upon approval of the CSR, a Corrective Action Plan (CAP) will be developed.

This CSR describes the investigation activities completed to delineate the potential source(s) and the extent of volatile organic compound (VOC) impacts with specific focus on trichloroethene (TCE) and its degradation compounds. Metals were also investigated in an area where previous data had indicated a potential impact. Initial investigations in the area were related to petroleum impacts associated with underground storage tanks (USTs) 25 and 26. During these activities, in addition to the petroleum impacts, TCE and other chlorinated compound impacts were identified in groundwater. The extent of petroleum-impacted groundwater was delineated in accordance with the requirements of the Georgia EPD Underground Storage Tank Management Program (USTMP) (Facility ID No. 9-025008). In a letter dated August 19, 2008, the Georgia EPD USTMP stated that no further action is required for the petroleum release.

Investigations and Summary of Results

Previous investigations related to the TCE impacts were conducted from 1998 through 2007 at the former UST 25 and 26 area and surrounding areas. These investigations included monitor well installation, sampling through temporary direct push technology (DPT) borings, and a geophysical survey. The tentatively identified TCE detections from 1998 were confirmed when TCE was detected in groundwater during the UST investigation in 1999. In the investigation of TCE impacts in groundwater associated with former USTs 25 and 26, TCE was detected at a maximum of 7,730 micrograms per liter (µg/L) in analyses from temporary boring AF-52 in December 2000. East of the canal adjacent to the former UST area, TCE was detected at 604 µg/L in a DPT groundwater sample from location AF-51 (15 to 20 feet below ground surface [bgs]) in

2000. TCE was detected in 2002 at 807 µg/L in shallow monitor well AF-72 (screened from 2.5 to 12.5 feet bgs), also located east of the former UST 25 and 26 location. Tank excavation and removal activities were performed in April 2006. In 2007, an Interim Remedial Action (IRA) was implemented to remove two wells and the contaminated soil/free product around them. A 6-foot by 6-foot area around each well was excavated to a depth of 9.5 feet.

As part of the investigation of TCE detected in the former UST area, an investigation of the purge facility, located up- and side-gradient of the former UST area, was conducted from May to July 2006. Both soil and groundwater samples were collected. One deep monitor well, screened from 40 to 45 feet bgs, and four shallow wells, each screened from 2.3 to 12.3 feet bgs, were installed. Soil samples were collected from three locations along a surface drainage pathway feature and from the five monitor well borings. During the purge facility investigation in 2006, 34.8 µg/L of TCE was detected in groundwater from the deep monitoring well. Low concentrations of petroleum hydrocarbons were detected in the shallow wells.

An investigation related to Building 1290, where solvents had been used for cleaning in the past, was conducted in 2007 and 2008. The investigation included areas east of Building 1290 extending to the former UST area and locations east of the drainage canal. The investigation included membrane interface probe (MIP) and DPT sampling of groundwater. Twenty-one wells that were installed in May 2007 and two existing wells were sampled in July 2007. The analyses indicated that there were no impacts around Building 1290 and that the highest TCE concentrations were in the former UST 25 and 26 area at approximately 20 to 30 feet bgs.

Building on the previous investigations, the following activities were conducted from November 2009 through January 2012:

- Water level measurements were collected from monitor wells in February 2010 and after new well installation in May and June 2010.
- Slug tests were performed in seven selected wells in December 2009 to determine hydraulic conductivities in the shallow and deep portions of the upper aquifer.
- Thirty-seven existing monitor wells were sampled in February 2010 to confirm previous data and provide additional information on potential source areas and downgradient vertical and horizontal extents.
- The vertical and horizontal profile of VOC contamination in soil and groundwater in suspected source areas around the former UST 25/26 area was investigated using MIP technology. Borings were utilized for the collection of soil and groundwater samples at locations identified by MIP data.

- Additional borings were installed for soil and groundwater sampling using DPT to evaluate contaminant distribution and extent.
- Nine groundwater monitor wells were installed and sampled in April and May 2010 to determine the extent of impacted groundwater.
- Two piezometers were installed in June 2010 to evaluate the relationship between groundwater and surface water flow near the drainage canals southeast of the former USTs and adjacent to Lightning Road.
- Three existing groundwater monitor wells in the former UST 25/26 area were sampled in November 2011 to compare to previous data and provide additional information on vertical and horizontal extents.
- Eight groundwater monitor wells were installed and sampled in December 2011 and January 2012 to determine the vertical and horizontal extent of impacted groundwater.

A clay layer was encountered site-wide between 40 and 45 feet bgs (shallower near canal). The layer is the top of the confining unit above the underlying Floridan aquifer, encountered between 200 and 800 feet bgs. In addition, thinner, silty clays were encountered above 40 ft bgs in some borings located to the east of the runways in the area of former USTs 25 and 26. These clay layers appear to act as semi-confining layers in some areas, separating the shallow and deep portions of the upper aquifer. These layers were not observed in borings completed at the purge facility or at the former dry cleaning facility.

Groundwater flow directions based on the 2010 events appear consistent with previous data. A groundwater divide is evident in both shallow and deep groundwater between Building 1290 and the former purge facility. The flow direction of groundwater in the Building 1290 area appears to be in a westerly direction toward the taxiways. Groundwater in the shallow and deep zones in the central and eastern portions of the HAA-17 area follows the topographic gradient of the site and flows to the southeast toward the former location of USTs 25 and 26 and the canal. Deep zone groundwater continues to flow east under the drainage canal. Data indicate that the drainage ditch is a discharge point for shallow groundwater and that surface water levels mimic shallow groundwater conditions. Artesian conditions exist in some wells proximate to the canal.

For those wells analyzed within the shallow groundwater zone (AF-08, AF-20, and AF-24), hydraulic conductivities ranged from 0.57 to 0.75 feet/day. For those wells analyzed within the deeper groundwater zone (AF-53, AF-54, AF-55, and AF-57), hydraulic conductivities ranged from 0.57 to 63 feet/day.

A MIP investigation was conducted in the former UST area in November 2009. The areas where the highest concentrations had been identified in previous investigations

were targeted for initial MIP points. Ten MIP borings were installed in the former UST area. The largest electron capture detector (ECD) responses were in the 30- to 40-foot interval at three locations near the southwest corner of Building 1345. Temporary borings for soil sampling were installed at locations and depths where MIP technology identified potential areas of concern. Temporary borings were also installed at other locations in the former UST area and at outlying locations where historical results warranted further investigation. TCE was detected in seven saturated soil samples but not at concentrations indicative of a source. The highest TCE concentrations were detected in soil samples from boring location H17-AF-101 at 0.94 milligrams per kilogram (mg/kg) (24 to 25 feet bgs) and 0.81 mg/kg (34 to 35 feet bgs). Similar concentrations were detected in soil samples from two other locations, which were also west of Building 1345 in the former UST area. The remaining concentrations detected in saturated soils ranged from below laboratory detection limits to 0.81 mg/kg. Soil samples taken at the former dry cleaner and the purge facility did not contain chlorinated VOCs indicative of a source or significant impacts.

During the groundwater investigation, there were no significant detections of VOCs in DPT samples taken in the UST 25/26 area in December 2009. All DPT groundwater samples taken in 2009 were from 40 to 45 feet bgs for vertical delineation. Previous investigations had resulted in detections of VOCs, specifically TCE, in the former UST area and east of the canal. TCE had been detected predominantly in samples 5 to 15 feet bgs.

Three monitor well pairs (H17-MW-21S/D, 22S/D, and 27S/D) were installed farther east along Perimeter Road to provide delineation of the eastern extent of impacts. VOCs were not detected in any of the samples from the six monitor wells, thereby providing delineation of the extent of VOC impacts in the eastern portion of the investigation area.

Monitor well H17-MW-19S (screened from 5 to 15 feet bgs) was installed on the east side of the canal south of the former UST 25/26 area to provide delineation of the southern extent of VOCs in the shallow interval. VOCs were not detected in samples from this well. Results from borings and monitor wells in the same area indicated that there were no VOC impacts in the deeper interval. Additionally, monitor well H17-MW-25D (screened from 25 to 35 feet bgs) was installed near existing well AF-58 on the east side of the canal near the south side of Lightning Drive. Sample results from this well also indicated there were no VOC impacts in the deeper interval in this area. Shallow and deep monitor well pair H17-MW-126S/D was installed between Perimeter Road and monitor wells H17-MW-19S and H17-MW-25D. VOCs were not detected in samples from these wells. These results indicate delineation of the southern extent of VOCs in the former UST 25/26 area is complete.

Monitor well H17-MW-29D was installed southeast of Building 1310 and northwest of the former UST 25/26 area to provide upgradient delineation of VOCs in the former UST 25/26 area. Only Toluene was detected in this well at 2.0 µg/L, well below the Type 1RRS of 1,000 µg/L.

Monitor well H17-MW-24, which is screened from 55 to 65 feet bgs, was installed near existing monitoring well AF-53 to provide vertical delineation in the former UST 25/26 area. VOCs were not detected in samples from this well.

Minor TCE impacts were observed in the purge facility area during the 2006 investigation. Low levels of petroleum hydrocarbons had been detected in samples from shallow borings and monitor wells. TCE and its degradation products were detected in the deeper interval (40 to 45 feet bgs). In subsequent sampling in 2009 and 2010, TCE and its degradation products were again detected in the 40- to 45-foot bgs interval but at lower concentrations. The highest TCE concentration was 14 µg/L in deep well AT-MW-01. The VOC impacts in the Purge Facility area are low concentrations and isolated.

Monitor wells previously installed and sampled as part of the Building 1290 investigation were sampled again in 2010. VOCs were not detected in samples from the monitor wells around the building or in monitor wells west, north, and south of the building, thereby providing conformation of delineation of the extent of VOC impacts in the western portion of the investigation area. These results also confirmed that Building 1290 is not a source of TCE impacts at the site.

In the area of the former dry cleaner east of Building 1290, TCE and 1,1-dichloroethene (1,1-DCE) had been detected at 1.08 and 7.77 µg/L, respectively, in 1290-MW-8D during the investigation in 2007. During the same investigation, 1,1-DCE had been detected at 6.01 µg/L in 1290-MW-8S. TCE was not detected and 1,1-DCE was detected at 5.1 µg/L when well 1290-MW-8D was sampled in 2010. Chlorinated VOCs were not detected in samples taken from shallow well 1290-MW-8S in 2010. Groundwater samples were also taken in the area through temporary borings in 2006 and 2010. A DPT sample taken in 2006 south of the former dry cleaner location near the weapons cleaning facility at a depth of 44 to 46 feet bgs (1290-DPT-03) contained 2.5 µg/L of TCE. Samples were also taken with three temporary borings in the area in 2010. Screening from surface to total depth with a photo ionization detector (PID) did not result in any VOC detections. Because of the detections in 2006, samples were taken from 41 to 45 feet bgs at each boring location for laboratory analysis. TCE or another chlorinated VOC was detected at low concentrations in all three samples. TCE was detected in one sample at 1.1 µg/L. The highest chlorinated VOC concentration was 7.1 µg/L of 1,1-dichloroethane (1,1-DCA) in H17-FD2.

Monitor well pair H17-MW-17S/D was installed in 2010 to delineate the northern extent of the investigation area. Chlorinated VOCs were not detected in deep well H17-MW-17D. The only detection was 1.9 µg/L of carbon disulfide. In shallow well H17-MW-17S, the only VOC detected was chloroethane at 0.69 µg/L.

Additional investigation was conducted around the purge facility to evaluate chromium and barium detections in groundwater samples taken in 2006. Chromium was not detected above the practical quantitation limit (PQL) in any sample. Barium was detected above the PQL but below the Type 1 risk reduction standard (RRS) in samples from monitor wells AT-MW-01 and AT-MW-04 at concentrations of 28 and 37 µg/L, respectively.

Human Health Risk Assessment

The human health risk assessment for HAA-17 (former USTs 25 and 26, the purge facility, and Building 1290) evaluated the potential risks to human health by comparing the maximum detected soil and groundwater constituent concentrations with the Type 1 through 4 RRS. The potential exposure to constituents detected in sediment also was evaluated by comparing the maximum detected concentrations to the Type 1 RRS. Detected surface water concentrations were compared to Georgia in-stream standards. Finally, the vapor migration from groundwater into buildings at the site was evaluated.

The data for soil collected above groundwater were compared to the RRS. None of the maximum detected concentrations exceeded the Type 1 standards. Therefore, the derivation of Types 2 through 4 RRS was not conducted.

The groundwater data were compared to the Type 1 through 4 RRS. Acetone, benzene, chloroethane, 1,1-DCE, total 1,2-DCE (listed in Table 8-6 as 1,2-DCE), cis-1,2-DCE, 1,3-dichloropropene, isopropylbenzene, methylene chloride, 1,1,2,2-tetrachloroethane, TCE, and vinyl chloride exceeded the Type 1 and Type 3 groundwater RRS. Acetone, benzene, total 1,2-DCE, cis-1,2-DCE, TCE, and vinyl chloride were detected in groundwater at a maximum concentration exceeding the Type 2 RRS. Only benzene, TCE, and vinyl chloride exceeded the Type 4 RRS for groundwater.

The maximum sediment concentrations were compared to the soil Type 1 RRS. The maximum sediment concentrations were all below the Type 1 soil RRS. The maximum surface water concentrations were compared to the Georgia In-stream Water Quality Standards (IWQS), if available, or the Type 1 groundwater RRS, and were below the standard. Therefore, it is unlikely that the constituents detected in sediment and surface water were present at concentrations that would pose a risk to human health.

The current and historic groundwater concentrations were evaluated for the vapor intrusion pathway. The results indicated that the risks were above than the EPD HSRA benchmark of 1×10^{-5}. The noncancer hazards were above the benchmark of 1. Although the calculated risks are above the regulatory benchmarks, given the use and construction of the buildings at the site and the time individuals are present in the buildings, it is unlikely that there is a significant current risk from inhalation of vapors migrating into buildings.

Ecological Risk Assessment

The Ecological Risk Assessment consisted of a Screening Level Ecological Risk Assessment (SLERA) and Step 3a Baseline Ecological Risk Assessment (BERA) for ecological receptors at the site based on hazard quotients (HQs). An HQ less than or equal to a value of 1 indicates that adverse impacts to wildlife are considered unlikely (USEPA 2004). An HQ greater than 1 indicates that adverse effects of some kind may have occurred in the past or may occur in the future and that further analysis of potential ecological risks may be warranted.

Risks were characterized for ecological receptors at the site by considering direct contact with constituents of potential ecological concern (COPECs) in surface soil (0 to 1 foot bgs). Additional media including surface water, sediment, and groundwater were ruled out because they do not present a complete exposure pathway to ecological receptors at the site.

Overall potential ecological risks do not exist for exposure to site surface soil. All chemicals have HQs below 1. Based on this assessment, there are no ecological risks at the site and no further evaluation is required.

Conclusions

Based on the results of this and previous investigations, the following conclusions are presented:

- With one exception, the full extent of TCE in groundwater at HAA-17 is delineated horizontally and vertically. The exception is the area south of the purge facility where TCE was detected at 2.6 µg/L in deep monitor well H17-MW-18D.
- The highest TCE impacts were around the former UST 25 and 26 area. Although diffuse, the source appears centered in the area of historic soil borings AF-52 and AF-53 located between former USTs 25 and 26 and Building 1345.
- Other minor TCE and VOC impacts were detected in the purge facility area and the former dry cleaner area. These areas are upgradient of the former UST 25 and 26 area and these minor impacts are not related to the TCE detected in the former UST 25 and 26 area.

- Barium and chromium were detected in the area of the purge facility in 2006. Only barium was detected in monitor well samples in 2010. None of the concentrations exceeded the Type 1 RRS.
- The data for soil collected above the groundwater table were compared to the RRS. None of the maximum detected concentrations exceeded the Type 1 standards.
- The groundwater data were compared to the Type 1 through 4 RRS. Acetone, benzene, chloroethane, 1,1-DCE, total 1,2-DCE, cis-1,2-DCE, 1,3-dichloropropene, isopropylbenzene, methylene chloride, 1,1,2,2-tetrachloroethane, TCE, and vinyl chloride exceeded the Type 1 and Type 3 groundwater RRS. Acetone, benzene, total 1,2-DCE, cis-1,2-DCE, TCE, and vinyl chloride were detected in groundwater at a maximum concentration exceeding the Type 2 RRS. Only benzene, TCE, and vinyl chloride exceeded the Type 4 RRS for groundwater.
- Detections of acetone and methylene chloride are likely the result of laboratory contamination. These VOCs are common laboratory contaminants.
- Detections of 1,3-dichloropropene, isopropylbenzene, methylene chloride, and 1,1,2,2-tetrachloroethane were isolated and characterized by very low-level concentrations.
- The maximum sediment and surface water concentrations were all below the soil Type 1 RRS and groundwater Type 1 RRS/IWQS, respectively. Therefore, it is unlikely that the constituents detected in sediment and surface water are present at concentrations that would pose a risk to human health.
- The current and historic groundwater concentrations were evaluated for the vapor intrusion pathway. The results indicated that the risks were above the EPD HSRA benchmark of 1×10^{-5}. The noncancer hazards were above the benchmark of 1. Although the calculated risks are above the regulatory benchmarks, given the use of the buildings at the site and the time individuals are present in the buildings, it is unlikely that there is a significant current risk from inhalation of vapors migrating into buildings. All significant buildings in the impacted area are constructed on slabs with a vapor barrier below grade.
- Based on the assessment of impacted areas and ecological conditions, there are no ecological risks at the site.

1. Qualified Groundwater Scientist Certification

I certify that I am a qualified groundwater scientist who has received a baccalaureate or postgraduate degree in the natural sciences or engineering, and have sufficient training and experience in groundwater hydrology and related fields as demonstrated by state registration, professional certifications, or completion of accredited university courses that enable that individual to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport.

	C. Scott Bostian, PE
_____	_____
(Signature)	(Typed Name)

2. Compliance Status Certification

I certify under penalty of law that this report and all attachments were prepared under my direction in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Based on the findings of this report, with respect to the risk reduction standards of the Rules for Hazardous Site Response, Rule 391319.07, the installation acknowledges the identified constituents that exceed the Type 1 - 4 standards.

_____
Robert R. Baumgardt
Director, Public Works

_____
Date

3. Introduction

The U.S. Army Environmental Command (USAEC) retained ARCADIS U.S., Inc. on behalf of Hunter Army Airfield (HAAF) to investigate impacted soil and groundwater associated with HAA-17 (Figure 3-1). A Hazardous Site Response Act (HSRA) Release Notification/Reporting Form was submitted to the Georgia Environmental Protection Division (EPD) on April 27, 2009. On November 20, 2009, Georgia EPD assigned the HAA-17 site as Hazardous Sites Inventory (HSI) Site No. 10903. This Compliance Status Report (CSR) has been generated based on historical datasets as well as data generated in recent investigations conducted from November 2009 through June 2010 and from November 2011 through January 2012. Upon approval of the CSR, a Corrective Action Plan (CAP) will be developed.

4. Site Background

4.1 Regulatory Status

The investigation and remediation of petroleum impacts at underground storage tanks (USTs) 25 and 26 were conducted under the Georgia EPD Underground Storage Tank Management Program (USTMP) (Facility ID No. 9-025008). The referenced release was granted a no further action required status by the Georgia EPD USTMP in a letter dated August 19, 2008. During investigation activities for former USTs 25 and 26, trichloroethene (TCE) impacts were identified in groundwater. Subsequent investigations were conducted to delineate the extent of these impacts. These data were incorporated into a HSRA Release Notification/Reporting Form that was submitted to Georgia EPD on April 27, 2009. On November 20, 2009, Georgia EPD assigned the HAA-17 site as HSI Site No. 10903. This CSR investigation was conducted to meet Georgia EPD HSRA requirements for compounds above regulatory thresholds. The investigation activities conducted from November 2009 through June 2010 were based on the final Site Investigation Work Plan submitted to Georgia EPD in June 2009 (ARCADIS 2009). The subsequent supplemental investigation conducted from November 2011 through January 2012 was conducted in response to comments received from Georgia EPD dated October 27, 2011. The results of previous investigations and the recent investigations are included in this CSR. Findings from the CSR will be utilized to prepare a CAP to achieve compliance with Georgia EPD HSRA requirements.

4.2 Site Description and Setting

4.2.1 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 airfield. HAA-17 is located in the northern portion of HAAF. A site map depicting the HAA-17 area is included as Figure 4-1. The history of operations at the installation is summarized in the booklet “Hunter Army Airfield: A History,” which is included as Appendix M1. Facilities currently and formerly located in the investigation area are described below.

4.2.1.1 Former UST 25/26

The former UST 25 and 26 site is located in the 260th Quarter Master Motorpool on Tubb Road. UST 25 had a capacity of 25,000 gallons and stored diesel fuel. UST 26 had a capacity of 6,000 gallons and stored gasoline. Both USTs were located in the same tank pit and were constructed of fiberglass-coated steel with associated piping constructed of steel with protective coating. The refueling station construction was completed in 1986, but the station did not become operational until October 1989. The piping associated with the system was replaced with flex-piping in 1992 under a U.S. Army Corps of Engineers (USACE) project. The tanks and associated piping were abandoned in place in July 1998 (SAIC 2000). In 1998, the tanks and piping were closed in place by Earth Tech, Inc. (Earth Tech 1999). The former location of USTs 25 and 26 is shown on Figure 4-1.

The 260th Quarter Master Motor Pool area is currently a vehicle maintenance and repair facility. Information on buildings in the Motor Pool area, including maintenance and storage facilities, is included in Appendix M2. Building 1336 is a tactical equipment maintenance shop built in the 1980s. Building 1345 is used for battalion storage. As mentioned above, the fuel dispensing system was removed in 1998.

4.2.1.2 Purge Facility

The HAAF purge facility is located in the southern section of the investigation area. It is an active facility where tanker trucks that store and transport petroleum products, mainly JP-8, are cleaned (SAIC 2007). The location of the purge facility is shown on Figure 4-1. A construction figure for facilities on the eastern side of the area is included in Appendix M3.

4.2.1.3 Building 1290

Building 1290 is located in the western section of the investigation area adjacent to the airfield. It is an aircraft hangar that formerly had a degreasing system located in the corner of the facility (SAIC 2008). The location of Building 1290 is shown on Figure 4-1.

4.2.1.4 Other Facilities

Other facilities previously located in the investigation area include a former dry cleaning facility that was located east of Building 1290. The location of the former dry cleaning

facility is shown on Figure 4-1. A new building now covers the location. The former weapons cleaning facility was located south of the former dry cleaner.

The Strategic Air Command (SAC) special weapons area was formerly located west of the former UST 25 and 26 area near the current location of Building 1336. From 1950 through 1963, HAAF operated as a SAC Air Force Base. This training area was used to train personnel in assembling and handling special weapons, including routine maintenance procedures. The location of the former SAC special weapons area is shown on Figure 4-1. Two construction figures for the former Special Weapons Training Facility are included in Appendix M4.

4.2.2 Regional Geology/Hydrogeology

HAAF is located on the Lower Coastal Plain physiographic province, which is typified by low relief that slopes toward the Atlantic Ocean. The geology is comprised of a seaward thickening sequence of unconsolidated sediments deposited from sediments eroded from the Blue Ridge Mountains. Previous regional investigations suggest that there have been minor amounts of structural deformation in the Savannah, Georgia, area during deposition of these sediments, starting in the early Cretaceous Period. The total thickness of the sediments in the Savannah, Georgia, area is more than 2,000 feet.

The regional hydrogeology in the vicinity of HAAF consists of two aquifers separated by a thick confining unit. The primary water supply aquifer in the Lower Coastal Plain of Georgia and Florida is the Floridan aquifer, which is the deeper of the two aquifers. The Floridan aquifer is a regionally extensive aquifer that is approximately 800 feet thick in the area of Savannah. It is comprised primarily of Oligocene-age and Eocene-age porous limestones. The uppermost aquifer system is the surficial aquifer at and surrounding Savannah, Georgia, and is underlain by two continuous clay units separating this aquifer from the Floridan. These two clay units, separating the aquifers, are named the Coosawhatchie Formation and Berryville Clay member of the Hawthorne Group (Huddlestun 1988). Fossils and sediment samples suggest that these two clay 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 feet to 167 feet in depth near HAAF. A cross-section from Huddlestun is included in Appendix I. It has been demonstrated that there is minimal potential for shallow

groundwater to impact deeper groundwater quality as a result of the thick confining unit that separates the uppermost aquifer system from the underlying Floridan aquifer.

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 toward 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 approximately parallel to the modern barrier island complex. Each barrier system is at a consistent elevation above sea level with approximately 20 feet of relief above surrounding land.

4.2.3 Hunter Army Airfield Depositional Model

HAAF is located on a relict beach ridge named the Pamlico Terrace, which has current elevations ranging from approximately 20 feet above mean sea level (msl) to 40 feet above msl. This abandoned beach ridge was formed during the late Pleistocene (>10,000 years) age. The Pamlico Terrace sediments are approximately 50 feet thick at HAAF. The shallow sediments at HAAF are comparable to sediments that form the nearby modern barrier islands along the Atlantic Coast. Pamlico Terrace is older and is at a slightly higher elevation than the modern barrier beach. Common general characteristics of barrier island systems are:

- an exposed belt of sand separated from the mainland by a shallow body of water, such as a lagoon
- greater length than width
- a straight seaward margin with a lobate, crenulate, or cuspate landward margin
- a coarsening-upward sequence of sand with the uppermost portion of which consists of eolian dunes

These generalities of modern barrier islands can be used to predict the shallow stratigraphy at HAAF. Utilizing the general depositional model of the barrier island system, an understanding of the shallow sediments at HAAF can be placed into context for the interrelationships of the sand units, silt units, and clay units in the uppermost aquifer system observed at HAAF. The highest part of the ridge is the beach, comprised of fine- to medium-grained, well-sorted quartz sand. The beach itself is a massive sand with little clay and silt because it was reworked by constant wave action and migration of tidal inlets. This ridge is the location of the current airfields at HAAF and trends northeast to southwest through HAAF. East of the ridge

was the shallow open Atlantic Ocean, which should consist of finer sands that were constantly reworked to form well-sorted sands that are finer in comparison to the beach. Grain size should decrease with increasing water depth because of the limited winnowing in deeper water by reduced wave action with depth.

Marshes and bays would have occurred behind the barrier to the west of the airfields. Deposits in this area are generally silts and clays characteristic of lower energy environments with some interbeds of sands. 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 island sands. Clays interbedded with the sands will compact with time to form somewhat continuous but thin units, which can be confining in nature.

5. Previous Investigations Conducted at HAA-17

For all previous investigations, permanent monitor wells are shown on Figure 5-1 and well construction details are included as Table 5-1.

5.1 UST 25 and 26 Closure and CAP – Part A Investigation (1998)

Former USTs 25 and 26 were located in the 2nd Battalion 3rd Aviation Brigade Motor Pool (previously the 260th Quartermaster Motor Pool) on North Lightning Drive. The location of the former USTs are shown on Figure 4-1. UST 25 was a 25,000-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. Following the in-place tank closure performed in 1998, a CAP – Part A investigation was performed and petroleum impacts were detected in soil and groundwater (Earth Tech 1999).

5.2 UST 25 and 26 CAP – Part B Investigation (1999)

Based on the findings of the in-place tank closure report 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 evaluate the potential TCE impacts. The analytical results confirmed the presence of TCE (as well as 1,2-dichloroethene [1,2-DCE], 1,1-dichloroethane [1,1-DCA], and 1,2-DCA) in groundwater. Vertical borings and/or monitor wells AF-01 through AF-39 were installed during the 1999 CAP – Part B investigation. The results of the 1999 CAP – Part B SI were presented in the CAP – Part B for USTs 25 and 26, which was submitted to the Georgia EPD USTMP in February 2000 (SAIC 2000). Soil sample locations are shown on Figure 5-2. Groundwater analytical data from the UST 25 and 26 CAP – Part B investigations are provided in Table 5-2.

5.3 UST 25 and 26 Supplemental CAP – Part B Investigation (2000 – 2001)

Additional field investigations were conducted in 2000 and 2001 to determine the horizontal and vertical extent of the TCE plume. The results of those investigations are documented in Corrective Action Plan – Part B, Addendum #1, Underground Storage Tanks 25 & 26, Facility ID #9-025008, Building 1343, Hunter Army Airfield, Georgia (SAIC 2001).

In January 2000, the three deep permanent monitor wells (AF-40, AF-41, and AF-42) were installed as part of the UST 25 and 26 Monitoring Only Plan to monitor chlorinated solvent impacts. The deep wells were screened between 28.5 and 33.5 feet below ground surface (bgs), corresponding to the highest TCE concentrations observed in nearby vertical profile borings. Monitor well locations are shown on Figure 5-1.

In April 2000 and October/November 2000, Argonne National Laboratory conducted a geophysical survey in the wooded area southeast of the former UST 25 and 26 locations to better characterize the subsurface geology potentially affecting TCE migration. A copy of the geophysical report was included in the CAP – Part B Addendum #1 (SAIC 2001) and was included in the Site Investigation Work Plan (ARCADIS 2009).

During a sampling event in the September 2000, 33 groundwater samples were collected for volatile organic compound (VOC) analysis from 30 shallow and three deep monitoring wells. The historic maximum site-wide benzene concentration (9,920 µg/L) was detected during this sampling event in monitor well AF-07. LNAPL was also historically noted in this well and nearby well AF-12. Elevated benzene concentrations were likely the result of fuels released from former USTs 25 and 26.

In November and December 2000, 10 vertical profile borings (AF-43 through AF-52) were installed to further delineate the vertical extent of TCE contamination in groundwater. Groundwater samples were collected at 5-foot intervals from the water table to 50 feet bgs. As part of the second semiannual sampling event in January 2001, three groundwater samples were collected from three deep monitoring wells (AF-40, AF-41, and AF-42) and analyzed for VOCs to monitor the presence of TCE in the deep surficial aquifer. In February 2001, 10 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 5-1). The monitor wells were sampled in March 2001. The results of the investigations conducted in 2000 and 2001 were presented in the CAP – Part B Addendum #1 for USTs 25 and 26 submitted to the Georgia EPD USTMP in June 2001. Groundwater analytical data from the former UST 25 and 26 CAP – Part B investigations are provided in Table 5-2. During these investigations of the TCE impacts associated with former USTs 25 and 26, TCE was detected at a maximum of 7,730 micrograms per liter (µg/L) in temporary boring AF-52 in December 2000. Cis-1,2-DCE was also detected above the MCL at 378 µg/L. The dissolved TCE concentrations decreased in all directions from AF-52. Concentrations greater than

1,000 µg/L were 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 cavities.

5.4 UST 25 and 26 Supplemental CAP – Part B Investigation (2001 – 2002)

The CAP – Part B Addendum #1 (SAIC 2001) documented the first phase of the supplemental investigation activities related to the chlorinated solvent plume that was discovered during the activities in 1999. The second addendum documented the second phase of supplemental investigation activities conducted between April 2001 and December 2002 related to that plume. 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 feet bgs. The results as described in the CAP – Part B Addendum #2 that the TCE plume observed at the 10-to-20-ft bgs interval was not only located beneath the motor pool of the USTs 25 & 26 site, but also southwest under Tubb Street and southeast into the wooded area. The TCE plume observed at the 20-to-30-, 30-to-40-, and 40-to-50-ft-BGS intervals was located beneath the motor pool of the USTs 25 & 26 site. The report noted that the areal extent of the TCE plume decreases with depth and that the highest TCE concentrations occur at the 20-to-30-ft interval, which is just above the upper clay layer identified in the geophysical survey.

In October 2002, five monitor wells (AF-68 through AF-72) were installed at the site based on the July 2002 vertical profile data. The five wells were sampled in December 2002. 1,1-Dichloroethene and TCE were the only constituents to exceed their respective MCLs or IWQSs. The results of the investigations conducted between July 2002 and December 2002 were presented in the CAP – Part B Addendum #2 for USTs 25 and 26 (SAIC 2003) and are included in Table 5-2. The CAP – Part B Addendum #2 indicated that the area characterized by the most elevated TCE concentrations (near the former UST 25/26/motor pool area) was not the result of suspected upgradient source areas including the purging facility. Additional investigations in the motor pool area were recommended to further assess the potential source area.

5.5 UST 25 and 26 Vertical Profile Investigation (2003)

In October 2003, six vertical profile borings (AF-73 through AF-78) were installed to further delineate the horizontal and vertical extent of VOC contamination in groundwater. Groundwater samples were collected every 5 feet from the water table to a depth of approximately 50 feet bgs. The investigations indicated that the dissolved

TCE concentration in groundwater was significantly lower upgradient of the former UST tank farm.

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 UST 25 and 26 CAP – Part B investigations is provided in Table 5-2.

5.6 UST Removal (2006)

Tank excavation and removal activities were performed by CAPE Environmental, Inc. in April 2006. Prior to backfilling activities, 100 pounds of oxygen release compound was placed in the bottom of the excavation to enhance aerobic degradation of benzene, toluene, ethylbenzene, and xylene (BTEX) compounds. The backfill material used at the site was the removed material from the excavation. Monitoring well AF-12 was destroyed during excavation activities and was replaced prior to the July 2006 semiannual sampling event. Excavation and well locations are shown on Figure 4-1.

5.7 UST 25 and 26 Monitoring (2003 – 2007)

Semiannual sampling of select wells was conducted in accordance with Georgia EPD USTMP direction from 2003 through 2007. Results are provided in Table 5-2.

5.8 UST 25 and 26 Interim Remedial Action (2007)

An Interim Remedial Action (IRA) was implemented to remove wells AF-07 and AF-12 and the contaminated soil/free product around them in a single excavation for each well to more rapidly remediate the free product historically found in these two wells. The IRA consisted of excavating a 6-foot by 6-foot area around each well to a depth of 9.5 feet. Following the excavation, the wells were replaced with new 4-inch-diameter pre-packed wells and the pits were backfilled with gravel to allow any residual free product to migrate to the new wells. AF-40, immediately adjacent to groundwater well AF-07, was plugged and abandoned to facilitate removal of well AF-07 (Solutions to Environmental Problems, Inc. 2007). AF-07, which had contained the historic maximum benzene concentrations (9,920 µg/L), was removed along with surrounding free product and soil during the remedial effort. Subsequent sampling and monitoring indicated compliance with CAP – Part B closure criteria and a no further action required status was granted by the Georgia EPD USTMP in a letter dated August 19, 2008 (Lewis 2008).

5.9 Purge Facility Investigation (2002 and 2006)

5.9.1 Sampling Data

In December 2002, USACE installed five vertical profile borings (B159-1 through B159-5) to the west of the UST 25 and 26 site to assess the potential connection of the purge facility to the TCE impacts at USTs 25 and 26. The results, which are included in Table 5-2, showed that TCE did not appear to be present along North Lightning Drive to the west and southwest of former USTs 25 and 26. The purge facility is located west of the UST 25 and 26 area as shown on Figure 4-1.

To supplement the December 2002 sampling results, between May and July 2006, soil and groundwater samples were collected at the purge facility. One deep monitor well (AT-MW-01, screened from 40 to 45 feet bgs) and four shallow wells (AT-MW-02 through AT-MW-05, each screened from 2.3 to 12.3 feet bgs) were installed at locations shown on Figure 5-1. Soil samples were collected from three locations (AT-SS-01 through AT-SS-03) along a surface drainage pathway feature and from the five monitor well borings (Figure 5-2). All samples were analyzed for VOCs, semivolatile organic compounds (SVOCs), and Resource Conservation and Recovery Act (RCRA) metals.

During the purge facility investigation in 2006, 34.8 µg/L of TCE and 1.13 µg/L of 1,2-DCE was detected in groundwater from deep monitor well AT-MW-01 (screened from 40 to 45 feet bgs). TCE was detected at a concentration of 19.4 µg/L in a sample from location DPT-01 at a similar interval (41 to 45 feet bgs). All other samples, including those collected at shallow intervals, were below detection limits for TCE. The shallow well samples contained low levels of BTEX and acetone. The purge facility area is side- and upgradient of former USTs 25 and 26 and was not demonstrated to be a source for TCE in groundwater. 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 AT-MW-01, the only well where chromium was detected, was 80 Nephelometric Turbidity Units (NTUs), indicating the results were potentially attributable to particulates in the sample.

In soil samples 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), no SVOCs or RCRA metals were detected at levels above Type 1 risk reduction standard (RRS) 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.

The results of the investigation were presented in the Site Investigation Report for the purge facility (SAIC 2007). A summary of soil and groundwater analytical data collected during the investigation of the purge facility is provided in Tables 5-3 and 5-4, respectively.

5.9.2 Background Data

As part of the evaluation presented in the Site Investigation Report for the purge facility (SAIC 2007), metals background concentrations for the Old Property Disposal Yard and the Fire Training Area were utilized for evaluating metals concentrations at the purge facility. Surface and subsurface soil reference background concentrations for the Fort Stewart Military Reservation, which has similar characteristic soils (SAIC 2000), were also utilized for comparison (SAIC 2007). These data are provided in Appendix H. Also included in Appendix H is a comparison of the soil types at each site.

5.10 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 and 26 area and the nearby 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 5-1 and 5-2, respectively.

Between October 2007 and January 2008, 40 MIP locations were installed during two mobilizations. Initial MIP sampling locations were around Building 1290 as well as north and northwest of former USTs 25 and 26. Subsequent MIP sampling locations that were installed during the second mobilization were located south to southeast of the previous locations. Confirmation soil and groundwater samples at 20 selected MIP locations were collected using DPT.

Most of the VOCs detected in confirmation DPT groundwater samples were chlorinated solvents and their degradation products. The remaining constituents detected in groundwater were associated with petroleum contamination. Fourteen VOCs were detected in confirmation subsurface groundwater samples collected at MIP locations. TCE or other VOCs were not detected near Building 1290. In the 20 soil sample locations around Building 1290 and downgradient to areas east of former USTs 25 and 26, no VOCs were detected at levels above Type I RRS concentrations and no apparent sources were identified.

Near Building 1336, TCE was detected at 74.8 µg/L in groundwater at DPT-05 (approximately the same location as sample point AF-74). In groundwater samples from east of the former tank farm and the drainage canal, TCE was detected at a concentration of 483 µg/L in temporary boring DPT-10 (near monitor well AF-35).

1,1,2,2-tetrachloroethane (TCA) was detected in a groundwater sample collected from temporary boring DPT-08 (located northwest of the UST 25/26 study area) at a concentration of 0.44 µg/L, slightly exceeding the Type 1 RRS of 0.20 µg/L. This was the only historic detection of 1,1,2,2-TCA at HAA-17.

Twenty-one wells installed in May 2007 and two existing wells (MW-15S and MW-16S) were sampled in July 2007. The results are included in Table 5-5. During sampling of the monitor wells in the former UST 25 and 26 location, TCE was detected at 807 µg/L in shallow monitor well AF-72 (screened from 2.5 to 12.5 feet bgs) and at 604 µg/L in monitor well AF-51 (15 to 20 feet bgs), which are also east of the canal. 1,1-DCE was detected at 54.7 µg/L and vinyl chloride at 27.3 µg/L in MW-16S.

The vertical profile analyses indicated that the highest TCE concentrations at the former UST 25 and 26 area were at approximately 20 to 30 feet bgs. The results are included in Table 5-6. The results of the investigation of Building 1290 were presented in the Data Summary Report for the TCE Plume at Building 1290 (SAIC 2008). Chlorinated solvents were not detected in samples collected from monitor wells surrounding Building 1290, indicating that Building 1290 was not likely a source of chlorinated constituents.

6. Site-Wide Investigation Activities (2009 – 2012)

The primary focus of the most recent investigations conducted from late 2009 through early 2012 was the delineation of the extent and identification of the source(s) of TCE impacts in groundwater at HAA-17. This included investigating the TCE impacts at the former UST tank farm, the upgradient areas previously identified as of potential concern, and the area east of the drainage canal. Additional investigation of the metals previously detected at the purge facility was also conducted.

All procedures and techniques utilized for this investigation conformed to U.S. Environmental Protection Agency (USEPA) Region 4 Science and Ecosystem Support Division (SESD) guidance and the approved Hunter Army Airfield/Fort Stewart Sampling and Analysis Plan (ARCADIS 2009). Sampling and analysis procedures are included in Appendix I. All soil and groundwater samples collected as part of this investigation were analyzed by Shealy Environmental Services, Inc., a Georgia-certified laboratory.

Following is a summary of the activities conducted as part of the recent HAA-17 investigations:

- Water level measurements were collected from the monitor wells in February 2010 and after new well installation in May and June 2010.
- Slug tests were performed in seven selected wells in December 2009 to determine hydraulic conductivities in the shallow and deep portions of the upper aquifer.
- Thirty-six existing monitor wells were sampled in February 2010 to confirm previous results and provide current data on potential source areas and downgradient vertical and horizontal extents.
- The vertical and horizontal profile of VOC contamination in soil and groundwater in suspected source areas around the former UST 25/26 area was investigated using MIP technology. Borings were utilized for the collection of soil and groundwater samples at locations indicated by MIP data.
- Additional borings were installed for soil and groundwater sampling using DPT to evaluate contaminant distribution and extent.
- Nine groundwater monitor wells were installed and sampled in April and May 2010 to determine the extent of impacted groundwater.
- Two piezometers were installed in June 2010 to evaluate the relationship between groundwater and surface water flow near the drainage canals southeast of the former USTs and adjacent to Lightning Road.

- Three existing monitor wells were sampled in November 2011 and one existing monitor well was sampled in December 2011 to confirm previous results and provide current data on vertical and horizontal extents.
- Ten groundwater monitor wells were installed and sampled in December 2011 and January 2012 to determine the extent of impacted groundwater.

6.1 Water-Level Measurements

Water-level measurements were collected in February 2010 from selected monitor wells installed in the HAA-17 area to provide a comprehensive view of vertical and horizontal gradients in the area. Water levels, including newly installed monitor wells, were collected again in May and June 2010. All of the monitor wells that could be located on site were measured in order to obtain a comprehensive view of groundwater flow directions and vertical gradient. Groundwater elevation data are included in Table 6-1.

6.2 Slug Testing

In December 2009, slug tests were performed in seven monitor wells on the HAA-17 site, including AF-08, AF-20, AF-24, AF-53, AF-54, AF-55, and AF-57. Slug tests were performed to determine hydraulic conductivities in the shallow and deep intervals of the upper aquifer. Rising head and falling head tests were conducted at each location. Following completion of the tests, ARCADIS utilized the Hvorslev method to calculate the hydraulic conductivities (i.e., the *k* value) from the test data.

6.3 Baseline Sampling of Monitor Wells

To obtain updated data on groundwater impacts, 37 monitor wells were sampled in February 2010. The monitor wells screened in the shallow portion of the upper aquifer consisted of AT-MW-02, AT-MW-03, AT-MW-04, AT-MW-05, MW-2S, MW-3S, MW-5S, MW-7S, MW-8S, MW-9S, MW-12S, MW-13S, MW-15S, MW-16S, AF-13, AF-14, AF-23, AF-25, AF-26, AF-35 and AF-58. The monitor wells screened in the deep portion of the upper aquifer consisted of AT-MW-01, MW-2D, MW-3D, MW-5D, MW-7D, MW-8D, MW-9D, MW-12D, MW-13D, AF-41, AF-54, AF-55, AF-56, AF-57, AF-68 and AF-69.

Low-flow techniques were used to collect groundwater samples from the selected monitor wells. Prior to sampling, field measurements including pH, specific conductance, temperature, oxidation-reduction potential (ORP), dissolved oxygen

(DO), and turbidity were measured. Groundwater samples from known and/or suspected TCE-impacted areas (i.e., all wells outside of the purge facility) were analyzed for VOCs according to USEPA Method 8260B. In addition to VOCs, the groundwater samples from the purge facility monitor wells were also analyzed for USEPA Method 6010 to determine total barium and total chromium concentrations in groundwater. Groundwater samples were submitted to Shealy Environmental Services, Inc. in West Columbia, South Carolina, a Georgia-certified laboratory.

6.4 Membrane Interface Probe

MIP borings were installed in areas where TCE concentrations from previous investigations indicated the potential for source mass in the area of former USTs 25 and 26. Initial MIP borings were installed in proximity to AF-52 and AF-53, where the highest historical concentrations of TCE were observed. Additionally, MIP borings were installed in proximity to AF-45 and AF-55, where TCE concentrations previously detected in groundwater were above 1,000 µg/L. The MIP borings were advanced to the clay confining layer (approximately 40 to 45 feet bgs). The locations are presented on Figure 5-1. Subsequent MIP borings (shown on Figures 6-1 through 6-5) were located based on initial MIP results.

The MIP is a tool that provides near real-time data on the distribution of VOCs with depth. Using a direct-push rig the MIP tool is advanced through the subsurface. On the MIP tool, a semi-permeable membrane is heated, promoting diffusion of VOCs across the membrane and into an inert carrier gas that travels to up-hole gas-phase detectors. The MIP tool has three gas-phase detectors: a photoionization detector (PID), a flame-ionization detector (FID), and an electron capture detector (ECD). Each gas-phase detector responds differently to the presence of VOCs; however, all of the detectors are non-specific to individual compounds and provide qualitative, screening-level data. The MIP was stopped every 2 feet to provide chemical profile logs from each hole. Combined on the MIP unit was an electrical conductivity array to provide a continuous measure of sediment conductivity. Comparison of the electrical conductivity responses to existing nearby well logs allowed for verification of the responses and confirmation of the clay beds within the silty sands and sand units. MIP vapor concentration measurements and conductivity tests were performed at 2-foot intervals from approximately 5 feet bgs to the underlying silty-clay confining layer encountered between 40 and 45 feet bgs. The initial MIP points provided real-time data that were used to determine subsequent MIP locations, temporary soil boring locations and permanent monitor well locations. The goal of the MIP investigation initially was to determine elevated VOC concentrations near the source of the

release. Because the MIP will not reliably detect low level VOC concentrations (less than 500 µg/L), the MIP was used only in suspected source areas. The MIP data were used to locate temporary borings as well as permanent wells from which groundwater samples were collected for laboratory analysis.

6.5 Temporary Borings

Based on MIP results, 12 soil borings (H17-AF-01, H17-AF-15, H17-AF-53, H17-AF-61, H17-AF-62, H17-AF-101 through H17-AF-105, H17-AF-107, and H17-AF-108) were installed to delineate the extent of TCE impacts in the former UST 25 and 26 area.

Seven soil borings were located based on previous investigations. Four soil borings (H17-PF1 through H17-PF4) were also installed in the areas of the purge facility to investigate the low concentrations of TCE detected in groundwater during the previous investigation at the purge facility. Three soil borings (H17-FD1 through H17-FD3) were installed in the area of the former dry cleaner to determine if that facility was potentially a source area.

A Geoprobe was utilized to install the temporary borings to the base of the upper aquifer at approximately 40 to 45 feet bgs. Continuous soil borings were advanced to total depth and lithologies described by a qualified geologist. Soil samples were screened with a PID. The soil samples were selected for analysis based on PID readings or intervals identified by the MIP, and/or data from previous investigations. Samples were analyzed in the laboratory by USEPA Method 8260B. In addition to the soil samples, groundwater samples were collected during temporary boring installation activities from sampling locations H17-AF-102 through H17-AF-108, H17-FD1 through H17-FD3, H17-PF1, H17-PF2, and H17-PF4. Discrete groundwater samples were collected from the 41- to 45-foot bgs interval. Samples were collected through direct push rod tooling with a sealed stainless steel screen sampler opened at target depth to ensure that samples were collected from the 41- to 45-foot interval and that concentrations were not affected by more shallow intervals.

All soil and groundwater samples were submitted to Shealy Environmental Services, Inc. The locations of the temporary borings were surveyed by Bateman Civil Survey Company, PC, a land surveyor registered in the state of Georgia. Following logging of soil cores and/or sample collection, all temporary borings were grouted with cement from total depth to land surface to protect separation of aquifers.

The investigation-derived waste (IDW) from the installation of borings for MIP and soil and groundwater sampling was collected in U.S. Department of Transportation (DOT)-approved 55-gallon drums. Samples were collected for characterization and disposal purposes. IDW samples were submitted to Shealy Environmental Services, Inc. for analysis.

6.6 Groundwater Monitor Wells

Based on the sample results from the sampling conducted in February 2010, nine additional wells were installed by ARCADIS in April and May 2010.

At each well location, a continuous soil core was advanced and logged by a qualified geologist. Soil core boreholes were grouted with cement from total depth to the surface to protect separation of aquifers. Screened intervals were selected based on the description of the continuous soil cores to prevent well screens from penetrating potential aquicludes.

The additional monitor wells consisted of H17-MW-17S/D, H17-MW-18D, H17-MW-19S, H17-MW-20D, H17-MW-21S/D, and H17-MW-22S/D. The new wells were sampled as part of a second sampling event in May 2010. Based on previous groundwater sampling results, the monitor wells installed at Building 1290 acted as extent wells to the west, so no additional wells were installed in that area. One additional well pair (shallow and deep) was installed to the north along Wilson Boulevard to delineate TCE degradation product 1,1-DCE. These wells, H17-MW-17S and H17-MW-17D, were installed to depths of 18 and 42 feet, respectively. An additional deep well, H17-MW-18D, was installed to the south of the purge facility to delineate TCE in deep groundwater and was installed to a depth of 40 feet. An additional shallow well, H17-MW-19S, was installed southwest of AF-58 along the south side of the drainage canal to monitor elevated TCE concentrations in shallow groundwater and was installed to a depth of 15 feet. An additional deep well, H17-MW-20D, was installed to the southeast of former USTs 25 and 26 east of the canal to define the extent of TCE-impacted groundwater on the east side of the drainage canal and was installed to a depth of 28 feet. Two additional well pairs (shallow and deep), H17-MW-21S, H17-MW-21D, H17-MW-22S, and H17-MW-22D, were installed just west of Perimeter Road as extent wells. These shallow and deep wells were installed to depths of 17 feet and 35 feet, respectively. Well specific total depths and screened intervals were based on soil cores collected from the monitor well locations.

The wells installed in April and May 2010 within the deep portion of the upper aquifer were constructed of 2-inch-diameter Schedule 40 polyvinyl chloride (PVC) and equipped with 10-foot pre-packed screens. The wells installed in April and May 2010 within the shallow portion of the upper aquifer were constructed of Schedule 40 PVC equipped with 10 feet of 0.01-inch slotted PVC screen. In both the shallow and deep wells, No. 2 sand was poured into the annular space between the well casing and borehole wall to a depth between two and three feet above the top of the screen. A seal measuring one to two feet thick consisting of bentonite chips was also poured into the annular space. Grout consisting of Portland cement was then pumped into the annular space above the bentonite to a depth of approximately 1 foot bgs. With the exception of monitor well H17-MW-20D, the wells were completed at ground surface within steel flush-mount vaults and locking well seals. The surface completions for most of the wells were flushmount because the wells are located around buildings or in active areas. Monitor well H17-MW-20D, which was installed within the wooded area to the east of former USTs 25 and 26, was completed with a stick-up protective cover to facilitate locating the well for future sampling. The monitor wells were developed with an electric submersible pump and were surveyed for location and elevation by EMC Engineering, Inc., a land surveyor registered in the state of Georgia.

All soil wastes and well development water from installation of monitor wells were segregated by monitoring well and collected in DOT-approved 55-gallon drums. Samples representative of each well were collected from drums for characterization and disposal purposes prior to moving the drums to a centralized storage location on the HAAF site. IDW samples were submitted to Shealy Environmental Services, Inc. for analysis.

Based on comments from GAEPD on the original CSR (ARCADIS 2011), ten additional wells were installed by ARCADIS in December 2011. Screened intervals were selected to maintain consistency with the existing monitoring well network or to confirm results where historic data was collected using temporary borings.

Before installing the ten new monitoring wells, three existing monitoring wells (AF-53, AF-70, and AF-71) were sampled using low-flow techniques to provided current data. The groundwater samples were submitted to Shealy Environmental Services, Inc. and were analyzed for VOCs in accordance with USEPA Method 8260B. Sample results from the three existing wells were evaluated to guide placement of the new monitor wells.

The additional monitor wells consisted of H17-MW-23D, H17-MW-24, H17-MW-25D, H17-MW-26S/D, H17-MW-27S/D, and H17-MW-29D. H17-MW-23D was installed to confirm a detection of TCE from a groundwater sample collected from the 41 to 45 feet bgs depth interval at former temporary boring location AF-73 in October 2003. This well was installed to a depth of 45 feet bgs. H17-MW-29D was installed to a depth of 45 feet to complete delineation to the northwest of the site based on sample results from new well H17-MW-23D. H17-MW-24 was installed to a depth of 65 feet bgs for vertical delineation of TCE in the vicinity of existing well AF-53, which had high concentrations of TCE in previous samples. H17-MW-25D was installed to a depth of 35 feet bgs for vertical delineation of TCE in the vicinity of existing well AF-58. Monitor well pairs H17-MW-26S/D and H17-MW-27S/D were installed south and southeast of the site, respectively, to complete delineation of TCE to the south and southeast. H17-MW-26S and H17-MW-27S were installed with total depths of 17 feet bgs. H17-MW-26D and H17-MW-27D were installed with total depths of 35 feet bgs.

With the exceptions of H17-MW-23D, H17-MW-24, and H17-MW-29D, the wells installed in December 2011 were constructed of 2-inch-diameter Schedule 40 PVC and equipped with 10-foot pre-packed screens. H17-MW-23D and H17-MW-29D were constructed with five-foot pre-packed screens to match the contaminated interval identified in the temporary boring in the area. No. 1 sand was poured into the annular space between the well casing and borehole wall to a depth between 2 and 3 feet above the top of the screen. A seal measuring two feet thick consisting of bentonite chips was also poured into the annular space. Grout consisting of Portland cement was then pumped into the annular space above the bentonite to a depth of approximately 1 foot bgs.

Deep delineation well H17-MW-24 was constructed as a double-cased monitor well to prevent potential downward migration of constituents during the installation process. During installation, split spoon soil samples were collected at five-foot intervals from 43 feet to 65 feet bgs to obtain stratigraphic descriptions for this interval. Descriptions of the soil were completed by a qualified ARCADIS field geologist and are included in Appendix E. A 4-inch diameter Schedule 40 PVC outer casing was installed to a depth of 50 feet bgs. Portland cement grout was pumped into the annular space around the outer casing from the bottom of the borehole to the surface. The grout seal was allowed to cure. An inner 2-inch diameter Schedule 40 PVC casing was then installed to a depth of 65 feet. No. 1 sand was poured into the annular space between the well casing and borehole wall to a depth of two feet above the top of the screen. A seal measuring two feet thick consisting of bentonite chips was also poured into the annular space. Grout consisting of Portland cement

was then pumped into the annular space above the bentonite to a depth of approximately 1 foot bgs.

The wells were completed at ground surface within steel flush-mount vaults and locking well seals. The surface completions were flushmount because the wells are located around buildings or in active areas. The monitor wells were developed with an electric submersible pump and were surveyed for location and elevation by EMC Engineering, Inc., a land surveyor registered in the state of Georgia.

All soil wastes and well development water from installation of monitor wells were segregated by monitoring well and collected in DOT-approved 55-gallon drums. Samples representative of each well were collected from drums for characterization and disposal purposes prior to moving the drums to a centralized storage location on the HAAF site. IDW samples were submitted to Shealy Environmental Services, Inc. for analysis.

6.7 Sampling of Newly Installed Monitor Wells

Groundwater samples were collected from the nine new monitor wells installed in April and May 2010 and the ten new monitor wells installed in December 2011. Additionally, shallow monitor well AF-72 was sampled in December 2011. Historic efforts to locate AF-72 had been unsuccessful, but the well was located during site reconnaissance and utility locating activities in preparation for installing a replacement for AF-72. Low-flow techniques were used to collect groundwater samples from the selected monitor wells. The groundwater samples were submitted to Shealy Environmental Services, Inc. and were analyzed for VOCs in accordance with USEPA Method 8260B.

6.8 Piezometer Installation/Sampling of Surface Water and Sediment

In June 2010, two stainless-steel piezometers were installed within the drainage canal located to the southeast of former USTs 25 and 26. One piezometer was located immediately southeast of the former USTs, while the other was located within the canal on the opposite side of Lightning Road to the southwest. The piezometers were installed to monitor the relationship between surface water and groundwater. Piezometers were constructed of 1-inch-diameter steel riser pipes equipped with a 1-foot stainless-steel screen. The piezometers were jetted into the base of the canal using a recirculating pump to approximately 7 feet bgs. Filter sand was emplaced around the piezometer screens and a bentonite seal was installed from the top of the

filter sand to the bottom of the canal surface water. The piezometers were constructed so that the riser pipes extended above the surface water. Piezometer locations are shown on Figure 5-1.

To investigate potential impacts to the canal, sediment and surface water samples were collected. The samples were collected from within the vicinity of the former tank farm area, upstream of the area and downstream of the area. The sediment and surface water samples were submitted to Shealy Environmental Services, Inc. and were analyzed for VOCs in accordance with USEPA Method 8260B.

6.9 Vapor Intrusion – Indoor Air Pathway

Following source delineation, ARCADIS analyzed historic and current soil and groundwater data to determine if the indoor air pathway was complete and would need further evaluation. Based on a comparison to applicable Georgia EPD standards for the soil to indoor air and groundwater ingestion pathways, it was determined that the pathway is incomplete. Additional information on the evaluation of the indoor air pathway is included in Section 8.

7. Site-Wide Investigation Results

7.1 Hydrogeology/Geology

7.1.1 Geologic Conditions

The HAA-17 site is located southeast of HAA-15, the MCA Barracks site (HSI 10521), 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 4-1). 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 over a horizontal distance of approximately 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.

Facies observed west of the former UST locations on top of the Pamlico ridge are typical of the beach and shallow foreshore in open marine conditions consisting mainly of sands. The log from monitor well AT-MW-01 located to the west of former USTs 25 and 26 near the purge facility describes poorly sorted sand with no discernible clay units to a total depth of 45 feet. Additional soil cores were completed in the vicinity of the purge facility area during sampling in 2009. These locations also indicated that the upper 45 feet is predominantly sand with some thin clay intervals detected at depth. Borings completed west of the former UST area near the former dry cleaner area (H17-FD1 – 3) indicated that the upper aquifer in this area consisted of well-sorted fine sand to total depth (45 feet bgs). Facies observed during installation of monitor wells H17-MW-17D and H17-MW-18D, also west of former USTs 25 and 26, indicated that the upper aquifer in this area is predominantly sand with some thin clay lenses. Soil core descriptions were not recorded in the groundwater investigation at Building 1290, which is in the western portion of the investigation area. Because of the proximity to the Pamlico ridge, the Building 1290 area is anticipated to consist of sands with little to no discernible clay units.

Logs from the borings installed in 2009 suggest shallow marine conditions farther east in the area of the former tank farm. Figure 7-1 illustrates a cross-section approximately perpendicular to groundwater flow direction near the former UST area. Figure 7-2 illustrates a cross-section approximately parallel to groundwater water flow direction near the former UST area. The dominant facies is poorly sorted, fine-grained, silty sand with some clay. The silty sand is typical of a shallow open marine environment. Most of the UST area does not have distinct clay interbeds down to a depth of

approximately 40 feet. A confining unit of clay was observed during the installation of wells AF-57, AF-55, and AF-54 at a depth of approximately 40 feet. Most other monitor wells associated with the previous UST investigation of the area were terminated above this depth. Lithologic samples collected from approximately 43 feet to 65 feet during the installation of H17-MW-24 were dominated by fine sands with minor clay.

Facies descriptions taken in 2010 during installation of H17-MW-20D, located on the eastern side of the canal, encountered clay between 25 to 30 feet bgs. Soil cores taken during installation of two monitor wells (H17-MW-21D and 22D) installed farther east of the canal along Perimeter Road also indicated a number of clay intervals. Also, shallow borings east of the drainage ditch at the base of the Pamlico beach ridge indicated shallow clay units and a thicker confining clay unit between 30 and 35 feet bgs. A geophysical survey conducted in 2000 by Argonne National Laboratory confirmed shallow clay units east of the drainage canal. Significant clay units are not typical of the shallow open marine environment. These clay units probably represent a marsh area.

7.1.2 Hydrogeologic Conditions

Horizontal groundwater flow around the former UST area conforms to the relatively steep slope to the southeast. Depth to the water table varies from about 2 feet to 5 feet bgs with a gradient on the slope of about 0.009 ft/ft. There should be minor variation in groundwater flow direction at the former UST area based on the relatively steep topographic slope. The horizontal groundwater gradient in the relatively flat area upgradient of the former UST 25 and 26 location is approximately 0.003 ft/ft. A summary of groundwater elevations at HAA-17 collected in 2006 and in February, May and June 2010 is included in Table 6-1.

Groundwater flow direction for most of the HAA-17 area is to the southeast toward former USTs 25 and 26 and the drainage canal. An investigation completed by SAIC in the area of Building 1290 indicated that groundwater in the Building 1290 area was flowing west-southwest and that Lightning Road east of Building 1290 was the approximate location of an apparent groundwater divide. Potentiometric contour figures, based on water levels collected in June 2010 that incorporated all wells that were able to be located across the site, are included as Figures 7-15 and 7-16. Potentiometric surface maps were created for both the shallow and deep wells installed on the site. The maps confirmed the groundwater divide observed in 2006 and 2007. Groundwater west of the divide flows in a west-southwest direction toward the taxiways north of the main runway while groundwater in the vicinity of the former purge facility and former USTs 25 and 26 follows the topographic gradient of the site and

flows to the southeast toward the toward the drainage canal. Groundwater flow directions based on the June 2010 event are consistent with historic data. The groundwater divide is evident in both shallow and deep groundwater. The topography is illustrated on Figure 4-1.

No significant vertical gradient was detected in the flat areas west of the former UST area where Building 1290 and the former dry cleaner are located. Facies observed during the 2009 DPT investigation indicated little to no clay interbeds in this area, thus providing little opportunity for a confining layer to alter water levels. Farther east toward the former UST 25 and 26 area, monitor well pair MW-9S/D has a vertical head difference of –1.75 feet from the shallow portion to the deep portion. Increasing amounts of clay and silt are likely present in this area, which appear to divide the shallow and deep portions of the upper unconsolidated groundwater aquifer. Monitor well data suggest a downward hydraulic gradient is also present in some areas of former UST tank farm. In the UST 25 and 26 and canal area, shallow monitor well AF-07 is located near deeper monitor well AF-40. These wells are located on the slope near former USTs 25 and 26 and historically have shown no significant vertical gradient. Conversely, monitor well pairs indicate a significant upward gradient on the east side of the canal. Shallow monitor well AF-27 is located near deeper monitor well AF-42 on the east side of the drainage canal. These two wells show a significant upward head difference of +2.35 feet to +3.59 feet in measurements from year 2000 to year 2003. Similarly, monitor well pairs H17-MW-21S/D and 22S/D, both located east of the drainage canal, had head differences of +2.70 feet and +2.89 feet, respectively. Table 7-1 provides a comparison of groundwater elevations between the shallow and deep intervals of the upper aquifers.

A consistent clay layer was encountered site-wide between 40 and 45 feet bgs (shallower near canal), which acts as a confining layer to the underlying Floridan aquifer, encountered between 200 and 800 feet bgs. In addition, thinner, silty clays were encountered in a majority of borings located to the east of the runways in the area of former USTs 25 and 26. This clay layer appears to serve as a semi-confining layer, separating the shallow and deep portions of the upper aquifer. This layer was not observed in borings completed at the purge facility or at the former dry cleaning facility. This is likely a result of the borings' proximity to the current runways dominated by sands that are known to exist to approximately 40 to 45 feet bgs.

For those wells analyzed within the shallow groundwater zone (AF-08, AF-20, and AF-24), hydraulic conductivities ranged from 0.55 to 0.66 feet/day. In each of these cases, only the calculated conductivities from the "slug-out" tests were used, since

these were determined to be the more accurate representation of conductivity based on the shallow well screens. For those wells analyzed within the deeper groundwater zone (AF-53, AF-54, AF-55, and AF-57), hydraulic conductivities ranged from 1.6 to 63 feet/day. In the cases of the deep wells, the ”slug-in” and ”slug-out” tests were averaged since there was enough head above the top of the well screen to not significantly alter results.

Groundwater velocity in the former UST area ranges between 0.02 and 2.3 feet/day, based on hydraulic conductivities calculated from the December 2009 slug test data. The slug test results and calculated groundwater velocities are included in Table 7-2. Slug test analysis summary reports for each of the wells are included in Appendix A.

7.1.3 Surface Water Flow

Two piezometers were installed within the drainage ditch located directly southeast of former USTs 25 and 26. The first piezometer was installed directly southeast of the former UST 25 and 26 location. The second piezometer was installed within the same drainage ditch on the south side of Lightning Road near monitor wells AF-57 and AF-58. Both piezometers were installed in June 2010. The piezometers were installed to determine the relationship between the water levels in the drainage ditch to those in the shallow portion of the upper unconsolidated groundwater aquifer. Data show that the drainage ditches are discharge points for shallow groundwater and that surface water levels mimic shallow groundwater conditions.

Information for Pond 35, located to the northeast of the former UST 25 and 26 area, is included in Appendix J. The pond is upgradient of the former UST 25 and 26 impacts and there are clean shallow/deep well pairs between the pond and the impacted area. Therefore, there was no additional sampling of pond surface water or sediments.

7.2 Contaminant Impacts

7.2.1 VOC Impacts

7.2.1.1 Soil Impacts

Former UST 25/26 Area

Initial investigations related to the petroleum release associated with former USTs 25/26 included analysis of petroleum hydrocarbon related constituents only. A map excerpted from the CAP-B Investigation Report (SAIC, 2000) is included in Appendix

N. The map depicts petroleum hydrocarbon concentrations in soil above the water table from the investigation of the fuel release in the UST 25 and 26 area. Depth to water in the former UST 25/26 area is typically less than 5 feet bgs.

Subsequent investigations conducted in the former UST area from 2000 through 2007 as part of the investigation of TCE impacts did not include sampling of soil and a TCE source area was not located during these investigations. To locate likely source areas, a MIP investigation was conducted in the former UST area in November 2009. TCE impacts in soil across the HAA-17 area from the 2009 investigation are presented on Figure 7-18. The locations where the highest impacts had previously been identified were targeted for initial MIP points. Initial borings were installed proximate to previous boring locations AF-52 and AF-53, where the highest historical concentrations of TCE were observed, and proximate to previous boring locations AF-45 and 55, where concentrations above 1 milligram per liter (mg/L) had been detected. The MIP borings were advanced to the confining layer (approximately 50 feet bgs). MIP locations and ECD responses are included on Figure 7-17. The largest ECD responses were in the 30- to 40-foot interval at locations AF-53, AF-61, and AF-15. All of these points are located near the southwest corner of Building 1345. Temporary borings for soil sampling were installed in December 2009 at locations and depths where MIP responses identified potential areas of concern. Based on elevated ECD response values, temporary borings were installed at locations H17-AF-01, H17-AF-15, H17-AF-53, H17-AF-61, and H17-AF-62. Temporary borings were also installed at other locations in the former UST area as well as across the HAA-17 investigation area at locations selected based on the results from previous investigations. The results for temporary borings that were installed in other areas are discussed in subsequent sections.

Soil analytical results from the temporary boring investigation activities are included in Table 7-3. TCE was detected in seven saturated soil samples above the notification concentration, but none of the concentrations were at levels indicative of a source. The highest concentration of TCE detected from any of these boring locations was at H17-AF-101 in a sample collected from 24 to 25 feet bgs. The concentration at this sample interval was 0.94 milligrams per kilogram (mg/kg), a value above HSRA Notification Standards, but not indicative of a potential source area. The remaining concentrations detected in soils ranged from below laboratory detection limits to 0.81 mg/kg. TCE concentrations in soil are presented on Figure 7-18. VOC concentrations in soil are presented on Figure 7-19.

Building 1290

As part of the Building 1290 investigation conducted in 2007 and 2008, soil samples were taken around the former weapons cleaning facility, around Building 1336, in the former UST area, and east of the canal for laboratory analysis of VOCs. VOCs were not detected above notification concentrations in any of the samples.

Based on detections of TCE in groundwater at 1.08 µg/L in 1290-MW-8D (screened 40 to 45 feet bgs) and 2.5 µg/L at DPT location 1290-DPT-03 (44 to 46 feet bgs) south of the former dry cleaner, soil and groundwater samples were taken at three locations in the same area (H17-FD1 through 3) in December 2009. Soil samples from each location were screened with a PID from surface to total depth. There were no PID readings indicating the presence of VOCs. Soil samples taken for laboratory analysis from 44 to 45 feet bgs at each location did not contain VOC concentrations above notification concentrations or indicative of a source area.

Purge Facility

During soil sampling conducted in 2006, surface and subsurface soil samples taken above the water table did not contain VOCs, SVOCs, or metals above notification concentrations. A figure presenting subsurface soil concentrations excerpted from the Site Investigation Report for the Purge Facility (SAIC, 2007) is included in Appendix N.

The soil samples were taken in 2009 at saturated and unsaturated depths. The only compounds detected above HSRA notification concentrations were total xylenes, which were detected at a concentration of 55 mg/kg at H17-PF3, in a sample from 2 to 3 feet bgs. Other petroleum-based compounds were also detected in the same sample, none of which exceeded applicable HSRA Notification Standards. No definitive source areas were identified during the two sampling events in the purge facility area.

VOC impacts in soil from the investigations conducted from 2006 through 2009 are presented on Figure 7-19.

7.2.1.2 Groundwater Impacts

VOC impacts in shallow and deep groundwater across the HAA-17 investigation area are presented on Figures 7-20 and 7-21. VOC impacts in shallow and deep groundwater in the former UST 25 and 26 area are presented on Figures 7-22A/B and 7-23A/B respectively.

Former UST 25/26 Area

In the investigations of the TCE impacts to groundwater in the former USTs 25 and 26 area that were conducted from 1999 through 2006, TCE was detected at a maximum of 7,730 µg/L in analyses from temporary boring AF-52 (24 – 29 ft bgs) in December 2000. TCE was detected above the Type 1 RRS at this location in all samples from 14 to 44 ft bgs. TCE concentrations above 1,000 µg/L were limited to AF-52 and AF-43/53, located between Building 1345 and the former tank locations, and AF-45/55 and AF-63, located at the other end of the former tank cavities.

For vertical delineation, groundwater samples were collected from 12 temporary boring locations to evaluate TCE concentrations in deep groundwater (all samples were collected from the 41- to 45-foot bgs interval). There were no significant detections of VOCs in the samples taken at depth in the UST 25/26 area. The groundwater analytical results from DPT samples taken in 2009 are included in Table 7-4.

Between 1999 through 2012, acetone was detected at a maximum concentration of 8,630 µg/L in analyses from monitor well AF-62 in March 2001. This was the only sample that exceeded the Type 1 RRS for acetone. However, sample results from other wells in the UST 25/26 area indicated elevated concentrations of acetone during the 2001 sampling event. Sample results from the 2010 sampling event indicated that acetone concentrations in these wells were orders of magnitude less than the results from 2001. For example, acetone concentrations in monitor well AF-55 decreased from 3,100 µg/L in 2001 to 17 µg/L in 2010. Acetone concentrations in monitor wells AF-54 and AF-57 decreased from 613 µg/L and 220 µg/L to 17 µg/L and 18 µg/L, respectively. Acetone is a common laboratory contaminant. Disparity between the 2001 and 2010 sample results indicates that the elevated acetone concentrations reported in 2001 were likely the result of laboratory contamination.

Between 1999 and 2002, multiple low-level detections of methylene chloride were reported. The maximum historic methylene chloride concentration detected for the site was reported based on a groundwater sample collected from monitor well AF-41 in 2001 with a concentration of 16.7 µg/L. This concentration exceeded the Type 1 RRS for methylene chloride. However, methylene chloride was also detected in the associated method blank for this and multiple other samples. Methylene chloride is a common laboratory contaminant and the low-level detections of methylene chloride reported for the site were likely the result of laboratory contamination.

1,3-Dichloropropenes (DCP) were detected in temporary boring H17-AF103 during the 2009 DPT vertical delineation sampling event. *cis*-1,3-DCP and *trans*-1,3-DCP were

detected at concentrations of 2.0 and 2.6 µg/L, respectively. The total 1,3-DCP concentration of 4.6 µg/L slightly exceeded the Type 1 RRS. However, this is the only occurrence of 1,3-DCP detected at the site and may be anomalous.

Samples taken from monitor wells in the former UST 25 and 26 area during the 2010 investigation continued to show impacts from TCE. However, concentrations had decreased substantially relative to results from sampling conducted from 1999 through 2007.

Benzene was only detected above the Type 1 RRS in one monitor well H17-MW-18D during the 2010 investigation. The benzene concentration in H17-MW-18D was 5.2 µg/L, slightly above the Type 1 RRS of 5 µg/L. Elevated benzene concentrations detected in the UST 25/26 area are likely the result of historic fuel releases associated with UST's 25 and 26. Remedial activities were conducted in 2007 to remove free product and surrounding impacted soil. Subsequent sampling of monitor wells surrounding the remediated area in 2010 did not result in benzene detections above the PQL. A no further action required status was granted by the Georgia EPD USTMP in a letter dated August 19, 2008 (Lewis 2008).Samples taken from existing monitor wells in the former UST 25 and 26 area during the late 2011 and early 2012 investigation showed continued impacts from TCE. However, TCE concentrations had decreased substantially relative to results from sampling conducted in 2001 and 2002. Shallow zone wells AF-70, AF-71, and AF-72 were either non-detect for TCE or showed decreasing TCE concentrations. Deep zone well AF-53 showed decreasing TCE concentrations. Results from samples collected from existing monitoring wells are summarized as follows:

- COCs were not detected in monitor well AF-70 in samples collected in 2011.
- In monitor well AF-71, TCE concentrations decreased from 41.4 ppb in 2002 to 4.8 ppb in 2011. The TCE concentration in AF-71 was below the Type 1 RRS. Vinyl chloride concentrations increased from non-detect in 2002 to 2.5 ppb in 2012. This vinyl chloride detection slightly exceeded the Type 1 RRS of 2 ppb. However, this vinyl chloride detection, along with detections of TCE breakdown products cis-1,2 DCE and trans-1,2 DCE, may indicate the occurrence natural attenuation of TCE. Neither cis-1,2 DCE nor trans-1,2 DCE exceeded the Type 1 RRS.
- In monitor well AF-72, TCE concentrations continued to exceed the Type 1 RRS but decreased from 807 ppb in 2002 to 390 ppb in 2011. 2011 concentrations of cis-1,2 DCE and trans-1,2 DCE were 290 ppb, and 1.6 ppb, respectively. This is an increase from a concentration of 57.8 ppb total 1,2-

Dichloroethenes in 2002. Although the concentration of cis-1,2 DCE exceeded the Type 1 RRS, increased concentrations of this TCE breakdown product may indicate the occurrence of natural attenuation of TCE.

- In monitor well AF-53, TCE concentrations continued to exceed the Type 1 RRS but decreased from 2,410 ppb in 2001 to 1,300 ppb in 2011.

Samples collected from new monitor wells in late 2011 and 2012 show that delineation of TCE in the former UST 25/26 area is complete. Samples collected from new monitor well H17-MW-23D showed a TCE concentration of 460 ppb and confirms results from samples collected from temporary boring AF-73 in 2003. Only toluene was detected at a concentration of 2.0 µg/L in the groundwater sample collected from H17-MW-29D (installed upgradient of H17-MW-23D). This completes upgradient TCE delineation. Sample results from H17-MW-24 were non-detect and complete vertical delineation in the former UST 25/26 area.

Analytical results from samples taken in 2010, 2011, and 2012 from shallow and deep monitor wells are included in Tables 7-5 and 7-6, respectively.

Area East of Former UST 25 and 26 and Drainage Canal

Previous investigations had resulted in detections of VOCs, specifically TCE, in the area east of the canal. TCE was detected predominantly in samples 5 to 15 feet bgs. An exception was boring AF-51, where TCE was detected at 90.3 µg/L in a sample taken from 25 to 30 feet bgs. H17-MW-20D (screened from 18 to 28 feet bgs) was installed on the east edge of the canal proximate to the AF-51 location. The sample from this monitor well contained 280 µg/L of TCE.

In addition, two monitor well pairs (H17-MW-21S/D and 22S/D) were installed farther east along Perimeter Road to provide delineation of the eastern extent of impacts. Another monitor well pair, H17-MW-27S/D, was subsequently installed between monitor well pairs H17-MW-21S/D and 22S/D. VOCs were not detected in any of the samples from the six monitor wells, thereby providing delineation of the extent of VOC impacts in the eastern portion of the investigation area.

Monitor well H17-MW-19S (screened from 5 to 15 feet bgs) was installed on the east side of the canal south of the former UST 25/26 area to provide delineation of the southern extent of VOCs in the shallow interval. VOCs were not detected in samples from this well. Results from borings and monitor wells in the same area indicated that there were no VOC impacts in the deeper interval. Additionally, monitor well H17-MW-25D was installed in the vicinity of AF-58 on the east side of the canal south of the

former UST 25/26 area to provide delineation of the southern extent of VOCs in the deep interval. VOCs were not detected in samples from this well. In 2011, one monitor well pair (H17-MW-26S/D) was installed between existing monitor well pair H17-MW-22S/D and existing monitor well H17-MW-19S. VOCs were not detected in samples collected from the two monitoring wells. The data from these wells provide evidence that delineation of the extent of VOC impacts in the southern portion of the investigation area has been achieved.

Purge Facility

Minor VOC impacts were observed in the purge facility area during the 2006 investigation. Low levels of petroleum hydrocarbons had been detected in samples from shallow borings and monitor wells. TCE and its degradation products were detected in the deeper interval (40 to 45 feet bgs). In subsequent sampling in 2009 and 2010, TCE and its degradation products were again detected in the 40- to 45-foot bgs interval. The highest TCE concentration in 2009 and 2010 was 14 µg/L in deep well AT-MW-01. Monitor well H17-MW-18D, which was installed south of the purge facility during the 2010 investigation, contained 2.6 µg/L of TCE in a sample taken in May 2010. The sample also contained 5.2 µg/L of benzene.

Isopropylbenzene was detected in monitor well AT-MW-05 in February 2010 at a concentration of 0.56 µg/L, slightly above the Type 1 RRS. Other than one detection in 2002 (isopropylbenzene was detected in temporary boring B-159-5 at a concentration of 0.81 µg/L), isopropylbenzene has not been historically detected at the site.

Building 1290

Monitor wells previously installed and sampled as part of the Building 1290 investigation were sampled again in 2010. VOCs were not detected in samples from the monitor wells around the building or in monitor wells west, north, and south of the building, thereby providing delineation of the extent of VOC impacts in the western portion of the investigation area. These results provided additional evidence that Building 1290 was not the original source area of chlorinated VOCs detected at the site.

Former Dry Cleaner

In the area of the former dry cleaner (east of Building 1290), TCE and 1,1-DCE had been detected at 1.08 and 7.77 µg/L, respectively, in 1290-MW-8D during the investigation in 2007. During the same investigation, 1,1-DCE had been detected at 6.01 µg/L in 1290-MW-8S. TCE was not detected and 1,1-DCE was detected at 5.1

µg/L when well 1290-MW-8D was sampled in 2010. Chlorinated VOCs were not detected in samples taken from shallow well 1290-MW-8S in 2010.

Groundwater samples were also taken in the area through temporary borings in 2006 and 2010. A DPT sample taken south of the former dry cleaner location near the weapons cleaning facility at a depth of 44 to 46 feet bgs (1290-DPT-03) contained 2.5 µg/L of TCE. Samples were also taken with three temporary borings in the area in 2010. Screening from surface to total depth with a PID did not result in any VOC detections. Because of the detections at depth in 2006, samples were taken from 41 to 45 feet bgs at each boring location for laboratory analysis. TCE and its degradation products were detected in all three samples. TCE was detected in one sample at 1.1 µg/L. The highest chlorinated VOC concentration detected during the 2010 DPT event was 7.1 µg/L of 1,1-DCA in H17-FD2.

Results from the groundwater investigation in December 2009 are summarized in Table 7-4. Groundwater analytical results from shallow permanent monitor wells are summarized in Table 7-5, while analytical results from deep permanent monitor wells are summarized in Table 7-6.

The only chlorinated VOC detection in the former dry cleaner area that exceeded the Type 1 RRS was from 1290-MW-8D. 1,1-DCE was detected in this well in 2007 at a concentration of 7.77 µg/L, slightly above the Type 1 RRS of 7 µg/L. Subsequent sampling of 1290-MW-8D in 2010 resulted in a 1,1-DCE concentration of 5.1 µg/L, below the Type 1 RRS concentration. The low-level chlorinated VOC detections in the former dry cleaner area indicate that the former dry cleaner is likely not a source area.

Other Locations in the Investigation Area

Monitor wells 1290-MW-15S and 16S are both shallow wells located west of the former UST 25/26 area. The wells were previously sampled in 2007 during the Building 1290 investigation. In 2007, vinyl chloride and 1,1-DCE were detected in 1290-MW-16S at 54.7 and 27.3 µg/L, respectively, and 1,1-DCE was detected in 1290-MW-15S at 9.35 µg/L. 1,1-DCE was not detected in samples taken in 2010. The only VOC detected was 1.3 µg/L of vinyl chloride in the sample from 1290-MW-16S.

Monitor well pair 1290-MW-9S/D was installed and sampled as part of the Building 1290 investigation in 2007. The wells are located in the north-central portion of the investigation area. Other than acetone, a common laboratory artifact, VOCs were not detected in 1290-MW-9D. The only VOC detected in 1290-MW-9S was 1,1-DCE at a concentration of 1.8 µg/L.

Monitor well pair H17-MW-17S/D was installed in 2010 to delineate the northern extent of the investigation area. Chlorinated VOCs were not detected in deep well H17-MW-17D. The only detection was 1.9 µg/L of carbon disulfide. In shallow well H17-MW-17S, the only VOC detected was chloroethane at 0.69 µg/L. This chloroethane detection slightly exceeded the Type 1 RRS of 0.50 µg/L. This is the only historic detection of chloroethane at the site.

7.2.1.3 Surface Water and Sediment Sampling Results

During CSR investigation activities, surface water bodies in the form of drainage ditches were observed on the HAA-17 site. Drainage ditches are located throughout the HAA-17 site, but most do not have consistent surface water. One drainage ditch, located immediately adjacent to the southeast of former USTs 25 and 26, has consistently held surface water and drains to the southwest away from Pond 35 (Wilson Gate Lake). Based on the proximity of the ditch to the former USTs and the existing shallow TCE-impacted groundwater plume, surface water samples were collected. A total of three samples were collected from the ditch, one from an upstream location, one from within the plume, and one from a downstream location. Upon review of the surface water sampling results, it does not appear that surface waters in the area of the HAA-17 site are impacted. There were no detected VOCs in surface water above applicable maximum contaminant levels (MCLs) or instream water quality standards.

Sediment samples were also collected from the same locations along the canal located adjacent to former USTs 25 and 26. There were no exceedances of applicable sediment/soil standards in the three sediment samples and it does not appear that sediment within the drainage canal is impacted with VOCs.

7.2.2 Metals Impacts

Additional investigation was conducted around the purge facility to evaluate chromium and barium detections in groundwater samples taken in 2006. Chromium was not detected above the practical quantitation limit (PQL) in any sample. Barium was detected above the PQL in samples from monitor wells AT-MW-01 and AT-MW-04 at concentrations of 28 and 37 µg/L, respectively. Metals concentrations in groundwater are presented on Figure 7-24.

8. Human Health Risk Assessment

The human health risk assessment for HAA-17 (former USTs 25 and 26, purge facility, and Building 1290) evaluated the potential risks to human health through the derivation of risk reduction standards for each of the detected constituents in soil and groundwater and an evaluation of the potential exposure to constituents detected in surface water and sediment and the migration of volatile constituents into buildings at the site.

The remainder of this section is organized as follows:

- Potential receptors
- Exposure assessment
- Toxicity assessment
- Risk reduction standards
- Vapor intrusion evaluation
- Summary and conclusions

8.1 Potential Receptors

HAAF is an active military installation encompassing areas of industrial, commercial, and temporary residential property occupied by a variety of administrative, maintenance, and barracks facilities as well as an active airfield. HAA-17 is located in the northern portion of HAAF. This portion of HAAF does not include residential housing. Therefore, under the current configuration of HAAF-17, only military and civilian workers would be expected to be present. The site itself is predominantly covered with buildings and paved areas. There are limited areas of bare soil. Thus, direct contact with soil is not expected to occur to an appreciable extent.

Like many military bases, access to the site is restricted. Thus, trespassers are not expected at the site under current conditions. Similarly, it is unlikely that the site will be used for permanent, residential housing. The HAAF Master Plan indicates that the nearest family housing is 1 mile to the southeast of this site.

Groundwater at the site is not used as a potable water supply. The deeper Floridan aquifer is used as the potable water supply, although the wells are hydrogeologically upgradient of the site. The wells may also be used for non-potable purposes.

The depth to water is approximately 8 to 10 feet bgs. Construction workers may contact groundwater during construction activities. Additionally, volatile organics present in the groundwater and soil could potentially migrate into buildings at the site.

8.2 Exposure Assessment

In accordance with Georgia EPD guidance, default criteria for Types 1 and 3 RRS were identified. For Types 2 and 4 RRS, exposure factors from Georgia EPD guidance (EPD 1999) or USEPA guidance (USEPA 1997a) were used. These RRS values are therefore considered to be conservative (i.e., protective of human health) in that exposure to the identified and/or calculated concentrations is considered unlikely to cause significant carcinogenic or noncarcinogenic effects. Thus, if the soil or groundwater concentrations are less than the conservative RRS, additional exposure scenarios will not be evaluated.

8.2.1 Soil Exposure

In accordance with Georgia EPD guidance, the Types 2 and 4 RRS for carcinogenic effects from potential exposure to soil are typically calculated using Equation 6 from Part B of the Risk Assessment Guidance for Superfund (RAGS Part B) (USEPA 1991). The Types 2 and 4 RRS for noncarcinogenic effects from potential exposure to soil are typically calculated using Equation 7 from RAGS Part B. Table 8-1 provides the equations used to derive the soil RRS.

The exposure factors used to calculate the Type 2 (i.e., residential) RRS include a body weight of 70 kilograms (kg) for an adult and 15 kg for a child, 30 years of exposure duration for an adult and six years for a child, a soil intake rate of 114 milligrams per day (mg/day) for an adult and 200 mg/day for a child, and an exposure period of 350 days per year.

The exposure factors used to calculate Type 4 (i.e., commercial) RRS are based on industrial exposure and include a body weight of 70 kg, 25 years of exposure duration, a 50 mg/day soil intake rate, and an exposure period of 250 days per year. Exposure factors for both Types 2 and 4 RRS were obtained from Georgia EPD guidance (EPD 1999; USEPA 1997a).

8.2.2 Groundwater Exposure

Types 2 and 4 RRS for carcinogenic and noncarcinogenic effects from potential exposure to groundwater were calculated using Equations 1 and 2, respectively, from RAGS Part B (USEPA 1991). The lowest criterion from Equation 1 or 2 was used as the Types 2 and 4 RRS. The equations and parameter values used to calculate the RRS for exposure to groundwater are presented in Table 8-2.

The exposure factors used to calculate the Type 2 (i.e., residential) RRS include a body weight of 70 kg for an adult and 15 kg for a child, 30 years of exposure duration for an adult and six years for a child, a 2-liter-per-day (L/day) water intake rate for an adult and 1 L/day for a child, and an exposure period of 350 days per year.

The exposure factors used to calculate Type 4 (i.e., commercial) RRS are based on industrial exposure and include a body weight of 70 kg, 25 years of exposure duration, a 1 L/day water intake rate, and an exposure period of 250 days per year. Exposure factors for both Types 2 and 4 RRS were obtained from Georgia EPD guidance (EPD 1999; USEPA 1997a).

8.3 Toxicity Assessment

The toxicity values used to calculate Type 2 and Type 4 RRS (i.e., cancer slope factors and reference doses) were obtained from the USEPA Regional Screening Level (RSL) table (USEPA 2010a). The values included in the RSL table were verified in the primary sources which are included in Table 8-3. The toxicity values are presented in Table 8-3.

8.4 Risk Reduction Standards

The primary objective of the risk evaluation was to compile the available analytical data on the regulated substances that were detected in soil and groundwater and to compare the data to the RRS. The Type 1 RRS was identified, and residential exposure factors were used to calculate the Type 2 RRS in soil and groundwater. The Type 3 RRS also was identified for soil and groundwater, and industrial exposure factors were used to calculate the Type 4 RRS for soil and groundwater. The physical and chemical properties used to derive the soil RRS are provided in Table 8-4.

In addition, the potential for the detected soil constituents to leach from soil to groundwater was evaluated by calculating soil screening levels protective of

groundwater using USEPA methodology (1996, 2002b). For these calculations, the groundwater RRS were used as the groundwater criteria.

8.4.1 Soil Risk Reduction Standards

The Type 1 RRS (default residential criteria) for soil were determined using the definition in Rule 391-3-19-.07(6)(c) of Georgia EPD guidance (1999). The concentrations of constituents of concern (COCs) detected in soil above the water table were compared to the Type 1 RRS. Table 8-5 lists the maximum detected constituent concentration above the water table, the location of the maximum, and the Type 1 soil RRS. None of the constituents were detected at maximum concentrations greater than the Type 1 soil RRS.

8.4.2 Groundwater Risk Reduction Standards

The calculation of RRS for groundwater included the integration of the exposure and toxicity assessments. Information on potential exposures and toxicity values was combined to generate the Types 2 and 4 RRS. These criteria, as well as the default criteria for Types 1 and 3 RRS, were then compared to the maximum detected concentrations of the constituents detected in the shallow groundwater at the site.

8.4.2.1 Residential Risk Reduction Standards

Residential RRS were calculated for groundwater as described above. The following sections further describe the Types 1 and 2 RRS.

The Type 1 RRS (default residential criteria) for groundwater are defined in Rule 391-3-19-.07(6)(b) (EPD 1999) as the concentrations listed in Table 1 of Appendix III (if available for the COCs). The comparison of maximum detected groundwater concentrations to the Type 1 RRS and the source of the Type 1 RRS are presented in Table 8-6. Twelve constituents were detected at concentrations greater than the Type 1 RRS for groundwater: acetone, benzene, chloroethane, 1,1-DCE, total 1,2-DCE (listed in Table 8-6 as 1,2-DCE), cis-1,2-DCE, 1,3-dichloropropene, isopropylbenzene, methylene chloride, 1,1,2,2-tetrachloroethane, TCE, and vinyl chloride.

The equations and input parameters used to calculate the Type 2 RRS for the COCs in groundwater are presented in Table 8-2. Calculations of the Type 2 carcinogenic and noncarcinogenic criteria for groundwater are included in Table 8-7 for adults and in Table 8-8 for children. For each detected constituent, the least of the carcinogenic and

noncarcinogenic criteria was then selected as the criterion for each receptor (adults and children), and the lower of the adult or child criterion was selected as the Type 2 RRS. A comparison of the maximum detected concentrations to the Type 2 RRS, along with the source of the Type 2 RRS, is included in Table 8-6 for groundwater. Acetone, benzene, total 1,2-DCE (listed in Table 8-6 as 1,2-DCE), cis-1,2-DCE, TCE, and vinyl chloride were detected in groundwater at a maximum concentration exceeding the Type 2 RRS (Table 8-6).

8.4.2.2 Nonresidential Risk Reduction Standards

Nonresidential RRS were calculated for groundwater as previously described in this risk evaluation. The following sections further describe the Types 3 and 4 RRS.

The Type 3 RRS for groundwater are identical to the Type 1 RRS used for the residential scenario, according to Georgia EPD guidance (EPD 1999). A comparison of maximum detected concentrations to the Type 3 RRS for groundwater is presented in Table 8-9. This comparison shows that 12 constituents were detected at concentrations greater than the Type 3 RRS for groundwater: acetone, benzene, chloroethane, 1,1-DCE, total 1,2-DCE (listed in Table 8-9 as 1,2-DCE), cis-1,2-DCE, 1,3-dichloropropene, isopropylbenzene, methylene chloride, 1,1,2,2-tetrachloroethane, TCE, and vinyl chloride.

The equations and input parameters used to calculate a Type 4 RRS for groundwater are presented in Table 8-2. Calculations of the Type 4 carcinogenic and noncarcinogenic criteria for groundwater are included in Table 8-10. For each constituent, the lesser of these two criteria was selected as the Type 4 RRS for groundwater. The comparison of maximum detected concentrations to Type 4 RRS for groundwater presented in Table 8-9 shows that only benzene, TCE, and vinyl chloride exceed the Type 4 RRS for groundwater.

8.4.3 Sediment

Eleven constituents were detected in sediments: acetone, benzene, 2-butanone, cyclohexane, ethylbenzene, isopropylbenzene, methyl acetate, tert-butyl methyl ether, tetrachloroethene, toluene, and xylenes. The maximum detected concentrations were compared to the soil Type 1 RRS, as shown in Table 8-11. All of the detected concentrations were well below the Type 1 RRS. Therefore, exposure to sediments is not expected to pose an unacceptable risk to receptors at the site.

8.4.4 Surface Water

Acetone and benzene were the only constituents detected in surface water at the site. As shown in Table 8-12, the maximum detected concentrations were compared to the Georgia in-stream standard for benzene and the groundwater Type 1 RRS for acetone as there is no in-stream standard available. The maximum concentrations are less than their respective standards. Therefore, exposure to surface water is not expected to pose an unacceptable risk to receptors at the site.

8.5 Vapor Intrusion Evaluation

Volatile organic compounds were detected in soil and groundwater at the site. These constituents have the potential to migrate from the subsurface into indoor air of buildings at the site. This pathway was evaluated using both the current maximum, (i.e., the maximum detected concentration of the 2010 and 2011) and historical maximum groundwater data. The constituents present in soil were detected at concentrations less than the Type 1 RRS and therefore were not evaluated further. Additionally, the focus of the current investigation was the detection of constituents in groundwater.

The USEPA version of the Johnson and Ettinger vapor intrusion model is a conservative model that can be used to evaluate the potential for vapor intrusion, to estimate the potential associated risk, and to calculate risk-based medium-specific concentrations, including both industrial and residential settings. The USEPA vapor intrusion model was run using the maximum concentrations of each detected volatile organic constituent in groundwater on site.

The following groundwater constituents were evaluated for the current vapor intrusion pathway: acetone, benzene, 1-methylethyl benzene (or isopropylbenzene), carbon disulfide, chloroethane, chloroform, 1,1-DCA, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, ethylbenzene, methyl tert-butyl ether, 4-methyl-2-pentanone, toluene, TCE, vinyl chloride, and total xylenes. Table 8-13 presents the data used in the groundwater vapor intrusion evaluation. In addition, all of the volatile constituents detected in groundwater historically, as seen in Table 8-6, were also evaluated for the vapor intrusion exposure pathway.

Additionally, a survey was conducted to assess potential preferential vapor transport pathways where VOCs groundwater impacts extend below or near buildings. Identification numbers for buildings within the impacted area were confirmed on-site

during December 2011. Subsequently, building construction drawings were reviewed on site on January 3, 2012. Copies were obtained at that time for further review.

Geology within the impacted zone consists of unconsolidated sedimentary deposits. Lithologic borings performed at the site indicate that the sedimentary beds are characterized by horizontal to sub-horizontal layers of fine sands and silty fine sands. These deposits are not expected to contain preferential pathways such as fractures, coarse-grained channels, or solution channels.

Anthropogenic pathways that could facilitate lateral migration of VOC vapors primarily consist of trenches created as utility conduits. Utility conduits are also the most likely potential means for VOC vapors to vertically infiltrate buildings from below. Review of structural drawings confirmed that the buildings in the area are constructed with concrete slab floors and most were constructed with sub-slab vapor barriers. Structural drawings indicate that slab utility penetrations, such as those created for plumbing and heating, ventilation, and cooling (HVAC) were typically installed with joint fillers, sealants, or grout in conduit openings. The concrete slab floors combined with sealed utility penetration points likely prevent the occurrence of preferential pathways with high gas permeability and sufficient volume to permit significant vapor intrusion in buildings at the site. One building, Building 1355, is a modular trailer-type building with an elevated floor and ground anchors. It is expected that this foundation type would facilitate adequate ventilation if VOC vapors were present below the building. Building 1345 is not intended for human occupancy. A summary of building construction details is included in Table O-1, Appendix O. Locations of buildings and building numbers are shown on Figures O-1and O-2, Appendix O.Vapor Intrusion Modeling

The maximum detected concentrations of constituents of potential concern in current and historic groundwater were carried through to the second phase of the evaluation: use of the USEPA advanced level Johnson and Ettinger model for vapor intrusion. Modeling was performed for two different receptors: commercial worker and residential receptor. The use of the maximum concentration presents a conservative estimate of risk and hazard because it is unlikely that the concentrations migrating into a building will be only at the maximum concentration. An average concentration would be more representative of what would be contributing to the concentrations of vapors migrating into a building.

The following assumptions were used to evaluate potential exposures of both residential receptors and site workers. Although military personnel are at this site for a

short time, the standard default exposure assumptions for residential receptors were used in this assessment.

- The USEPA (2004a) default values for building size, 1,000,000 square centimeters or 1,076 square feet, was used for the building size.
- A building air exchange rate or ventilation rate of 0.48 exchanges per hour was used in the evaluation. This value was selected based on information provided by USEPA (2004a). In general, ventilation rates will be higher in summer months. Specifically, air exchange rate distributions vary depending on season and climatic region. Therefore, a ventilation rate specific for the season and region was selected. USEPA (2004a) reported that "for the winter season and warmest climatic area [Region 4 (southern California, Texas, Florida, and Georgia)], the 10th, 50th, and 90th percentile values were 0.24, 0.48 and 1.13 air exchanges per hour, respectively. Although building air exchange rates would be higher during the summer months, vapor intrusion during winter months (when house depressurization is expected to be most significant) would be of greatest concern." Therefore, a ventilation rate of 0.48 corresponding to the 50th percentile in the region was used in this assessment.
- The foundation thickness was set at 10 centimeters, and a ceiling height of 8 feet (244 centimeters) was used for the resident and the site worker. Other default assumptions were used in the model (USEPA 2004a).
- The depth to shallow groundwater used in the assessment was 8 feet (241.92 centimeters) below grade. Because groundwater is encountered at 8 feet or 241.92 centimeters, this was the depth entered as the depth to the bottom of contamination.
- An average groundwater temperature of 19.5° Celsius was estimated based on USEPA guidance (2004a).
- A soil type of sand was selected to represent the soils, although lenses of clay and silt were observed during field investigations at the site.
- A soil-building pressure differential (delta P) of 40 grams per centimeter per square second (g/cm-s2) was used (USEPA 2004a).
- An adult body weight of 70 kg was used (USEPA 1991).
- An exposure frequency of 250 days/year (5 workdays/week for 50 weeks/year) was used for a site worker and 350 days/year for a hypothetical future resident (USEPA 1991).
- An exposure duration of 25 years was used for a site worker and 30 years for a hypothetical future site resident (USEPA 1991).

8.5.1 Current Groundwater

The current maximum concentrations in groundwater were used to estimate indoor air concentrations. Table 8-14 presents the input parameters for residential exposure, Table 8-15 provides the results of the intermediate calculations, and Table 8-16 presents the results of the residential calculations. The corresponding tables for the site worker are presented in Tables 8-17 through 8-19. The results of the vapor intrusion modeling are as follows:

- Adult resident: excess lifetime cancer risk (ELCR) = 1×10^{-4} and a noncancer hazard index (HI) = 29
- Site worker: ELCR = 2×10^{-5} and a noncancer HI = 7

The ELCRs were greater than the EPD HSRA benchmark of 1×10^{-5}. The noncancer HIs were above the benchmark of 1. The risk driver was TCE, which was the only constituent with either an ELCR or an HI greater than their respective benchmarks.

8.5.2 Historic Groundwater

The historic maximum concentrations in groundwater were used to estimate indoor air concentrations. Table 8-20 presents the input parameters for residential exposure, Table 8-21 provides the results of the intermediate calculations, and Table 8-22 presents the results of the residential calculations. The corresponding tables for the site worker are presented in Tables 8-23 through 8-25. The results of the vapor intrusion modeling are as follows:

- Adult resident: ELCR = 5×10^{-3} and a noncancer hazard index (HI) = 590
- Site worker: ELCR = 1×10^{-3} and a noncancer HI = 140

The ELCRs were greater than the EPD HSRA benchmark of 1×10^{-5}. The noncancer HIs were above the benchmark of 1. The risk drivers were benzene and TCE, which were the only constituents with either an ELCR or an HI greater than their respective benchmarks. It should be noted that the current benzene concentration is well below the historic maximum concentration (9,920 µg/L historically and 28 µg/L currently) and thus for the vapor intrusion pathway would not be of concern. Similarly, the TCE concentration is less than the historical maximum, although there is the possibility of a vapor intrusion risk.

8.6 Summary and Conclusions

This human health risk assessment for the HAA-17 area evaluated the potential risks to human health by comparing the maximum detected soil and groundwater constituents to the Types 1 through 4 RRS. The potential exposure to constituents detected in sediment also was evaluated by comparing the maximum detected concentrations to the Type 1 RRS. Potential exposure to constituents in surface water were compared to the Georgia in-stream standards. Finally, the vapor migration from groundwater into buildings at the site was evaluated.

The data for soil collected above groundwater were compared to the RRS. None of the maximum detected concentrations exceeded the Type 1 standards. Therefore, the derivation of Types 2 through 4 RRS was not conducted.

The groundwater data were compared to the Types 1 through 4 RRS. Acetone, benzene, chloroethane, 1,1-DCE, total 1,2-DCE, cis-1,2-DCE, 1,3-dichloropropene, isopropylbenzene, methylene chloride, 1,1,2,2-tetrachloroethane, TCE, and vinyl chloride exceeded the Type 1 and Type 3 groundwater RRS. Acetone, benzene, total 1,2-DCE, cis-1,2-DCE, TCE, and vinyl chloride were detected in groundwater at a maximum concentration exceeding the Type 2 RRS. Only benzene, TCE, and vinyl chloride exceeded the Type 4 RRS for groundwater.

The maximum sediment concentrations were compared to the soil Type 1 RRS. The maximum sediment concentrations were all below the Type 1 soil RRS. The maximum surface water concentrations were compared to the Georgia in-stream standard if available, or the Type 1 groundwater RRS. There were no exceedances of the surface water standards. Therefore, it is unlikely that the constituents detected in sediment and surface water were present at concentrations that would pose a risk to human health.

The current and historic groundwater concentrations were evaluated for the vapor intrusion pathway. The results indicated that the risks were above than the EPD HSRA benchmark of 1×10^{-5}. The noncancer hazards were above the benchmark of 1. Although the calculated risks are above the regulatory benchmarks, given the use of the buildings at the site and the time individuals are present in the buildings, it is unlikely that there is a significant current risk from inhalation of vapors migrating into buildings.

9. Ecological Risk Assessment

This section presents the Ecological Risk Assessment (ERA) conducted for the site pursuant to Georgia EPD CSR guidance and HSRA regulations. The objective of the ERA is to evaluate whether ecological receptors may be adversely affected by exposure to site-related constituents. This ERA is intended to provide input for risk management decision-making for the site, while maintaining a conservative approach that is protective of wildlife populations and communities.

9.1 Introduction

HAA-17 is located in the northern portion of HAAF – an active military installation located in Savannah, Georgia, consisting of industrial, commercial, and temporary residential property occupied by a variety of administrative, maintenance, and barracks facilities as well as an active airfield. A site map depicting the HAA-17 area is included as Figure 4-1. HAAF is expected to continue in its current role as an adjunct military facility to Fort Stewart. The facility, as a whole, is gated and fenced. Therefore, primarily military personnel or military contractors have access. According to sources at HAAF, there are no future development plans for the area.

As recommended by Georgia EPD regulations for a CSR under HSRA regulations, this ERA was conducted in accordance with USEPA guidance. As such, the ERA is comprised of a screening-level ERA (SLERA) followed by a baseline ERA (BERA) (USEPA 1997). Typically, the SLERA provides a conservative estimate of potential ecological risks and compensates for uncertainty by incorporating numerous conservative assumptions. The purpose of the SLERA is to determine whether there is a high probability that there are no ecologically significant risks; otherwise, a BERA is warranted (USEPA 1997, 2000, 2001a). If a BERA is indicated, the information developed in the SLERA is used to help focus the BERA. The BERA is more complex than the SLERA and uses more realistic and site-specific information about potential exposures and effects in order to evaluate potential ecological risks.

The approach used to assess ecological risks associated with the site is based on the USEPA eight-step process (USEPA 1997, 2000, 2001a), as summarized on Figure 9-1. An expanded view of the USEPA eight-step process is provided on Figure 9-2. As illustrated on Figure 9-2, the USEPA paradigm divides Step 3 into two parts, Step 3a and Step 3b (USEPA 2000). Step 3a allows for a more refined analysis of available information, while Steps 3b and beyond focus on further evaluation(s) for only those receptors, media, and constituents identified in previous steps. USEPA (2000) states

that "for the majority of sites, ERA activities will cease after the completion of Step 3a." The details of each step and how they relate to the site ERA are described in the sections below.

The ERA process culminates in clearly defined scientific management decision points (SMDPs). The SMDPs represent critical steps where risk management decision-making occurs. Generally, the following types of decisions are considered at the SMDPs:

1. Whether the available information is adequate to conclude that ecological risks (if any) are negligible and, therefore, there is no need for further action on the basis of ecological risk.
2. Whether the available information is inadequate to make a decision at this point and the ecological risk assessment process should continue.
3. Whether the available information indicates a potential for adverse ecological effects and a more thorough assessment or remediation is warranted.

The remainder of the ERA is organized as follows:

- Ecological Risk Assessment Dataset Evaluation
- Screening-Level Ecological Risk Assessment
- Baseline Ecological Risk Assessment

9.2 Ecological Risk Assessment Dataset Evaluation

A statistical summary of the surface soil data (0 to 1 foot bgs) is provided in Table 9-1. This table includes the number of detected samples, the minimum and maximum detected samples, the range of the detection limits, the maximum concentration, and the location of the maximum detected concentration.

9.3 Screening-Level Ecological Risk Assessment

This SLERA conservatively estimates potential risks that may affect ecological receptors. The SLERA typically compensates for uncertainty in a precautionary manner by incorporating numerous conservative assumptions. The outcome of the SLERA is the conclusion that either there is a high probability that ecologically significant risks are not posed to receptors, or that further assessment is warranted. Consistent with USEPA (1997) guidance, the SLERA for the site is comprised of the following steps:

- Screening-Level Problem Formation

- Screening-Level Ecological Effects Evaluation
- Screening-Level Exposure Estimate and Risk Calculation
- Scientific Management Decision Point

9.3.1 Screening-Level Problem Formulation

Step 1 of the SLERA consists of both a screening-level problem formulation and a screening-level ecological effects evaluation. The screening-level problem formulation presents the background information, including a site characterization, potential ecological receptors, ecosystem characteristics, and information regarding the sources and effects of the potential chemicals (USEPA 1998). This information is used to develop a Conceptual Site Model (CSM) that illustrates the potential relationships between stressors, pathways, and receptors.

The following sections are included in the problem formulation:

- Environmental Setting
- Toxicological Profiles
- Media of Concern
- Potentially Exposed Receptors
- Potentially Complete Exposure Pathways
- Assessment and Measurement Endpoints

9.3.1.1 *Environmental Setting*

This section describes the ecological habitat at the site based on observations made by Law personnel during a site visit conducted in January 2002 and by ARCADIS personnel in October 2008. Photographs of the site are presented in Appendix K, Photo Log.

The principal habitat types of the site are managed grassland and neighboring forestland. Managed grasslands are typified by planted grass of one or more species maintained by mowing, application of fertilizers, landscaping, etc. Common fauna includes earthworms and other soil-dwelling invertebrates, birds such as robins, and mammals, such as shrews, rabbits, and raccoons. Beyond the drainage ditches, the neighboring forestland consists mainly of mixed hardwood bottomland forest with a few interspersed pines. Characteristic flora of this habitat type includes long-leaf pine (*Pinus pa/ustris*), loblolly pine (*P.taeda*), sweetgum (*Liquidambar styraciflua*), blackgum (*Nyssa sy/vatica*), live oak (*Quercus virginiana*), southern red oak (*Q. facata*), white

oak (*Q. alba*), water oak (*Q. nigra*), and magnolia (*Magnolia sp*.). Saw-palmetto (*Serrenoa repens*) and honeysuckle (*lonicera sp.*) are commonly found as two of several understory plants. Fauna includes a wide variety of birds and mammals, including white-tailed deer (*Odocoileus virginianus*), wild turkey (*Meleagris gallopavo*), and gray squirrel (*Scurius carolinensis*).

Overall, topography gently slopes toward the Springfield Canal located 3,600 feet to the west. The Springfield Canal flows southwest before emptying into the Little Ogeechee River. Five and a half miles downstream of HAAF, the Little Ogeechee River is classified, according to the Georgia Water Use Classifications and Water Quality Standards, as a water "generally supporting shellfish" (Georgia EPD 2009). Depth to the water table at the site varies from approximately 2 feet to 5 feet bgs with a gradient on the slope of about 0.02 ft/ft. The surficial aquifer is separated from the Floridian aquifer by a thick confining unit of clay. Recharge to the surficial aquifer occurs through precipitation on land directly above the aquifer.

Drainage ditches are located throughout the HAA-17 site, but most have intermittent flow that is governed by precipitation runoff. Only one drainage ditch, located to the southeast of former USTs 25 and 26, has any consistent amount of surface water. In general, the ditches remain dry during periods of droughts and swell during rain events. As a result, they appear to be intermittent drainage conveyance, and any existing water provides at best an extremely marginal habitat for aquatic life.

9.3.1.2 *Toxicological Profiles*

The mechanisms of ecotoxicity for constituents detected at the site vary depending on a wide range of factors, such as concentrations, receptor species, the exposure route (e.g., ingestion or direct contact), and physical factors (e.g., pH, temperature, oxygen levels, water hardness). Some of the effects that could be observed in wildlife are mortality, reduced reproductive ability, decreased fertility, decreased offspring survival, alteration of immune and behavioral function, decreased hatching success of eggs/larvae, and retarded growth (USEPA 2001b). The remainder of this subsection discusses mechanisms of ecotoxicity for chemicals detected at the site. These descriptions are presented without consideration of concentrations because the descriptions are intended to convey an understanding of potential effects, rather than to describe the concentrations at which these effects might occur.

Volatile Organic Compounds – VOCs tend to attenuate rapidly in surface soil, sediment surface water, and groundwater as a result of their inherent volatility. Although the

effects of VOCs on ecological receptors are not well-understood, there have been extensive inhalation studies of the effects of VOCs under laboratory conditions. Inhaled volatile organics are typically metabolized in the body (often the liver), which may cause liver damage (depending on the organism) or the release of more toxic secondary metabolites. VOCs or their metabolites may also cause neurological damage, and many are mutagenic or carcinogenic. Additionally, some VOCs are fetotoxic and/or teratogenic (USEPA 2005).

Polynuclear Aromatic Hydrocarbons (PAHs) – PAHs (such as benzo(a)pyrene, chrysene, fluoranthene, and pyrene) are often released as a result of human activities, such as the incomplete combustion of fossil fuels or other organic materials. Some of these compounds are persistent and are known to be mammalian carcinogens, though the ecological effects of PAHs that are not carcinogenic are not well understood. Most PAHs are sorbed to solid particles in the environment, which radically reduces the bioavailability and toxicity of the sorbed PAHs. PAHs may be transformed by biotic and abiotic processes in the environment, and may bioaccumulate. PAHs have been shown to cause changes in liver enzymes and to perturb cell membranes but, in general, are not viewed as acutely toxic. Sublethal effects attributed to PAHs in aquatic animals include reduced reproductive ability and fertility, developmental abnormalities, delayed or retarded maturation, histological changes, and carcinogenesis (Neff 1985).

Inorganics – Many trace inorganics (e.g., cobalt, copper, chromium, iron, manganese, nickel, molybdenum, selenium, and zinc) are important in plant and animal nutrition, but the optimal concentration ranges are usually narrow (Leland and Kuwabara 1985). Other inorganics are nonessential, such as lead, cadmium, and mercury, and are toxic to receptors at very low concentrations. Mechanisms of toxicity depend on the nature of the reactivity of the inorganic itself (Efroymson et al. 1997a). They may alter or inhibit enzyme activity, interfere with deoxyribonucleic acid (DNA) synthesis or electron transport, or block uptake of essential elements. Little is known about mechanisms of toxicity of constituents in earthworms (Efroymson et al. 1997b).

In general, trace metals (such as arsenic, barium, beryllium, chromium, copper, lead, and zinc) are better understood than some classes of organic compounds with respect to their potential adverse impacts on aquatic wildlife (Newman 1998). Chromium, copper, and zinc are essential for healthy enzyme function, and some organisms cannot survive without these metals. However, these naturally occurring constituents may cause adverse effects when exposure occurs at concentrations that significantly exceed background concentrations. The toxicity and effects of trace metals may be greatly influenced by pH, hardness, and organic carbon content of the water in which

they occur (Leland and Kuwabara 1985). Imbalances in the essential trace metals may cause a decrease in photosynthetic ability, poor spawning/hatching success, teratogenesis, susceptibility to predation and disease, reduced growth, mortality, histopathological changes, organ dysfunction of the liver or kidneys, neurological defects, changes in respiration and osmoregulation, and anemia. Some metals may bioaccumulate, but this mechanism is thought to be a less important ecological concern. Because these constituents are naturally occurring, many organisms have a capacity (albeit limited) to biotransform and/or eliminate naturally occurring inorganics (Newman 1998; Leland and Kuwabara 1985).

9.3.1.3 *Media of Concern*

The site-specific CSM is depicted on Figure 9-3. Surface soil is the primary environmental media at the site with which contact by ecological receptors is possible. There are no direct seeps of groundwater to soil that could serve as foraging grounds for ecological receptors. Furthermore, as discussed in Section 9.3.1.1, the drainage ditches only temporarily hold surface water and, for the most part, they are covered with terrestrial grass. The limited portions of the drainage ditches that do hold water do not provide suitable habitat for aquatic life (i.e., fish and benthic invertebrates). The lack of aquatic life in the drainage ditches prevents any upper-trophic level birds or mammals from foraging in the ditches. As a result, groundwater, surface water, and sediment are not considered to be direct and complete exposure pathways and are therefore not identified as media of concern for ecological receptors at the site.

9.3.1.4 Potentially Exposed Receptors

The identification of the categories of receptors most likely to be exposed helps to focus the SLERA. Potentially exposed receptors are designated based on the available habitat associated with the site. Section 9.3.1.1 provides a description of the habitat associated with the site as well as wildlife observed or potentially present in these habitats. As described above and presented in the CSM, potentially exposed receptors include terrestrial wildlife (i.e., mammals and birds), soil invertebrates, and terrestrial plants.

As part of the identification of potentially exposed receptors, it is necessary to identify protected species that may be exposed to site constituents. The listings of threatened and endangered as well as tracked, rare, and unusual species were obtained from the Georgia Department of Natural Resources (GADNR 2010) and the U.S. Fish and Wildlife Service (USFW 2010) online databases for Chatham County. No threatened or endangered species were identified at the site, and the habitat present at the site was

found not to be suitable to support threatened or endangered species. The list of threatened and endangered species and habitats is presented in Table 9-2.

9.3.1.5 Potentially Complete Exposure Pathways

A complete exposure pathway is "one in which the chemical can be traced or expected to travel from the source to a receptor that can be affected by the chemicals" (USEPA 2001b). Therefore, a constituent, its release and migration from the source, a receptor, and the mechanisms of toxicity of that constituent must be demonstrated before a complete exposure pathway can be identified. The table below summarizes the potential exposure routes for the site, which are also illustrated in the CSM (Figure 9-3).

Ecological Community	Possible Exposure Routes
Terrestrial wildlife (i.e., birds and mammals)	Incidental ingestion of surface soil Direct contact of surface soil Ingestion of prey tissue
Terrestrial soil invertebrates (i.e., earthworms)	Direct contact of surface soil Ingestion of surface soil
Terrestrial plants	Direct contact of surface soil

9.3.1.6 Assessment and Measurement Endpoints

Assessment endpoints are the explicit expression of the ecological values to be protected (USEPA 1997). The selection of assessment endpoints depends on knowledge of the receiving environment, knowledge about the constituents released (including their toxicological properties and the relevant concentrations), and understanding of the values that will drive risk management decisions (Suter et al. 1995). Consistent with USEPA (1998) guidance, two elements are required to define an assessment endpoint: the specific valued ecological entity and the characteristic of the entity that is important to protect.

USEPA guidance provides that Superfund remedial actions should be designed not to protect organisms on an individual basis, but to protect local populations and communities of biota (USEPA 1999). Thus, the first management principle for conducting an ecological risk assessment is to provide a basis for selecting a response action “that will result in the recovery and/or maintenance of healthy local populations/communities of ecological receptors that are or should be present at or

near the site" (USEPA 1999). The USEPA (1999) guidance also notes that, as an exception to this rule, threatened and endangered species may be evaluated on an individual basis. In concept, however, this focus is justified on the basis that, given the stressed nature of a threatened and endangered population, effects on individuals could impact the local population.

Assessment endpoints for the site include the following:

- Sustainability of mammal populations
- Sustainability of avian populations
- Sustainability of terrestrial plant communities
- Sustainability of terrestrial soil invertebrate communities (i.e., earthworms)

Because direct measurement of assessment endpoints is often difficult or infeasible, surrogate endpoints, called measurement endpoints, are used to provide the information necessary to evaluate whether the values associated with the assessment endpoint are being protected. A measurement endpoint is defined as a measurable ecological characteristic and/or response to a stressor (USEPA 1998). Hazard quotients (HQs) serve as the measurement endpoints for the SLERA. The HQ is the ratio of the exposure point concentration (EPC) of a given constituent to its ecotoxicity screening value (ESV). Exposure point concentrations in the SLERA are identified as the maximum concentrations of chemicals.

ESVs are chemical concentrations in environmental media below which there is negligible risk to receptors exposed to those media (USEPA 2000). ESVs are generally based on effects such as mortality and reproductive impairment, and are assumed to be widely applicable to sites around the United States for screening purposes (USEPA 1997). For most constituents and receptors, the data available to generate ESVs are limited and related to effects on individual organisms, rather than subpopulations or communities. Given these limitations, conservative assumptions are used to ensure that the ESVs are protective. Where ESVs are published, users are cautioned to recognize that such screening values do not constitute remediation goals, since they are sometimes based on highly conservative exposure assumptions and/or wildlife receptors that may not be applicable to a particular site. As such, their robustness and biological association with the assessment endpoint may be limited.

9.3.2 Screening-Level Ecological Effects Evaluation

The screening-level ecological effects evaluation (also Step 1 of the SLERA) involves the identification of ESVs for each detected constituent at the site. As described above,

ESVs are based on conservative assumptions to ensure that the values are protective and applicable to a wide variety of sites. Regardless, ESVs provide a starting point for the SLERA as they provide an indication of the worst-case measure of the potential for adverse impacts.

The ESVs used for this SLERA are consistent with Georgia EPD recommendations for HSRA and were identified from the USEPA Region 4 (R4) Ecological Screening Values (USEPA 2001b). These values represent only highly conservative ESVs, as is appropriate for a SLERA (USEPA 1997, 1998, 2000). These ESVs do not represent the range of ESVs that are available from a variety of other regulatory and scientific sources.

9.3.3 Screening-Level Exposure Estimate and Risk Calculation

The screening-level exposure assessment is Step 2 of the SLERA process and consists of the identification of exposure estimates, risk calculations, and the evaluation of uncertainties (USEPA 1997, 2001a). These form the lines of evidence necessary to support the SMDP at the conclusion of the SLERA.

Exposure estimates for the SLERA were identified using the maximum detected concentrations for each constituent (USEPA 1997, USEPA 2001a). This conservative approach is appropriate for a SLERA. Exposure estimates are presented in Table 9-3.

Potential risks to ecological receptors are calculated by dividing the exposure estimates (i.e., the maximum detected concentrations) by the conservative ESVs. The resulting ratio, the HQ, is a highly conservative surrogate for one or more of the assessment endpoints identified in Section 9.3.1.5. HQs equal to or less than a value of 1 (to one significant figure) indicate that adverse ecological impacts are unlikely (USEPA 1997). HQs greater than 1 indicate that further evaluation is warranted. Therefore, the constituents with HQs greater than 1 are carried forward as constituents of potential ecological concern (COPECs) into Step 3a of the BERA.

Results of the SLERA are presented in Table 9-3 and indicate that only two constituents (toluene and chromium) in surface soil (0 to 1 feet bgs) had maximum HQs greater than 1, and therefore were identified as COPECs.

9.3.4 Scientific Management Decision Point

The SMDP represents a critical step in the ecological risk assessment process where risk management decision-making occurs (Figures 9-1 and 9-2). Generally, the following types of decisions are considered at this SMDP:

- Whether the available information is adequate to conclude that ecological risks are negligible and, therefore, there is no need for remediation to mitigate ecological risks.
- Whether the available information is not adequate to make a decision at this point, and the ecological risk assessment process should continue.
- Whether the available information indicates a potential for adverse ecological effects, and a more thorough assessment or remediation is warranted.

As described above, the SLERA for the site identified two COPECs; therefore, the possibility of adverse effects to ecological receptors cannot be ruled out, and the initial step of a BERA is warranted.

9.4 Baseline Ecological Risk Assessment

The BERA is designed to more realistically identify the nature and extent of ecological risks to support informed risk management decision-making (USEPA 1997, 2000). This approach contrasts with the SLERA, which is designed to conservatively rule out further evaluation of constituents and media that clearly do not pose a significant ecological risk. As indicated on Figure 9-1 and Figure 9-2, the BERA process involves numerous steps. These steps are executed in a manner appropriate to the conditions at any individual site (USEPA 1997, 2000).

The USEPA process shows that the BERA begins with Step 3, Problem Formulation (Figure 9-1). A more detailed look at Step 3 shows that it is typically divided into Step 3a and Step 3b (Figure 9-2). “Step 3a serves to introduce information to refine the risk estimates from Steps 1 and 2. For the majority of sites, ERA activities will cease after Step 3a” (USEPA 2000). Step 3a provides a “reality check” so that “sites that do not warrant further study are not carried forward” (USEPA 2000). Step 3b, the “additional problem formulation,” is initiated only for those sites that warrant further study.

This section presents Step 3a of the BERA for the site. This approach is consistent with the following ecological risk assessment guidance and guidelines:

- ECO-Update: Role of Screening-level Risk Assessments and Refining Contaminants of Concern in Baseline Ecological Risk Assessments (USEPA 2001a)
- Ecological Risk Assessment Guidance for Superfund (USEPA 1997)
- Guidelines for Ecological Risk Assessment (USEPA 1998)

Step 3a of the BERA is a refinement of the Step 2 exposure estimates and risk characterization, and focused only on the COPECs and media that progress beyond the SLERA. Since further ecological evaluation was indicated, it was conducted with the intent to be an "incremental iteration of exposure, effects, and risk characterization" (USEPA 2001a). Therefore, the assumptions used in Step 3a are refinements of the conservative estimates of exposure and toxicological impacts to site-specific (or receptor-specific) estimates of exposure and alternative screening values (ASVs) (USEPA 2001b). Risks were recalculated using these refined assumptions to further eliminate the number of COPECs retained for further evaluation in the BERA process.

Step 3a involves the following:

- Refinement of COPECs
- Refinement of Exposure Point Concentrations
- Alternative Screening Values
- Risk Characterization
- Uncertainties
- Summary and Conclusions

9.4.1 Refinement of COPECs

Refinement of the COPECs identified in the SLERA is necessary to help focus and streamline further risk assessment activities for the constituents that pose the greatest potential risk to ecological receptors (USEPA 1997, 2001a). It is intended as an "incremental iteration of exposure, effects, and risk characterization" (USEPA 2001a). The outcome of this screening is that constituents are either excluded as COPECs or retained for further evaluation in the BERA process. The process for refining the COPECs generally consists of two steps: 1) comparing maximum detected concentrations with background concentrations; and 2) using the upper confidence limits (UCLs) of the mean of the data as the EPCs and comparing those to alternative ESVs.

9.4.1.1 Comparison to Background

The comparison to background step is applicable for inorganic constituents, and is not applicable for organic constituents, under most circumstances, because these constituents are not naturally occurring. Soil background levels for inorganics (Table 9-4) were identified from the Final Compliance Status Report for the Fire Training Station at HAAF (Law 2002) and were incorporated into the BERA.

9.4.1.2 Exposure Point Concentrations

EPCs based on the UCLs of the mean of the data could not be calculated because of the small sample size. Therefore, the maximum concentrations were again used to screen the data.

9.4.1.3 Alternative Screening Values

An expanded list of ecological screening values (ASVs) was used to screen the data to provide insight into the type or likelihood of impacts (e.g., acute vs. chronic effects, threshold effect levels, severe effect levels, median effect levels, probable effect levels). ASVs used for this BERA were obtained from the following sources:

- USEPA Ecological Soil Screening Levels (EcoSSLs) (2005)
- USEPA Region 5 Ecological Screening Levels (USEPA 2003)

A summary of the refined HQs and their likelihood for adverse impacts based on direct contact with surface soil is discussed in the following section and is presented in Table 9-4.

9.4.2 Risk Characterization

This section presents the results of the ecological risk assessment and discusses the potential risks to ecological receptors. Potential risks are discussed quantitatively, based on the relative magnitude of the HQs.

The two COPECs from the SLERA were carried forward into the BERA. These COPECs were based on small datasets; therefore, the UCLs could not be calculated and the maximum concentrations were used to screen the data. For chromium, the maximum concentration is below the background concentration (7.7 mg/kg); thus chromium is not considered to be a site-related COPEC. The Region 5 ecological screening value for soil was used to screen the maximum detected concentration of

toluene at the site and the resulting HQ is below 1. Therefore, no potential risks exist for ecological receptors exposed to surface soil at the site.

9.4.3 Uncertainties

A BERA is designed to evaluate potential risks to ecological receptors by incorporating iterative changes that reduce uncertainty (when possible). All risk assessments have some level of uncertainty associated with them; however, it is generally not substantial enough to affect the results. Uncertainties associated with this ERA are summarized in Table 9-5.

9.4.4 Summary and Conclusions

This ERA presents the results of a SLERA and Step 3a BERA for ecological receptors at the site based on HQs. An HQ less than or equal to a value of 1 indicates that adverse impacts to wildlife are considered unlikely (USEPA 2004). An HQ greater than 1 indicates that adverse effects of some kind may have occurred in the past or may occur in the future and that further analysis of potential ecological risks may be warranted.

Risks were characterized for ecological receptors at the site by considering direct contact with COPECs in surface soil (0 to 1 foot bgs). Additional media including surface water, sediment, and groundwater were ruled out because they do not present a complete exposure pathway to ecological receptors at the site.

Overall potential ecological risks do not exist for exposure to site surface soil. All chemicals have HQs below 1. Based on this assessment, there are no ecological risks at the site and no further evaluation is required.

10. Public Involvement

The opportunity for public involvement will be provided in accordance with the Georgia EPD Hazardous Site Response Act, Chapter 391-3-19-.06(5). A copy of the CSR will be made available to the public at the Live Oak Public Library, Chatham County, located at 2002 Bull Street, Savannah, GA 31419. Additionally, a public notice announcing that the CSR is available for inspection by the public will be published in the *Savannah Daily News* and in *The Frontline*, a Fort Stewart publication. A statement including the following will be included in the public notice:

> "*The Georgia Environmental Protection Division, Department of Natural Resources, State of Georgia (GAEPD) has placed this site on the Hazardous Sites Inventory pursuant to its authority under the Hazardous Site Response Act and Rules promulgated thereunder. As required by the Rules for Hazardous Site Response, the responsible party for this site was required to investigate the site and submit a compliance status report to GAEPD summarizing the results of that investigation. GAEPD is currently reviewing the compliance status report to determine if corrective action is needed for regulated substances that have been released at this site. Before GAEPD decides whether corrective action is needed, the public has the opportunity to review the compliance status report and provide comments to GAEPD about the report.*"

The notice will include the announcement of a 30-day public comment period beginning on the date of the notice and will provide the location of the above-referenced library where the CSR can be viewed. The public notice will also provide the name, address, and telephone number of the responsible party or its designated contact person and the Georgia EPD contact person to whom written or oral comments can be made. Georgia EPD will be provided with an exact copy of the public notice within 15 days of the publication of the notice. The Chatham County government will be provided with the same written notice within 7 days of the submittal of the CSR to Georgia EPD.

11. Conclusions and Conceptual Site Model

Multiple soil and groundwater investigations demonstrate that the former UST tank farm area is likely the primary source of TCE impacts in the investigation area. Investigations conducted in the areas upgradient of former USTs 25 and 26 yielded a few low detections of dissolved TCE and degradation compounds in groundwater, thus providing no evidence of a source upgradient of the former UST locations. The detected concentrations in monitor well 1290-MW-8D and DPT samples in the same area proximate to the location of the former drycleaners consist of chlorinated ethenes and volatile aromatics with a maximum concentration of 7.7 µg/L of TCE. There were no known releases in this area and these minor impacts could be related to any of a large number of historic activities at Hunter Army Airfield. Similarly, the detected concentrations in the Purge Facility area were very low. The highest concentration in the area was 34.8 µg/L of TCE in the sample from AT-MW-01 taken in 2006. The concentration in this well decreased to 14 µg/L TCE in 2010. Other sample results from monitor wells and DPT indicate these are isolated detections. There have not been any reported releases in the area. The areas west of the groundwater divide around and north, south, and west of Building 1290 do not have detections of any VOCs.

In the former UST 25 and 26 area, TCE impacts have been observed predominantly at the 20- to 30-foot and 30- to 40-foot bgs intervals. The areal extent of the TCE impacts decreases with depth, and the highest TCE concentrations occur predominantly at the 20- to 30-foot interval, which is just above an interval of increasing fines. MIP points and boring samples from locations near the southwest corner of Building 1345 had the highest TCE impacts. Additional chloroethene COCs in the former UST 25 and 26 area are DCE (1,1- and 1,2-) and VC, which are generally indicative of degradation. There are many potential biological and abiotic reactions that may degrade TCE in the subsurface, under both aerobic and anaerobic conditions. At this site, groundwater parameters indicate that the aquifer across the site is anaerobic and reductive and that anaerobic dechlorination processes are resulting in the degradation of the TCE and generation of the DCE and VC. A preliminary evaluation of likely transport velocities and release timeframe indicates that degradation rates are sufficient to prevent significant downgradient impacts. However, TCE degradation product concentrations are relatively low and additional evaluation of attenuation mechanisms will be conducted as part of the CAP.

Based on the results of monitor well sampling, the downgradient and upgradient extents of TCE- and VOC-impacted groundwater have been delineated. The northern

extent of the investigation area has also been delineated. In monitor well H17-MW-18D at the southern extent of the investigation area, TCE and three other VOCs were detected at concentrations less than 6 µg/L. The TCE concentration was below the Type 1 RRS and USEPA MCL.

Vertical delineation was also achieved. Monitor well H17-MW-24 was installed for vertical delineation purposes with a screen interval between 55 to 65 ft bgs at the location of the highest TCE concentrations. VOCs were not detected in the sample from this well.

Based on the results of the investigation conducted by ARCADIS and previous investigations, the following summary of conclusions is presented:

- With one exception, the full extent of TCE in groundwater at HAA-17 is delineated horizontally and vertically. The exception is the area south of the purge facility where TCE was detected at 2.6 µg/L in H17-MW-18D.
- The highest TCE impacts were around the former UST 25 and 26 area. Although diffuse, the source appears centered in the area of historic soil borings AF-52 and AF-53 located between former USTs 25 and 26 and Building 1345.
- Other minor TCE and VOC impacts were detected in the purge facility area and the former dry cleaner area. These impacts are upgradient of the former UST 25 and 26 area and appear to be unrelated to those at the former tank farm.
- Other constituents detected in groundwater during investigations in related areas were inorganic materials barium and chromium, which were detected in the area of the purge facility. None of the concentrations exceeded the Type 1 RRS.
- The data for soil collected above the groundwater were compared to the RRS. None of the maximum detected concentrations exceeded the Type 1 standards.
- The groundwater data were compared to the Types 1 through 4 RRS. Acetone, benzene, chloroethane, 1,1-DCE, total 1,2-DCE, cis-1,2-DCE, 1,3-dichloropropene, isopropylbenzene, methylene chloride, 1,1,2,2-tetrachloroethane, TCE, and vinyl chloride exceeded the Type 1 and Type 3 groundwater RRS. Acetone, benzene, total 1,2-DCE, cis-1,2-DCE, TCE, and vinyl chloride were detected in groundwater at a maximum concentration exceeding the Type 2 RRS. Only benzene, TCE, and vinyl chloride exceeded the Type 4 RRS for groundwater.
- Detections of acetone and methylene chloride are likely the result of laboratory contamination. These VOCs are common laboratory contaminants.
- Detections of 1,3-dichloropropene, isopropylbenzene, methylene chloride, and 1,1,2,2-tetrachloroethane were isolated and characterized by very low-level concentrations.

- The maximum sediment and surface water concentrations were all below the soil Type 1 RRS and groundwater Type 1 RRS/IWQS, respectively. Therefore, it is unlikely that the constituents detected in sediment and surface water are present at concentrations that would pose a risk to human health.
- The current and historic groundwater concentrations were evaluated for the vapor intrusion pathway. The results indicated that the risks were above the EPD HSRA benchmark of 1×10^{-5}. The noncancer hazards were above the benchmark of 1. Although the calculated risks are above the regulatory benchmarks, given the use of the buildings at the site and the time individuals are present in the buildings, it is unlikely that there is a significant current risk from inhalation of vapors migrating into buildings. All significant buildings in the impacted area are constructed on slabs with a vapor barrier below grade.
- Based on the assessment of impacted areas and ecological conditions, there are no ecological risks at the site.

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ARCADIS MALCOLM PIRNIE

Tables

ARCADIS MALCOLM PIRNIE

Figures

ARCADIS MALCOLM PIRNIE

Appendix A

Slug Test Analysis Reports

ARCADIS MALCOLM PIRNIE

Appendix B

MIP Logs

ARCADIS MALCOLM PIRNIE

Appendix C

Laboratory Analytical Reports

ARCADIS MALCOLM PIRNIE

Appendix D

Monitor Well Installation Logs

ARCADIS MALCOLM PIRNIE

Appendix E

Lithologic Boring Logs

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Appendix F

Groundwater Field Sampling Sheets

ARCADIS MALCOLM PIRNIE

Appendix G

NFA Letter for UST 25/26

ARCADIS MALCOLM PIRNIE

Appendix H

Background Data

ARCADIS MALCOLM PIRNIE

Appendix I

Sampling and Analysis Procedures

ARCADIS MALCOLM PIRNIE

Appendix J

Pond 35 Information

ARCADIS MALCOLM PIRNIE

Appendix K

Photo Log

Appendix L

CSR Checklist

ARCADIS MALCOLM PIRNIE

Appendix M

Historical Site Use Data

Table 5-1
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)
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	24.40	24.26
AF-69	10/17/2002	50.0	40.2 - 45.2	D	2-in. PVC	734337.7	979548.7	24.70	23.83
AF-70	10/16/2002	21.0	15.0 - 20.0	S	2-in. PVC	734417	979673.9	24.40	24.00
AF-71	10/17/2002	21.0	15.3 - 20.3	S	2-in. PVC	734418.8	979801.5	23.20	23.06
AF-72	10/16/2002	13.0	2.5 - 12.5	S	2-in. PVC	734017.7	979773.2	17.80	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 5-1
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									
1290-MW-01D	5/2007*	--	19.95 - 29.95	D	1-in. PVC	735508.85	977102.38	36.60	36.40
1290-MW-01S	5/2007*	--	5.72 - 15.72	S	1-in. PVC	735513.98	977100.64	36.70	36.43
1290-MW-02D	5/2007*	--	19.90 - 29.90	D	1-in. PVC	735420.23	977197.88	36.30	36.05
1290-MW-02S	5/2007*	--	4.3 - 14.3	S	1-in. PVC	735423.99	977200.2	36.30	36.05
1290-MW-03D	5/2007*	--	19.59 - 29.58	D	1-in. PVC	735289.03	977078.47	36.54	b
1290-MW-03S	5/2007*	--	6.70 - 11.70	S	1-in. PVC	735288.83	977069.78	36.59	b
1290-MW-04D	5/2007*	--	19.91 - 29.91	D	1-in. PVC	735425.92	977010.12	36.50	36.25
1290-MW-04S	5/2007*	--	5.66 - 15.66	S	1-in. PVC	735420.53	977010.17	36.50	36.23
1290-MW-05D	5/2007*	--	20.0 - 30.0	D	1-in. PVC	735980.3	977154.14	36.40	36.16
1290-MW-05S	5/2007*	--	5.80 - 15.80	S	1-in. PVC	735978.23	977150.92	36.40	36.14
1290-MW-06S	5/2007*	--	4.0 - 9.0	S	1-in. PVC	736237.28	977477.86	36.30	36.03
1290-MW-07D	5/2007*	--	24.6 - 34.6	D	1-in. PVC	734742.41	975723.2	37.20	36.93
1290-MW-07S	5/2007*	--	7.89 - 17.89	S	1-in. PVC	734738.23	975725.28	37.30	36.92
1290-MW-08D	5/2007*	--	14.50 - 24.50	D	1-in. PVC	735083.08	977800.64	37.00	36.72
1290-MW-08S	5/2007*	--	5.40 - 15.40	S	1-in. PVC	735078.48	977799.65	36.90	36.53
1290-MW-09D	5/2007*	--	20.39 - 30.39	D	1-in. PVC	734986.65	978528.67	37.70	37.35
1290-MW-09S	5/2007*	--	5.55 - 15.55	S	1-in. PVC	734989.07	978523.22	37.80	37.39
1290-MW-12D	5/2007*	--	24.3 - 34.3	D	1-in. PVC	735583.27	976441.49	37.50	37.27
1290-MW-12S	5/2007*	--	7.6 - 17.6	S	1-in. PVC	735576.76	976442.09	37.50	37.29
1290-MW-13D	5/2007*	--	20.01 - 30.01	D	1-in. PVC	734833.43	977242.99	37.10	36.81
1290-MW-13S	5/2007*	--	5.59 - 15.59	S	1-in. PVC	734827.57	977244.61	36.90	36.63
Historical Wells - Unknown									
MW-15	--	--	--	--	--	734550.89	978703.92	31.40	31.30
MW-16	--	--	--	--	--	734429.82	978718.65	30.40	30.33
ARCADIS Investigation - 2010 through 2012									
H17-MW-17S	4/23/2010	18.0	8.0 - 18.0	S	2-in. PVC	735385.6220	978488.9800	36.89	36.76
H17-MW-17D	5/6/2010	45.0	32.0 - 42.0	D	2-in. PVC	735385.2520	978492.2990	37.03	36.79
H17-MW-18D	5/5/2010	45.0	30.0 - 40.0	D	2-in. PVC	733842.1130	977987.2880	34.49	34.29
H17-MW-19S	4/20/2010	20.0	5.0 - 15.0	S	2-in. PVC	733735.8080	979153.1090	19.31	19.23
H17-MW-20D	5/11/2010	45.0	18.0 - 28.0	D	2-in. PVC	734165.4660	979743.7200	17.45	19.75
H17-MW-21S	4/22/2010	17.0	7.0 - 17.0	S	2-in. PVC	734333.6702	980145.7400	19.72	19.33
H17-MW-21D	5/11/2010	45.0	25.0 - 35.0	D	2-in. PVC	734340.3702	980147.7215	19.75	19.33
H17-MW-22S	4/21/2010	17.0	7.0 - 17.0	S	2-in. PVC	733627.4820	979881.0850	18.88	18.66
H17-MW-22D	5/5/2010	45.0	25.0 - 35.0	D	2-in. PVC	733626.0170	979887.3480	18.70	18.36
H17-MW-23D	12/6/2011	45.0	40.0-45.0	D	2-in. PVC	734364.58	979219.11	29.42	28.90
H17-MW-24	12/21/2011	65.0	55.0-65.0	D	2-in. PVC	734293.17	979627.25	23.05	22.59
H17-MW-25D	12/6/2011	35.0	25.0-35.0	D	2-in. PVC	733926.66	979419.70	18.43	18.64
H17-MW-26S	12/7/2011	17.0	7.0-17.0	S	2-in. PVC	733642.69	979501.85	18.24	17.93
H17-MW-26D	12/7/2011	35.0	25.0-35.0	D	2-in. PVC	733634.89	979501.00	18.36	18.04
H17-MW-27S	12/20/2011	17.0	7.0-17.0	S	2-in. PVC	734003.38	980038.52	19.61	19.33
H17-MW-27D	12/20/2011	35.0	25.0-35.0	D	2-in. PVC	733998.61	980036.84	19.57	19.58
H17-MW-29D	12/21/2011	45.0	40.0-45.0	D	2-in. PVC	743528.46	978986.00	30.73	29.72

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 5-2
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	AF-07	AF-07	AF-08	AF-08
		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
		Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
		Screen Interval	2.5-12.5	2.5-12.5	2-12	2-12	2-12	2-12	2-12	2-12	2-12	2-12	2-12	2.5-12.5	2.5-12.5	2.5-12.5	2.5-12.5
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
1,1,2,2-Tetrachloroethane		0.2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
1,1,2-Trichloroethane	5	5	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
1,1-Dichloroethane		4,000	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
1,1-Dichloroethene	7	7	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
cis-1,2-Dichloroethene	70	70	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 10	< 200	< 2	< 2
1,2-Dichloropropane	5	5	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
2-Butanone		2,000	< 5 R	< 5	< 5 R	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 500	< 5	< 5
2-Hexanone			< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**40.2**	< 500	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 25	< 500	< 5	< 5
Acetone		4,000	< 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**
Benzene	5	5	< 2	< 1	**8.4**	**0.82 J**	**2.2**	< 1	< 2	< 1	**11.8**	**14.1**	**4.7**	**9130**	**9920**	< 2	**0.2 J**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 5	< 1	< 25	< 100	< 5	< 1
Bromoform			< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Bromomethane		10	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Carbon disulfide		4,000	< 5	< 5	5 JBU	< 5	< 5 J	< 5	< 5 J	< 5	< 5	< 5 J	< 5	< 25 J	< 500	**1.1 J**	< 5
Carbon tetrachloride	5	5	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Chloroethane			< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Chloroform		100	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Chloromethane		3	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
cis-1,3-Dichloropropene			< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Dibromochloromethane			< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 2	< 1	< 2	1 JBU	**1.6 J**	1 JBU	< 2	< 1	**9.5**	**8.6**	**4.7**	**493**	**645**	< 2	1 JBU
Methylene chloride	5	5	**1.2 J**	< 5	**0.54 J**	< 5	< 2	< 5	< 2	< 5	< 2	< 2	< 5	13.1 BU	< 500	< 2	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Tetrachloroethene	5	5	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Toluene	1,000	1,000	< 2	< 1	**0.65 J**	< 1	< 2	< 1	< 2	< 1	**3**	**3.2**	**0.82 J**	**24.8**	**39.2**	< 2	< 1
Trichloroethene	5	5	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Vinyl chloride	2	2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 10	< 100	< 2	< 1
Xylenes (total)	10,000	10,000	< 6	< 3	< 6	< 3	**0.96 J**	**3 JB**	< 6	< 3	**46.5**	**43.1**	**20.9**	**246**	300 JBU	< 6	< 3

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-09	AF-09	AF-11	AF-11	AF-12	AF-12	AF-13	AF-13	AF-14	AF-14	AF-15	AF-15	AF-15	AF-16	AF-16
		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	9/28/2000	9/26/1999	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
		Screen Interval	2-12	2-12	1-11	1-11	2.5-12.5	2.5-12.5	2.5-12.5	2.5-12.5	1.4-11.4	1.4-11.4	1.5-11.5	1.5-11.5	1.5-11.5	1.5-11.5	1.5-11.5
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
1,1,2,2-Tetrachloroethane		0.2	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
1,1,2-Trichloroethane	5	5	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
1,1-Dichloroethane		4,000	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
1,1-Dichloroethene	7	7	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
cis-1,2-Dichloroethene	70	70	**3.9**	**3.4**	< 2	< 2	< 4	< 2	**1.5 J**	**1.2 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	5	5	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
2-Butanone		2,000	< 5 R	< 5	< 5 R	< 5	< 10 R	< 5	< 5	< 5	< 5	< 5	< 5 R	< 5 R	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 10 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5 R	**7.4**	< 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**
Benzene	5	5	**11.8**	**7**	< 2	< 1	**23.4**	**33.2**	< 2	< 1	< 2	< 1	**1 J**	< 2	**0.19 J**	< 2	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 5	< 1	< 5	< 1	< 10	< 1	< 5	< 1	< 5	< 1	< 5	< 5	< 1	< 5	< 1
Bromoform			< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Bromomethane		10	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	**2 J**	< 5	< 5	< 5	< 5	< 5 J	< 5
Carbon tetrachloride	5	5	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Chloroethane			< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Chloroform		100	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Chloromethane		3	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
cis-1,3-Dichloropropene			< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Dibromochloromethane			< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	**27.7**	**16.7**	< 2	1 JBU	**54.8**	**94.1**	< 2	**0.17 J**	< 2	**0.064 J**	< 2	< 2	< 1	< 2	< 1
Methylene chloride	5	5	3.9 BU	< 5	< 2	< 5	**2 J**	< 5	< 2	< 5	< 2	< 5	2.9 BU	2 JBU	< 5	< 2	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Tetrachloroethene	5	5	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Toluene	1,000	1,000	< 2	**0.36 J**	< 2	< 1	< 4	**0.29 J**	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Trichloroethene	5	5	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Vinyl chloride	2	2	< 2	< 1	< 2	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1
Xylenes (total)	10,000	10,000	**1.4 J**	< 3	< 6	< 3	**8.5 J**	**3.2**	< 6	**1.2 J**	< 6	< 3	< 6	< 6	< 3	< 6	< 3

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-17	AF-18	AF-18	AF-19	AF-19	AF-20		AF-20	AF-23	AF-23	AF-24	AF-24	AF-25	AF-25	AF-26
		Sample Date	9/26/1999	9/26/1999	9/28/2000	9/26/1999	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
		Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
		Screen Interval	2.5-12.5	1.5-11.5	1.5-11.5	1.5-11.5	1.5-11.5	3-13	3-13	3-13	3-13	3-13	2-12	2-12	0.5-10.5	0.5-10.5	2-12
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
1,1,2,2-Tetrachloroethane		0.2	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
1,1,2-Trichloroethane	5	5	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
1,1-Dichloroethane		4,000	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
1,1-Dichloroethene	7	7	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	**0.66 J**	< 1	< 4
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
cis-1,2-Dichloroethene	70	70	**19.9**	**13.2**	**5.6**	**8.3**	**0.36 J**	**1.7 J**	**2.2**	**2.3**	**5.3**	**8.5**	< 2	< 2	**40.2**	**34**	**27.9**
1,2-Dichloropropane	5	5	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
2-Butanone		2,000	< 5	< 5 R	< 5	< 5 R	< 5	< 5 R	< 5	< 5	**5.9 J**	< 5	< 5	< 5	< 5	< 5	< 10 R
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10
Acetone		4,000	5 JBU	< 5 R	**11.2**	< 5 R	**7.4**	< 5 R	7.4 BU	**7.7**	< 5	**6.6**	5 JBU	< 5	5 JBU	5 JU	< 10
Benzene	5	5	**14**	**10.3**	**5.8**	**3.5**	**0.24 J**	**2.1**	**1.6 J**	**0.55 J**	**1.1 J**	**1.6**	< 2	< 1	**4.8**	**1.6**	**16.6**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 5	< 5	< 1	< 5	< 1	< 5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 10
Bromoform			< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Bromomethane		10	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Carbon disulfide		4,000	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 10
Carbon tetrachloride	5	5	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Chloroethane			< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Chloroform		100	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Chloromethane		3	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
cis-1,3-Dichloropropene			< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Dibromochloromethane			< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 2	< 2	**0.11 J**	< 2	< 1	< 2	< 2	1 JBU	< 2	1 JBU	< 2	< 1	**0.59 J**	< 1	< 4
Methylene chloride	5	5	< 2	4.2 BU	< 5	2.3 BU	< 5	4.5 BU	< 2	< 5	< 2	< 5	< 2	< 5	< 2	< 5	**1.5 J**
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Tetrachloroethene	5	5	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Toluene	1,000	1,000	< 2	< 2	**0.7 J**	< 2	**0.99 J**	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 4
Trichloroethene	5	5	**112**	**1.6 J**	**1.4**	**2.6**	< 1	< 2	< 2	< 1	**1.6 J**	**0.33 J**	< 2	< 1	**243**	**197**	**116**
Vinyl chloride	2	2	< 2	< 2	< 1	< 2	< 1	< 2	< 2	< 1	< 2	< 1	< 2	< 1	**0.6 J**	< 1	< 4
Xylenes (total)	10,000	10,000	< 6	< 6	< 3	< 6	< 3	< 6	< 6	3 JBU	< 6	< 3	< 6	< 3	< 6	< 3	< 12

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-26	AF-27	AF-27	AF-28	AF-28	AF-29	AF-29	AF-30	AF-30	AF-30	AF-30	AF-30	AF-30	AF-30	AF-30
		Sample Date	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	9/26/1999	9/26/1999	9/26/1999	9/26/1999	9/26/1999	9/26/1999
		Sample Type	MW	MW	MW	MW	MW	MW	MW	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	2-12	1-11	1-11	2-12	2-12	2-12	2-12	10-20	11-15	16-20	21-25	26-30	31-35	36-40	41-45
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane		0.2	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1,2-Trichloroethane	5	5	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethane		4,000	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethene	7	7	< 1	< 20	< 1	**0.67 J**	< 1	< 2	< 1	< 2	< 2	< 2	**0.74 J**	**2.2**	**0.62 J**	< 2	< 2
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
cis-1,2-Dichloroethene	70	70	**21.8**	**49.3**	**30.7**	**41.9**	**42.6**	**9.5**	**2.4**	**11.9**	**3.3**	**24**	**33**	**90.3**	**24.3**	**11.3**	**8.7**
1,2-Dichloropropane	5	5	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
2-Butanone		2,000	< 5	< 50 R	< 5	< 5	< 5	< 5 R	< 5	< 5 R	< 5	< 5	< 5 R	< 5	< 5 R	< 5 R	< 5 R
2-Hexanone			< 5	< 50	< 5	< 5	< 5	< 5	< 5	< 5	**14.2**	**15.5**	< 5 J	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 50	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 50	< 5	5 JBU	< 5	< 5	12.4U	**9.8 J**	8.4 BU	10.8 BU	< 5 R	5 JBU	< 5 R	< 5	< 5 R
Benzene	5	5	**11.2**	**5.1 J**	**1.9**	**3.9**	**8.6**	**53.6**	**351**	**3060**	**7670 J**	**2290**	**37.9**	**16.2**	**11**	**6.4**	**5.5**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 50	< 1	< 5	< 1	< 5	< 1	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform			< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromomethane		10	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Carbon disulfide		4,000	< 5	< 50	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5 J	5 JBU	**1.1 J**	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloroethane			< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloroform		100	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloromethane		3	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
cis-1,3-Dichloropropene			< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane			< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 20	< 1	< 2	< 1	< 2	**54.1**	**251**	**500 J**	**168**	**2.7**	**1.3 J**	**0.53 J**	**0.67 J**	**5.5**
Methylene chloride	5	5	< 5	**12.8 J**	< 5	< 2	< 5	**1.2 J**	< 5	**4.4 B**	**2.2**	2 JBU	**0.95 J**	< 2	4 BU	3.4 BU	2 JBU
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	**0.52 J**	< 2	< 2	< 2	< 2	< 2	< 2
Tetrachloroethene	5	5	< 1	< 20	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Toluene	1,000	1,000	**1.9**	< 20	< 1	< 2	**1.2**	< 2	**2.8**	**8.8**	**19**	**5.5**	**0.55 J**	< 2	< 2	< 2	**0.78 J**
Trichloroethene	5	5	**102 J**	**596**	**179**	**60.9**	**56.8**	**11**	**2.6**	**9.9**	**1.7 J**	**21.3**	**75.9**	**262**	**116**	**66.5**	**66.2**
Vinyl chloride	2	2	< 1	< 20	< 1	< 2	< 1	**1.8 J**	**0.77 J**	**1.2 J**	< 2	**0.88 J**	< 2	< 2	< 2	< 2	< 2
Xylenes (total)	10,000	10,000	< 3	< 60	< 3	< 6	< 3	< 6	**5.1**	**18.3**	**72.7**	**9.6**	**1.8 J**	< 6	**0.51 J**	**0.67 J**	**9.3**

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-30	AF-31	AF-31	AF-31	AF-31	AF-31	AF-31	AF-31	AF-31	AF-32	AF-32	AF-32	AF-32	AF-32
		Sample Date	9/26/1999	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	9/25/1999	9/25/1999
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	46-50	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	11-15	15-25	16-20	21-25	26-30
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane		0.2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1,2-Trichloroethane	5	5	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethane		4,000	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,1-Dichloroethene	7	7	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
cis-1,2-Dichloroethene	70	70	< 2	**17.9**	**10.7**	< 2	**16.4**	< 2	< 2	< 2	< 2	< 2	**6.4**	< 2	< 2	< 2	< 2
1,2-Dichloropropane	5	5	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
2-Butanone		2,000	< 5 R	< 25 R	< 5 R	< 5 R	< 5 R	< 5 R	**1.9 J**	**1.3 J**	< 5 R	< 5 R	< 5 R	< 5 R	**0.93 J**	< 5 R	< 5 R
2-Hexanone			< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5 R	< 25 R	< 5	< 5 R	< 5 R	< 5	< 5	< 5	< 5	< 5 R	< 5 R	< 5 R	< 5	< 5 R	< 5 R
Benzene	5	5	**6.8**	**11.1**	**0.99 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**2.1**	< 2	< 2	< 2	< 2
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Bromoform			< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Bromomethane		10	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Carbon disulfide		4,000	**1.3 J**	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloroethane			< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloroform		100	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Chloromethane		3	< 2	< 10	< 2	**0.68 J**	< 2	**0.73 J**	< 2	< 2	< 2	< 2	< 2	**0.92 J**	< 2	< 2	< 2
cis-1,3-Dichloropropene			< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromochloromethane			< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	**1.8 J**	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Methylene chloride	5	5	2.9 BU	14.4 BU	2.4 BU	2.3 BU	**3**	2 JBU	2 BU	2.6 BU	2 JBU	2.9 BU	3.4 BU	2.3 BU	2.1 BU	**2.9**	2.8 BU
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Tetrachloroethene	5	5	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Toluene	1,000	1,000	**0.5 J**	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**0.52 J**	< 2	< 2
Trichloroethene	5	5	**0.91 J**	**168**	**110**	**2.6**	**43.7**	**1.3 J**	**1 J**	**0.76 J**	< 2	**0.56 J**	**26.3**	**0.7 J**	< 2	< 2	< 2
Vinyl chloride	2	2	< 2	< 10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Xylenes (total)	10,000	10,000	**2.9 J**	< 30	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-32	AF-32	AF-32	AF-32	AF-33	AF-33	AF-34	AF-34	AF-35	AF-35	AF-36	AF-36	AF-37		AF-37
		Sample Date	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	9/25/1999	9/28/2000	9/25/1999	9/25/1999*	9/28/2000
		Sample Type	VP	VP	VP	VP	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
		Screen Interval	31-35	36-40	41-45	46-50	2.3-11.8	2.3-11.8	1.4-10.9	1.4-10.9	1.2-10.7	1.2-10.7	1.4-10.9	1.4-10.9	4.4-14.3	4.4-14.3	4.4-14.3
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
1,1,2,2-Tetrachloroethane		0.2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
1,1,2-Trichloroethane	5	5	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
1,1-Dichloroethane		4,000	< 2	< 2	< 2	< 2	< 2	< 1	**3.4**	**2.8**	< 2	< 1	< 2	< 1	< 2	< 2	< 1
1,1-Dichloroethene	7	7	< 2	< 2	< 2	< 2	< 2	< 1	**4.8**	**3.9**	< 2	< 1	< 2	< 1	**0.6 J**	< 2	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
cis-1,2-Dichloroethene	70	70	< 2	< 2	< 2	< 2	**6.4**	**8.1**	**10.8**	**13**	**8.8**	**9.6**	**17.3**	**3.3**	**26.4**	**24.4**	**17.2**
1,2-Dichloropropane	5	5	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
2-Butanone		2,000	< 5 R	< 5 R	< 5 R	< 5 R	< 5 R	< 5	< 5 R	< 5	< 5 R	< 5	< 5 R	< 5	< 5 R	< 5 R	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5 R	< 5 R	< 5	< 5 R	< 5 R	< 5	< 5 R	5U	< 5	5 JU	< 5 R	6.8U	< 5	< 5	5 JU
Benzene	5	5	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	**2.1**	**0.38 J**	**2.4**	**0.83 J**	**4.2**	**4.7**	**2.7**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 5	< 5	< 5	< 5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 5	< 1
Bromoform			< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Bromomethane		10	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Carbon disulfide		4,000	< 5	**0.56 J**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Chloroethane			< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Chloroform		100	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Chloromethane		3	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
cis-1,3-Dichloropropene			< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Dibromochloromethane			< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	**0.63 J**	**1.4 J**	< 1
Methylene chloride	5	5	2.6 BU	5.4 BU	2.7 BU	3 BU	**2.1**	< 5	**3.6**	< 5	2.4 BU	< 5	**2.6**	< 5	2.7 BU	2.6 BU	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Tetrachloroethene	5	5	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Toluene	1,000	1,000	< 2	< 2	< 2	< 2	< 2	< 1	< 2	**0.47 J**	< 2	< 1	< 2	**0.78 J**	**0.69 J**	**1.4 J**	**1.9**
Trichloroethene	5	5	< 2	< 2	< 2	< 2	**45.8**	**34.4**	**95.5**	**105 J**	**23**	**27.6**	**38**	**10.3**	**346**	**301**	**226**
Vinyl chloride	2	2	< 2	< 2	< 2	< 2	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 1	< 2	< 2	< 1
Xylenes (total)	10,000	10,000	< 6	< 6	< 6	< 6	< 6	< 3	< 6	< 3	< 6	< 3	< 6	< 3	**3.4 J**	**7.6**	< 3

Notes:
NA = Not analyzed
MW = monitor well groundwater sample
VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
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B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-38	AF-38	AF-39	AF-40	AF-40	AF-40	AF-40	AF-40	AF-40	AF-40	AF-40	AF-41	AF-41	AF-41	AF-41
		Sample Date	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	2/2/2000	6/23/2000	9/28/2000	1/7/2001
		Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
		Screen Interval	4.1-14.1	4.1-14.1	4.4-14.3	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 1	< 2 R	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 2	< 1	< 2	< 1	**1.6**	< 1	**0.41 J**	**0.89 J**	**1.6**	< 1	**1.05**	**0.94 J**	**3**	< 1	**0.82 J**
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1	< 1	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	**3.8**	**0.39 J**	**4.3**	**15.4**	**63.3**	**14.6**	**26**	**48.5**	**58.7**	**14.9**	**54.4**	**35.6**	**110**	**1.7 J**	**32.7**
1,2-Dichloropropane	5	5	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5 R	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	6.8U	< 5	5 BJU	< 5	5 JU	5 JBU	**1.3 J**	**3.1 J**	< 5	< 5	5 JBU	< 5	5.2U	5 JBU
Benzene	5	5	**2**	**0.19 J**	**0.92 J**	**21.3**	**1.3**	**1.8**	**0.39 J**	**0.45 J**	< 1	**16.4**	< 1	**0.2 J**	< 1	< 1	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1	< 1	NA	NA	NA	NA
Bromodichloromethane			< 5	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	**1.6 J**	< 1	< 2	**3.2**	**0.57 J**	**0.45 J**	**0.13 J**	< 1 J	< 1	**12.4**	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	2 BU	< 5	2.4 BU	5 BJU	< 5	< 5	< 5	**12.7 BJ**	1 JU	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 2	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	**2**	**1.4**	< 2	**0.6 J**	< 1	< 1	< 1	< 1 J	1 JBU	**17.5**	**0.447 J**	< 1	< 1	< 1	< 1
Trichloroethene	5	5	**6.8**	< 1	< 2	**53.3**	**353**	**42.9**	**108 J**	**255 J**	**379**	**49.4**	**201**	**158**	**636**	**1.2**	**176**
Vinyl chloride	2	2	< 2	< 1	< 2	< 1	< 1	**0.76 J**	**0.67 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	**9.4**	< 3	< 6	**8.8**	< 3	< 3	**0.34 J**	< 3 J	< 3	**53.8**	**0.378 J**	< 3	< 3	< 3	< 3

Notes:
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Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
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-42	AF-42	AF-42	AF-42	AF-42	AF-42	AF-43	AF-43	AF-43	AF-43	AF-43
		Sample Date	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	11/30/2000	11/30/2000	11/30/2000
		Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	VP	VP	VP	VP	VP
		Screen Interval	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	28.5-33	4-9	9-14	14-19	19-24	24-29
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	**0.81 J**	**2.3**	**1.32**	**1.2**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.51 J**	**2.3**	**5.4**
1,2-Dibromoethane	0.05		NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 0	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	**39.5**	**76.4**	**81**	**61.3**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**0.46 J**	**5.3**	**20.2**	**103**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	**1.2 J**	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	5 JBU	< 5	5 JU	5 JBU	< 5	**2.6 J**	**11**	**3.6 J**	**1.6 J**	**1.8 J**	**2 J**
Benzene	5	5	**0.15 J**	< 1	**1.31**	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	**0.68 J**	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1 J	< 1	**2.14**	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	**16.7 B**	1 JU	< 5	< 5	< 5	< 5	< 5	< 5	**16.6 B**	1 JU	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	< 1	< 1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	< 1 J	1 JBU	**2.67**	< 1	**0.3 J**	**0.81 J**	< 1	< 1	< 1 J	1 JBU	< 1	< 1	< 1	< 1	**0.27 J**
Trichloroethene	5	5	**195 J**	**405**	**252**	**168**	< 1	< 1	< 1	< 1	**0.36 J**	< 1	< 1	**1.2**	**304**	**2600**	**2140**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3 J	< 3	**9.56**	< 1	< 3	< 3	< 3	< 3	< 3 J	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
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VP = vertical profile groundwater sample
Blank cell = no data/constituent not analyzed for
Bolded values indicate detections
J = Estimated value
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
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-44	AF-44	AF-44	AF-44	AF-44	AF-44	AF-44	AF-44	AF-44	AF-45
		Sample Date	11/30/2000	11/30/2000	11/30/2000	11/30/2000	11/30/2000*	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	29-34	34-39	39-44	44-49	44-49	4-9	9-14	14-19	19-24	24-29	29-34	34-39	39-44	44-49	4-9
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	**1.3**	**0.9 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	**12.8**	**7.2**	**0.1 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**3.2**	**0.84 J**	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	**116**	**68.2**	**9.8**	**5.4**	**3.2**	**7**	**2.8**	< 2	**5.6**	**7**	**1.1 J**	**104**	**38.6**	**9.2**	**10.3**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**2.4 J**	**1.4 J**	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**2.2 J**	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	**1.8 J**	**2.9 J**	**2 J**	< 5	**2.5 J**	< 5	< 5	< 5	< 5	< 5	< 5	**1.8 J**	**4.3 J**	**4.5 J**	5 JBU
Benzene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.16 J**	**0.31 J**	< 1	**1.8**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**0.41 J**
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	**0.062 J**	**0.06 J**	< 1	**0.072 J**	< 1	< 1	< 1	< 1	< 1	**0.11 J**	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	< 1	< 1	< 1	**0.45 J**	**0.5 J**	< 1	**0.29 J**	< 1	**0.31 J**	**0.3 J**	**0.38 J**	< 1	**0.48 J**	< 1	**0.39 J**
Trichloroethene	5	5	**2030**	**883**	**213 J**	**71.2**	**40.4**	**14.3**	**80.1**	**13**	**54.9**	**33.5**	**0.83 J**	**790**	**346**	**60.8**	**1.9**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	**0.32 J**	< 3	< 3	**0.46 J**	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
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	AF-45	AF-45	AF-46	AF-46	AF-46	AF-46	AF-46	AF-46
		Sample Date	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
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	9-14	14-19	19-24	24-29	24-29	29-34	34-39	39-44	44-49	6-10	11-15	16-20	21-25	26-30	31-35
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	**0.17 J**	< 1	**0.63 J**	**3.8**	**4.4**	**4.7**	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	**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**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Benzene	5	5	**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
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	**0.59 J**	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	**0.84 J**	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	< 1	< 1	< 1	< 1	< 1	< 1	**0.66 J**	1 JBU	1 JBU	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethene	5	5	**47.2**	**18.3**	**428**	**1510**	**1320**	**1490**	**181**	**48.4**	**0.59 J**	< 1	**3.9**	**2.6**	**4.6**	**1.2**	< 1
Vinyl chloride	2	2	< 1	< 1	< 1	**0.27 J**	**0.37 J**	**0.24 J**	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 6	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-46		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
		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	12/3/2000	12/3/2000	12/3/2000	12/3/2000	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
		Screen Interval	36-40	36-40	41-45	46-50	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	5-10	10-15	15-20
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	**0.51 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	< 2	< 2	< 2	< 2	**0.84 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**6.7**	**9.6**	< 2
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	**0.3 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	5 JBU	5 JBU	**2.4 J**	< 5	< 5
Benzene	5	5	< 1	< 1	< 1	< 1	**1.2**	**0.21 J**	< 1	< 1	< 1	< 1	< 1	< 1	**0.88 J**	**0.63 J**	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**1.6**	**0.14 J**	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.1 BU	1 JBU	**8.9**	1.6 BU	1.4 BU
Trichloroethene	5	5	< 1	< 1	**0.61 J**	< 1	**3**	**0.27 J**	< 1	< 1	< 1	< 1	< 1	< 1	**5.9**	**155**	< 1
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	**7.3**	**0.42 J**	**0.4 J**

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part
B Investigations are not included in this table

Table 5-2
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-48	AF-48	AF-48	AF-49	AF-49	AF-49	AF-49	AF-49	AF-49	AF-49	AF-49
		Sample Date	12/4/2000*	12/4/2000	12/4/2000	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
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	15-20	20-25	25-30	30-35	35-40	40-45	45-50	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**1.4 J**	**1.9 J**	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**2.4 J**	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	9.8 BU	5 JBU	5 JBU	< 5	5 JBU	5 JBU	5 JBU	**2 J**
Benzene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.21 J**	< 1	< 1	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**0.63 J**	**0.98 J**	**0.66 J**	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.38 J**	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.58 J**
Toluene	1,000	1,000	1 BU	1 BU	1 BU	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**
Trichloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.48 J**	**0.78 J**	< 1	< 1	< 1	< 1	< 1	< 1
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-49	AF-49	AF-50	AF-50	AF-50	AF-50	AF-50		AF-50	AF-50	AF-50	AF-50	AF-51	AF-51	AF-51
		Sample Date	12/3/2000*	12/3/2000	12/2/2000	12/2/2000	12/2/2000	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
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	41-45	46-50	4-9	9-14	14-19	19-24	24-29	24-29	29-34	34-39	39-44	44-49	5-10	10-15	15-20
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**10.3**
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.64 J**	**22.5**
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	< 2	< 2	**4**	**4.4**	**0.21 J**	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**3.4**	**5.1**	**65.4**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	**1.6 J**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	5 JBU	**2.6 J**	**1.8 J**	**2 J**	< 5	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	< 5	< 5	< 5
Benzene	5	5	< 1	< 1	**9.5**	**0.86 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**1.3**	**0.86 J**	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	**0.69 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	1 JBU	**3.7**	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	1 JBU	**0.27 J**	< 1	< 1
Trichloroethene	5	5	< 1	< 1	**6.5**	**13.4**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**25.6**	**37.3**	**604**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.6 J**
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part
B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-51	AF-51	AF-51	AF-51	AF-51	AF-51	AF-52	AF-52	AF-52	AF-52	AF-52	AF-52	AF-52	AF-52	AF-52
		Sample Date	12/3/2000	12/4/2000	12/4/2000	12/4/2000	12/4/2000	12/4/2000	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
		Screen Interval	20-25	25-30	30-35	35-40	40-45	45-50	4-9	9-14	14-19	19-24	24-29	29-34	34-39	39-44	44-49
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
1,1-Dichloroethane		4,000	**2.1**	**0.76 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
1,1-Dichloroethene	7	7	**1.9**	**2.3**	< 1	< 1	< 1	< 1	< 1	< 1	< 20	**16.3 J**	**15 J**	**0.61 J**	< 10	< 10	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
cis-1,2-Dichloroethene	70	70	**4**	**11.9**	**0.51 J**	< 2	**0.97 J**	< 2	< 2	< 2	**34.5 J**	**378**	**174**	**6**	**65.2**	**42.7**	**0.31 J**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	**1.2 J**	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	< 5	< 5	**8.5**	**1.8 J**	< 100	< 250	< 125	< 5	< 50	< 50	< 5
Benzene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	**0.18 J**	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	**0.16 J**	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 100	< 250	< 125	< 5	< 50	< 50	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Toluene	1,000	1,000	< 1	1 JBU	1 JBU	2.1 BU	1.3 BU	1 JBU	1 JBU	1 JBU	20 JBU	50 JBU	< 25	1 JBU	< 10	< 10	1 JBU
Trichloroethene	5	5	**10.9**	**90.3**	**0.38 J**	< 1	**2.4**	< 1	< 1	**0.33 J**	**1780**	**7730**	**2120**	**34.1**	**631**	**516**	**2.8**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 20	< 50	< 25	< 1	< 10	< 10	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	**0.45 J**	< 3	< 3	< 3	< 3	< 60	< 150	< 75	< 3	< 30	< 30	< 3

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-52	AF-53	AF-54		AF-55	AF-56	AF-57		AF-58	AF-59	AF-60		AF-61	AF-62	AF-63
		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	3/10/2001	3/10/2001	3/10/2001*	3/10/2001	3/10/2001	7/16/2002
		Sample Type	VP	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	VP
		Screen Interval	44-49	20-30	32.4-42.4	32.4-42.4	24-34	19.9-29.9	57.8-62.8	57.8-62.8	2.7-12.7	2.3-12.3	20-30	20-30	20-30	3-13	1-5
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	**4.6**	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	**0.32 J**	**88.8**	**53.2**	**57.8**	**154**	**7.9 J**	< 2	< 2	**8**	< 2	**3.4**	**3.5**	**1.3 J**	< 2	< 2
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	**2.8 J**	**1 J**	< 5	< 5	**2.3 J**	**1.9 J**	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	**97.3**	**613 J**	**554 J**	**3100 J**	25 JU	**220**	**200**	**1360 J**	**2250 J**	33.8 U	35.2 U	**356**	**8630 J**	**6.4**
Benzene	5	5	< 1	**0.22 J**	< 1	< 1	**0.35 J**	< 5	< 1	< 1	**0.16 J**	**0.67 J**	**0.26 J**	**0.25 J**	< 1	**0.15 J**	**0.92 J**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	**2.5**	**2.3**	**0.21 J**	< 5	**4.7**	**4.7**	**1.1**	**0.66 J**	< 1	< 1	**0.39 J**	**1**	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 25	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	1 JBU	**0.27 J**	< 1	< 1	< 1	< 5	< 1	< 1	**0.62 J**	< 1	< 1	< 1	< 1	**0.23 J**	**2.4**
Trichloroethene	5	5	**2.9**	**2410 J**	**352**	**394**	**1020**	**303**	**0.72 J**	**0.17 J**	**13**	< 1	**26.1**	**24.9**	**267**	**0.39 J**	< 1
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 15	< 3	< 3	**0.25 J**	< 3	< 3	< 3	< 3	< 3	**1 J**

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-63	AF-63	AF-63	AF-63	AF-63		AF-63	AF-63	AF-63	AF-64	AF-64	AF-64	AF-64	AF-64	AF-64
		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	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	VP	VP	VP	VP	VP	VP
		Screen Interval	6-10	11-15	16-20	21-25	26-30	26-30	31-35	36-40	41-45	6-10	11-15	16-20	21-25	26-30	31-35
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	< 2	< 2	**0.71 J**	**1.2 J**	**4.5**	**4.2**	< 2	**116**	**38.7**	< 2	< 2	< 2	< 2	**2**	**1.4 J**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5	< 5	< 5	< 5	< 5
Benzene	5	5	**5.6**	< 1	< 1	**1.8**	**3**	**3**	**1.4**	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 125	< 25	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	**3.5**	< 1	< 1	**0.45 J**	< 1	< 1	**0.64 J**	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	5 JBU	< 5	5 JBU	5 JBU	**5 JB**	< 5	< 125	< 25	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU	5 JBU
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	1 JU	1 JU	1 JU	2U	1 JU	**1 J**	1 JU	< 25	**3.8 J**	1 U	2.2 U	2 U	1 U	2.9 U	1.2 U
Trichloroethene	5	5	< 1	< 1	**12.9**	**20.9**	**71.7**	**68.7**	**0.88 J**	**1250**	**344**	< 1	< 1	**6.7**	**13.8**	**31.2**	**2.8**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 5	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 75	< 15	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-64	AF-64	AF-65	AF-65	AF-65	AF-65	AF-65		AF-65	AF-65	AF-65	AF-65	AF-66	AF-66	AF-66
		Sample Date	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	7/16/2002	7/16/2002
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	36-40	41-45	1-5	6-10	11-15	16-20	21-25	21-25	26-30	31-35	36-40	41-45	1-5	6-10	11-15
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	< 2	**4.4**	< 2	< 2	< 2	< 2	**0.38 J**	**0.37 J**	< 2	< 2	< 2	< 2 J	< 2	**15.9**	**90.5**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
2-Butanone		2,000	5 JU	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**5.3 J**	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5
Acetone		4,000	7.3 U	< 5	8.8 U	< 5	< 5	< 5	< 5	< 5	< 5	< 5	5 JU	19.4 UJ	**3.1 J**	**16.7**	< 5
Benzene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.38 J**	< 1	**0.4 J**	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Methylene chloride	5	5	5 JBU	5 JBU	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5 J	5 JU	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1
Toluene	1,000	1,000	**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**	**4.1**	**3.1**
Trichloroethene	5	5	**1.1**	**79.1**	< 1	< 1	< 1	**2.4**	**3**	**3**	< 1	< 1	< 1	< 1 J	< 1	< 1	**4.2**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	**0.74 J**
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	**0.27 J**	< 3	< 3	< 3

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
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-67	AF-67	AF-67	AF-67	AF-67	AF-67	AF-67	AF-67
		Sample Date	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
		Screen Interval	16-20	21-25	26-30	31-35	31-35	36-40	41-45	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**2.2**	**0.97 J**	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**1.1 J**	**2.3**	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	**15**	< 2	< 2	< 2	< 2	**0.45 J**	**0.37 J**	**14.2**	**25.6**	< 2	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	< 5	5 JU	< 5	8.6 JU	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Benzene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	**1.9 J**	< 5	< 5	< 5	< 5	< 10	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	**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	5	5	**76**	< 1	< 1	< 1	< 1	**6**	**4.2**	**107**	**746**	< 1	< 1	< 1	< 1	< 1	< 1
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 6	< 3	< 3	< 3	< 3	< 3	< 3	< 3

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
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-70	AF-71	AF-72	AF-73	AF-73	AF-73	AF-73	AF-73	AF-73	AF-73
		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	10/11/2003	10/11/2003	10/11/2003	10/11/2003	10/11/2003*	10/11/2003	10/11/2003
		Sample Type	MW	MW	MW	MW	MW	MW	MW	MW	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	34.5-39.5	34.5-39.5	34.5-39.5	40.2-45.2	40.2-45.2	15-20	15.3-20.3	2.5-12.5	7-11	12-15	16-20	21-25	21-25	26-30	31-35
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	**1.8**	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	**1.6**	**1.71**	**1.47**	< 1	< 1	< 1 J	**0.54 J**	**4.9**	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	**1.2**	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	**84.8**	**84.9**	**67.7**	**6.9**	**6.5**	< 1 J	**36.5 J**	**57.8**	< 1	< 1	< 1	< 1	< 1	< 1	**0.4 J**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5	5 JU	5 JU	5 JU	< 5	< 5	5 JU	5 JU
Benzene	5	5	< 1	**1.18**	**0.993 J**	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.61 J**
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5 J	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	< 1	< 1	**0.623 J**	< 1	< 1	< 1 J	< 1 J	< 1	<1.9	<3	<2.5	<2.7	<2.6	<2.8	<2.8
Trichloroethene	5	5	**380 J**	**540**	**373 J**	**138 J**	**141 J**	**2 J**	**41.4 J**	**807 J**	< 1	< 1	**1.5**	**2.2**	**2.2**	**1.9**	**4.4**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 1	< 1	**0.873 J**	< 1	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-73	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
		Sample Date	10/11/2003	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
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	36-40	41-45	7-11	12-15	16-20	21-25	26-30	31-35	36-40	41-45	7-11	12-15	16-20	21-25	26-30
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	**34.2**	**27.8**	< 1	< 1	< 1	< 1	< 1	**3.2**	**8.7**	**4.7**	< 1	< 1	< 1	< 1	**0.62 J**
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**4.1 J**	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	5 JU	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
Benzene	5	5	**1.6**	< 1	< 1	< 1	< 1	< 1	< 1	**2.5**	**1.7**	**0.43 J**	< 1	< 1	**2.3**	**1.3**	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	<3.2	<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
Trichloroethene	5	5	**97.7**	**437**	< 1	< 1	**0.59 J**	**2.7**	**1.7**	**53.9**	**57 J**	**47.4**	< 1	< 1	**4.9**	**4.5**	**15.6**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.6 J**	< 1	< 1	< 1	< 1	< 1

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part
B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-75	AF-75	AF-75	AF-75	AF-76	AF-76	AF-76	AF-76	AF-76	AF-76	AF-76		AF-76	AF-77	AF-77
		Sample Date	10/9/2003*	10/9/2003	10/10/2003	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
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	26-30	31-35	36-40	41-45	7-11	12-15	16-20	21-25	26-30	31-35	36-40	36-40	41-45	11-15	16-20
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	**0.66 J**	**1.2**	< 1	**0.42 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	**2.6 J**	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	5 JU	12 U	5 JU	5 JU
Benzene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	<1.9	<1.6	<1.9	<2.8	<2.1	<2.2	<2.4	<2.1	<2.4	<2	<2.3	<2.1	<5.3	<2.1	<2.4
Trichloroethene	5	5	**18**	**9.7**	< 1	**3.9**	< 1	< 1	< 1	**2.3**	< 1	< 1	< 1	< 1	< 1	< 1	**0.73 J**
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	**0.96 J**	< 1	**0.64 J**

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	AF-77	AF-77	AF-77	AF-77	AF-77	AF-77	AF-78	AF-78	AF-78	AF-78	AF-78		AF-78	AF-78	AF-78
		Sample Date	10/8/2003	10/8/2003	10/8/2003	10/9/2003	10/9/2003	10/9/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003	10/8/2003*	10/8/2003	10/8/2003	10/8/2003
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	21-25	26-30	31-35	36-40	41-45	46-50	12-15	16-20	21-25	26-30	31-35	31-35	36-40	41-45	46-50
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloroethane	5	5	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethene	7	7	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromoethane	0.05		< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethane	5	5	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	**0.62 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloropropane	5	5	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone		2,000	< 5	< 5	< 5	< 5	< 5 J	**7.8**	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2-Hexanone			< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
4-Methyl-2-pentanone			< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Acetone		4,000	5 JU	5 JU	< 5	5 JU	6.9 UJ	25 U	31.1 U	5 JU	5 JU	8.7 U	5 JU	5 JU	5 JU	5 JU	< 5
Benzene	5	5	< 1	< 1	< 1	< 1	< 1 J	**0.52 J**	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane			< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane			< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromoform			< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane		10	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide		4,000	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	5	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dichlorodifluoromethane		1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroethane			< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform		100	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane		3	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromochloromethane			< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Dibromomethane			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 1	< 1	< 1	< 1	< 1 J	**0.26 J**	< 1	< 1	< 1	**0.32 J**	< 1	< 1	< 1	< 1	< 1
Methylene chloride	5	5	< 5	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Naphthalene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	100	100	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	<3.4	<1.3	<2.6	<1.7	<4 J	<2.2	<2.3	<2.8	<2.6	<5.1	<2.2	<2.8	<2	<2	<1.9
Trichloroethene	5	5	**0.79 J**	< 1	< 1	< 1	< 1 J	< 1	< 1	**1.4**	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Vinyl chloride	2	2	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 1	< 1	< 1	< 1	**0.61 J**	< 1	< 1	**0.62 J**	< 1	**0.72 J**	< 1	< 1	< 1	< 1	< 1

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	B159-1	B159-1	B159-1	B159-1	B159-1	B159-1	B159-1	B159-1	B159-2	B159-2	B159-2	B159-2	B159-2	B159-2	B159-2
		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	12/6/2002	12/6/2002	12/6/2002	12/6/2002	12/6/2002	12/6/2002	12/6/2002
		Sample Type	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP	VP
		Screen Interval	9-11	14-16	19-21	24-26	29-31	34-36	39-41	44-46	9-11	14-16	19-21	24-26	29-31	34-36	39-41
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane		0.2	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
1,1,2-Trichloroethane	5	5	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
1,1-Dichloroethane		4,000	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2 IJ	< 2 IJ
1,1-Dichloroethene	7	7	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
1,2-Dibromoethane	0.05		< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
1,2-Dichloroethane	5	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	70	70	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
1,2-Dichloropropane	5	5	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
2-Butanone		2,000	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
2-Hexanone			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
4-Methyl-2-pentanone			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Acetone		4,000	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Benzene	5	5	< 2	< 2	< 2	**0.98 J**	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Benzene, 1-methylethyl			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Bromochloromethane			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Bromodichloromethane			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Bromoform			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Bromomethane		10	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Carbon disulfide		4,000	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Carbon tetrachloride	5	5	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Dichlorodifluoromethane		1,000	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Chlorobenzene	100	100	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Chloroethane			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Chloroform		100	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Chloromethane		3	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
cis-1,3-Dichloropropene			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Dibromochloromethane			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Dibromomethane			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2 IJ	< 2	< 2 IJ
Ethylbenzene	700	700	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Methylene chloride	5	5	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Naphthalene			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
n-Butylbenzene			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
n-Propylbenzene			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
sec-Butylbenzene			< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Styrene	100	100	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Tetrachloroethene	5	5	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Toluene	1,000	1,000	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Trichloroethene	5	5	< 2	< 2	**2.44**	**3.63 J**	< 20	< 10	**116**	**12.7**	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Vinyl chloride	2	2	< 2	< 2	< 2	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2
Xylenes (total)	10,000	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part
B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	B159-2	B159-3	B159-3	B159-3	B159-3	B159-3	B159-3	B159-3	B159-3	B159-4	B159-4	B159-4	B159-4	B159-4	B159-4
		Sample Date	12/6/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	12/4/2002	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
		Screen Interval	44-46	9-11	14-16	19-21	24-26	29-31	34-36	39-41	44-46	9-11	14-16	19-21	24-26	29-31	34-36
Chemical Name	USEPA MCL	Type I RRS															
VOCs - U.S. EPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
1,1,2,2-Tetrachloroethane		0.2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
1,1,2-Trichloroethane	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
1,1-Dichloroethane		4,000	< 2 IJ	< 2	< 2	< 2	< 10 IJ	< 10	< 10 IJ	< 10	< 10	< 2 IJ	< 2	< 2	< 10	< 10	< 10
1,1-Dichloroethene	7	7	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
1,2-Dibromoethane	0.05		< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
1,2-Dichloroethane	5	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	70	70	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
1,2-Dichloropropane	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
2-Butanone		2,000	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
2-Hexanone			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
4-Methyl-2-pentanone			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Acetone		4,000	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Benzene	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Benzene, 1-methylethyl			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Bromochloromethane			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Bromodichloromethane			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Bromoform			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Bromomethane		10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Carbon disulfide		4,000	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Carbon tetrachloride	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Dichlorodifluoromethane		1,000	< 2	**10.5**	**5.32**	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Chlorobenzene	100	100	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Chloroethane			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Chloroform		100	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Chloromethane		3	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
cis-1,3-Dichloropropene			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Dibromochloromethane			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Dibromomethane			< 2	< 2	< 2	< 2 IJ	< 10	< 10	< 10 IJ	< 10	< 10	< 2	< 2	< 2	< 10	< 10 IJ	< 10
Ethylbenzene	700	700	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Methylene chloride	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Naphthalene			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
n-Butylbenzene			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
n-Propylbenzene			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
sec-Butylbenzene			< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Styrene	100	100	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Tetrachloroethene	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Toluene	1,000	1,000	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Trichloroethene	5	5	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Vinyl chloride	2	2	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10	< 2	< 2	< 2	< 10	< 10	< 10
Xylenes (total)	10,000	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-2
Groundwater Analyses, UST 25 and 26 CAP- Part B Investigations
HAA-17
Hunter Army Airfield-Savannah, GA

		Location ID	B159-4	B159-4	B159-5	B159-5	B159-5	B159-5	B159-5	B159-5	B159-5	B159-5
		Sample Date	12/4/2002	12/4/2002	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	VP	VP
		Screen Interval	39-41	44-46	9-11	14-16	19-21	24-26	29-31	34-36	39-41	44-46
Chemical Name	USEPA MCL	Type I RRS										
VOCs - U.S. EPA Method 8260B (µg/L)												
1,1,1-Trichloroethane	200	200	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,1,2,2-Tetrachloroethane		0.2	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,1,2-Trichloroethane	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,1-Dichloroethane		4,000	< 10 IJ	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,1-Dichloroethene	7	7	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,2-Dibromoethane	0.05		< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,2-Dichloroethane	5	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	70	70	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
1,2-Dichloropropane	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
2-Butanone		2,000	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Acetone		4,000	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Benzene	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Benzene, 1-methylethyl			< 10	< 2	< 2	< 2	**0.81 J**	< 10	< 10	< 10	< 10	< 10
Bromochloromethane			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Bromodichloromethane			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Bromoform			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Bromomethane		10	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Carbon disulfide		4,000	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Carbon tetrachloride	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Dichlorodifluoromethane		1,000	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Chlorobenzene	100	100	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Chloroethane			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Chloroform		100	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Chloromethane		3	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
cis-1,3-Dichloropropene			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Dibromochloromethane			< 10	< 2	< 2	< 2	< 2	< 10 IJ	< 10	< 10	< 10	< 10
Dibromomethane			< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Ethylbenzene	700	700	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Methylene chloride	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Naphthalene			< 10	< 2	< 2	**1.37 J**	**6.17**	**6.22 J**	< 10	< 10	< 10	< 10
n-Butylbenzene			< 10	< 2	< 2	**0.53 J**	< 2	< 10	< 10	< 10 J	< 10	< 10
n-Propylbenzene			< 10	< 2	< 2	< 2	**0.62 J**	< 10	< 10	< 10	< 10	< 10
sec-Butylbenzene			< 10	< 2	< 2	**0.88 J**	< 2	< 10	< 10	< 10	< 10	< 10
Styrene	100	100	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Tetrachloroethene	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Toluene	1,000	1,000	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Trichloroethene	5	5	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Vinyl chloride	2	2	< 10	< 2	< 2	< 2	< 2	< 10	< 10	< 10	< 10	< 10
Xylenes (total)	10,000	10,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
NA = Not analyzed
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
B = Analyte detected in associated blank
U = Non-detect based on data validation
* = Duplicate sample

Samples collected solely for investigation of petroleum prior to CAP Part B Investigations are not included in this table

Table 5-3
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	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			AT0111	AT0121	AT0211	AT0221	AT0311	AT0313	AT0321	AT0323	AT0411	AT0421	AT0511	AT0521	AT0110	AT0120	AT0210	AT0220	AT0310	AT0320
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	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]			Surface	Subsurface	Surface	Subsurface	Surface	Surface	Subsurface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface
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	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
	Units																			
VOCs																				
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	< 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	<0.00604	**0.00268 J**	<0.00802	<0.00709	<0.00575	<0.0067	<0.00805	<0.0118	<0.00589	<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	**0.013**	**0.0348 J**	**0.0202 J**	**0.0292**	**0.00574 J**	**0.0255**	**0.0132**	**0.0181**	**0.0117**	**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*	**0.0071**	<0.00636	**0.0211 J**	**0.00413 J**	**0.00191 J**	<0.0067	<0.00805	<0.0118	**0.00477 J**	<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	< 0.00121	< 0.00127	**0.000439 J**	< 0.00142	< 0.00115	< 0.00134	< 0.00161	< 0.00236	< 0.00118	< 0.00108	< 0.00151	< 0.00191	< 0.00142	< 0.00109	< 0.00122	< 0.00117	< 0.00119	< 0.00109
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	**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	**0.00448**	**0.00822 J**	<0.0016	**0.00195**	**0.0935**	**0.00251**	<0.00161	**0.00783**	<0.00118	**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	<0.00121	**0.00026 J**	<0.0016	<0.00142	<0.00115	<0.00134	<0.00161	<0.00236	<0.00118	<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	< 0.0402	< 0.0441	< 0.0364	**0.253**	< 0.0384	< 0.0384	< 0.0451	< 0.0471	< 0.0346	< 0.0445	< 0.0342	< 0.0458	< 0.0387	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Benzo(b)fluoranthene	mg/kg	5	< 0.0402	< 0.0441	**0.0474**	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0275 J**	< 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	< 0.0402	< 0.0441	< 0.0364	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0153 J**	< 0.0445	**0.0114 J**	< 0.0458	< 0.0387	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Chrysene	mg/kg	5	< 0.0402	< 0.0441	**0.0191 J**	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0226 J**	< 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	< 0.402	< 0.441	**0.0432 J**	< 0.454	< 0.384	< 0.384	< 0.451	< 0.471	< 0.346	< 0.445	< 0.342	< 0.458	< 0.387	< 0.408	< 0.416	< 0.404	< 0.373	< 0.401
Fluoranthene	mg/kg	500	< 0.0402	< 0.0441	**0.0139 J**	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0504**	< 0.0445	**0.0251 J**	< 0.0458	**0.014 J**	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Phenanthrene	mg/kg	110	< 0.0402	< 0.0441	< 0.0364	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0265 J**	< 0.0445	**0.012 J**	< 0.0458	< 0.0387	< 0.0408	< 0.0416	< 0.0404	< 0.0373	< 0.0401
Pyrene	mg/kg	500	< 0.0402	< 0.0441	**0.0137 J**	< 0.0454	< 0.0384	< 0.0384	< 0.0451	< 0.0471	**0.0357**	< 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	**1 J**	< 0.632	**1.1 J**	< 0.651	< 0.572	< 0.574	< 0.676	< 0.673	**0.85 J**	< 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	**6**	**5.7**	**19.7**	**5.3**	**2.9**	**3**	**3.8**	**3.6**	**6.5**	**5.2**	**5.9**	**5.3**	**8.7**	**1.9**	**16**	**7.8**	**6.5**	**6.8**
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**	< 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	**3.5 J**	**6.2 J**	**1.5**	**8.3**	**3.5**	**3.4**	**4.4**	**5.8**	**3.8**	**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	**7.3**	**7**	**16.7**	**10**	**4**	**4.4**	**2.7**	**2.9**	**17.8**	**7.6**	**17**	**4.5**	**8.7**	**2.5**	**15.4**	**4.5**	**3**	**5.2**
Mercury, Total	mg/kg	17	**0.024**	**0.109**	**0.0219**	**0.172**	**0.027**	**0.043**	**0.0346**	**0.0281**	**0.0237**	**0.133**	**0.0184**	**0.0538**	**0.0271**	**0.0214**	**0.0325**	**0.0313**	**0.0062 J**	**0.0544**
Selenium, Total	mg/kg	36	< 0.69	**1.9**	< 0.641	**0.99 J**	< 0.686	< 0.689	**0.84 J**	**1.4 J**	< 0.609	< 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
Highlighted values exceed HSRA Notification Standards
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 5-4
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
	Units	USEPA MCL	Type I RRS						
VOCs									
1,2-Dichloroethene	µg/L			**1.13**	<1	<1	<1	<1	<1
2-Butanone	µg/L		**2,000**	<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		**4,000**	**1.64 J**	<5	**3.26 J**	**10.5**	**13**	**1.26 J**
Benzene	µg/L	**5**	**5**	<1	<1	<1	**1.09**	**1.11**	<1
Ethylbenzene	µg/L	**700**	**700**	<1	**0.828 J**	<1	**2.88**	**3.1**	**1.25**
Toluene	µg/L	**1,000**	**1,000**	**0.396 J**	**0.402 J**	<1	**5.11**	**5.11**	**1.28**
Trichloroethene	µg/L	**5**	**5**	**34.8**	<1	<1	<1	<1	<1
Xylenes, Total	µg/L	**10,000**	**10,000**	**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

Table 5-5
Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	1290-DPT-01	1290-DPT-02	1290-DPT-02	1290-DPT-03	1290-DPT-03	1290-DPT-04	1290-DPT-04	1290-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
	Units									
VOCs										
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:
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the practical quantitation limit
J = Estimated value

Table 5-5
Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	1290-DPT-05	1290-DPT-06	1290-DPT-06	1290-DPT-07	1290-DPT-07	1290-DPT-08	1290-DPT-08	1290-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
	Units									
VOCs										
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:
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the practi
J = Estimated value

Table 5-5
Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	1290-DPT-09	1290-DPT-10	1290-DPT-10	1290-DPT-11	1290-DPT-11	1290-DPT-12	1290-DPT-12	1290-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
	Units									
VOCs										
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:
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the practi
J = Estimated value

Table 5-5
Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	1290-DPT-13	1290-DPT-14	1290-DPT-14	1290-DPT-15	1290-DPT-15	1290-DPT-16	1290-DPT-16	1290-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
	Units									
VOCs										
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:
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the practi
J = Estimated value

Table 5-5
Soil Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah,GA

Sample ID		Soil Notification Concentration	1290-DPT-17	1290-DPT-18	1290-DPT-18	1290-DPT-19	1290-DPT-19	1290-DPT-20	1290-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
	Units								
VOCs									
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:
Bolded values indicate detections
DL = Detection Limit, as defined in Rule 391-3-19 as the practi
J = Estimated value

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

Location ID				1290-MW-1S	1290-MW-1D	1290-MW-2S	1290-MW-2D	1290-MW-3S	1290-MW-3D	1290-MW-4S	1290-MW-4D
Sample ID				AU01111	AU01121	AU02111	AU02121	AU03111	AU03121	AU04111	AU04121
Sample Date				07/17/07	07/17/07	07/18/07	07/17/07	07/18/07	07/18/07	07/17/07	07/17/07
Sample Type				MW	MW	MW	MW	MW	MW	MW	MW
Sample Depth (ft BGS)		USEPA MCL	Type I RRS	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	19.91 - 29.91
VOCs	Units										
1,1,2,2-Tetrachloroethane	µg/L		0.2	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L		4,000	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	7	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	70	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	µg/L		2,000	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L		4,000	<5	<5	<5	<5	<5	2.43 J	<5	<5
Benzene	µg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	µg/L		4,000	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L		100	<1	<1	<1	<1	0.273 J	<1	<1	<1
Toluene	µg/L	1,000	1,000	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	µg/L	2	2	<1	<1	<1	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

Location ID				1290-MW-5S	1290-MW-5D	1290-MW-6S	1290-MW-7S	1290-MW-7D	1290-MW-8S	1290-MW-8D	1290-MW-9S	1290-MW-9D
Sample ID				AU05111	AU05121	AU06111	AU07111	AU07121	AU08111	AU08121	AU09111	AU09121
Sample Date				07/18/07	07/18/07	07/18/07	07/16/07	07/17/07	07/18/07	07/18/07	07/18/07	07/18/07
Sample Type				MW	MW	MW	MW	MW	MW	MW	MW	MW
Sample Depth (ft BGS)		USEPA MCL	Type I RRS	5.80 - 15.8	20.0 - 30.0	4.0 - 9.0	7.89 - 17.89	24.6 - 34.6	5.40 - 15.4	14.50 - 24.5	5.55 - 15.5	20.39 - 30.39
VOCs	Units											
1,1,2,2-Tetrachloroethane	µg/L		0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L		4,000	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	7	<1	<1	<1	<1	<1	**6.01**	**7.77**	**4.29**	<1
1,2-Dichloroethane	µg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	70	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	µg/L		2,000	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L		4,000	<5	<5	**14.9**	**1.89 J**	<5	<5	<5	**5.52**	**12**
Benzene	µg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	µg/L		4,000	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L		100	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	1,000	1,000	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	5	<1	<1	<1	<1	<1	<1	**1.08**	<1	<1
Vinyl Chloride	µg/L	2	2	<1	<1	<1	<1	<1	<1	<1	**0.551 J**	<1

Notes:
J = estimated value
Bolded value indicates detection
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

Location ID				1290-MW-12S	1290-MW-12D	1290-MW-13S	1290-MW-13D	MW-15S	MW-16S	1290-DPT-01	1290-DPT-02	1290-DPT-02	1290-DPT-03	1290-DPT-03
Sample ID				AU12111	AU12121	AU13111	AU13121	AU15111	AU16111	AU011A	AU021A	AU022A	AU031A	AU032A
Sample Date				07/18/07	07/18/07	07/19/07	07/19/07	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	MW	MW	MW	MW	DPT	DPT	DPT	DPT	DPT
Sample Depth (ft BGS)		USEPA MCL	Type I RRS	7.6 - 17.6	24.3 - 34.3	5.59 - 15.59	20.01 - 30.01	Unknown	Unknown	41.0 - 45.0	15.0 - 16.0	41.0 - 45.0	14.0 - 16.0	44.0 - 46.0
VOCs	Units													
1,1,2,2-Tetrachloroethane	µg/L		0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L		4,000	<1	<1	<1	<1	<1	**0.906 J**	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	7	<1	<1	<1	<1	**9.35**	**54.7**	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**1.1**
cis-1,2-Dichloroethene	µg/L	70	70	<1	<1	<1	<1	<1	<1	**3.65**	<1	<1	<1	**0.574 J**
2-Butanone	µg/L		2,000	<1	<1	<1	<1	<1	<1	<5	<5	<5	<5	<5
Acetone	µg/L		4,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzene	µg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	µg/L		4,000	<5	<5	<5	<5	<5	<5	**1.55 J**	<5	<5	<5	**1.55 J**
Chloroform	µg/L		100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	1,000	1,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	5	<1	<1	<1	<1	<1	<1	**19.4**	<1	<1	<1	**2.5**
Vinyl Chloride	µg/L	2	2	<1	<1	<1	<1	<1	**27.3**	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

Location ID				1290-DPT-04	1290-DPT-04	1290-DPT-05	1290-DPT-05	1290- DPT-06	1290-DPT-06	1290-DPT-07	1290- DPT-07	1290-DPT-08	1290-DPT-08
Sample ID				AU041A	AU042A	AU051A	AU052A	AU061A	AU062A	AU071A	AU072A	AU081A	AU082A
Sample Date				10/02/07	10/02/07	10/02/07	10/02/07	10/03/07	10/03/07	10/03/07	10/03/07	10/03/07	10/03/07
Sample Type				DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
Sample Depth (ft BGS)		USEPA MCL	Type I RRS	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	39.0 - 41.0	14.0 - 18.0	35.0 - 40.0
VOCs	**Units**												
1,1,2,2-Tetrachloroethane	**µg/L**		**0.2**	<1	<1	<1	<1	<1	<1	<1	<1	**0.44 J**	<1
1,1-Dichloroethane	**µg/L**		**4,000**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	**µg/L**	**7**	**7**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	**µg/L**	**5**	**5**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	**µg/L**	**70**	**70**	<1	<1	**2.99**	**3.42**	<1	<1	<1	<1	<1	<1
2-Butanone	**µg/L**		**2,000**	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	**µg/L**		**4,000**	<5	<5	<5	<5	<6.81	<21.4	<5	<5	<5	<5
Benzene	**µg/L**	**5**	**5**	<1	<1	**1.05**	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	**µg/L**		**4,000**	<5	<5	<5	**2.49 J**	<5	<5	<5	<5	<5	<5
Chloroform	**µg/L**		**100**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	**µg/L**	**1,000**	**1,000**	<1	<1	<1	<1	<1	<1.53	<1	<1	<1	<1
Trichloroethene	**µg/L**	**5**	**5**	<1	<1	**39.7**	**74.8**	<1	<1	<1	<1	<1	<1
Vinyl Chloride	**µg/L**	**2**	**2**	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Notes:
J = estimated value
Bolded value indicates detection
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

Location ID				1290-DPT-09	1290-DPT-09	1290-DPT-10	1290-DPT-10	1290-DPT-10	1290-DPT-11	1290-DPT-11	1290-DPT-12	1290-DPT-12
Sample ID				AU091A	AU092A	AU101A	AU102A	AU103A	AU111A	AU112A	AU121A	AU122A
Sample Date				10/03/07	10/03/07	10/04/07	10/04/07	10/04/07	01/28/08	01/28/08	01/28/08	01/28/08
Sample Type				DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
Sample Depth (ft BGS)		USEPA MCL	Type I RRS	12.0 - 14.0	40.0 - 42.0	10.0 - 12.0	14.0 - 16.0	26.0 - 28.0	10.0 - 14.0	24.0 - 29.0	12.0 - 16.0	24.0 - 28.0
VOCs	Units											
1,1,2,2-Tetrachloroethane	µg/L		0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L		4,000	<1	<1	<1	**3.35**	**0.791 J**	**0.862 J**	<1	<1	<1
1,1-Dichloroethene	µg/L	7	7	<1	<1	**1.66**	**6.74**	<1	**2.59**	<1	<1	<1
1,2-Dichloroethane	µg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	70	<1	<1	**41.3**	**104**	**22.2**	**63.8**	<1	<1	<1
2-Butanone	µg/L		2,000	<5	<5	<5	<5	**3.27 J**	<5	<5	<5	<5
Acetone	µg/L		4,000	<7.44	**4.72 J**	**1.55 J**	**1.54 J**	**7.98 J**	**3.78 J**	**4.46 J**	**3.55 J**	<5
Benzene	µg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	µg/L		4,000	<5	**3.18 J**	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L		100	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	1,000	1,000	<1	<1	<1	<1	<1	**0.709 J**	**0.377 J**	<1	**0.386 J**
Trichloroethene	µg/L	5	5	<1	<1	**172**	**483 J**	**99.4**	**372 J**	**0.269 J**	<1	<1
Vinyl Chloride	µg/L	2	2	<1	<1	<1	<1	<1	**0.944 J**	<1	<1	<1

Notes:
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Bolded value indicates detection
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

Location ID				1290-DPT-13	1290-DPT-13	1290-DPT-14	1290-DPT-14	1290-DPT-15	1290-DPT-15	1290-DPT-16	1290-DPT-16	1290-DPT-17	1290-DPT-17
Sample ID				AU131A	AU132A	AU141A	AU142A	AU151A	AU152A	AU161A	AU162A	AU171A	AU172A
Sample Date				01/29/08	01/29/08	01/29/08	01/29/08	01/29/08	01/29/08	01/29/08	01/29/08	01/30/08	01/30/08
Sample Type				DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT	DPT
Sample Depth (ft BGS)		USEPA MCL	Type I RRS	14.0 - 18.0	26.0 - 28.0	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	36.0 - 40.0
VOCs	Units												
1,1,2,2-Tetrachloroethane	µg/L		0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L		4,000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	70	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone	µg/L		2,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	µg/L		4,000	<5	<5	<5	<5	<5	<5	<5	<5	<5 J	<5 J
Benzene	µg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide	µg/L		4,000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L		100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	1,000	1,000	<1	<1	<1	<1	<1	<1	<1	<1	**0.252 J**	**0.262 J**
Trichloroethene	µg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	µg/L	2	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Notes:
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Bolded value indicates detection
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 5-6
Groundwater Analyses, Building 1290 Investigation
HAA-17
Hunter Army Airfield - Savannah, GA

Location ID				1290-DPT-18	1290-DPT-18	1290-DPT-19	1290-DPT-19	1290-DPT-20	1290-DPT-20
Sample ID				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
Sample Type				DPT	DPT	DPT	DPT	DPT	DPT
Sample Depth (ft BGS)		USEPA MCL	Type I RRS	4.0 - 8.0	24.0 - 28.0	8.0 - 12.0	30.0 - 34.0	8.0 - 12.0	24.0 - 28.0
VOCs	**Units**								
1,1,2,2-Tetrachloroethane	**µg/L**		**0.2**	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	**µg/L**		**4,000**	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	**µg/L**	**7**	**7**	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	**µg/L**	**5**	**5**	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	**µg/L**	**70**	**70**	<1	<1	<1	<1	<1	<1
2-Butanone	**µg/L**		**2,000**	<5	<5	<5	<5	<5	<5
Acetone	**µg/L**		**4,000**	<5 J	<5 J	<5 J	<5 J	<5 J	<5 J
Benzene	**µg/L**	**5**	**5**	<1	<1	<1	<1	<1	<1
Carbon Disulfide	**µg/L**		**4,000**	<5	<5	<5	<5	<5	<5
Chloroform	**µg/L**		**100**	<1	<1	<1	<1	<1	<1
Toluene	**µg/L**	**1,000**	**1,000**	<1	<1	**0.313 J**	<1	<1	<1
Trichloroethene	**µg/L**	**5**	**5**	<1	<1	<1	<1	<1	<1
Vinyl Chloride	**µg/L**	**2**	**2**	<1	<1	<1	<1	<1	<1

Notes:
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Bolded value indicates detection
DPT = direct push groundwater sample
MW = monitor well groundwater sample

Table 6-1
Groundwater Elevations
HAA-17
Hunter Army Airfield-Savannah, GA

Well ID	Top of Casing Elevation (ft above MSL)	Screened Interval (ft BGS)	Depth to Water (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	Depth to Product (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
			2006-2007		February 2010		May 2010		June 2010		
Purge Facility Investigation Wells											
AT-MW-1	31.61	40.3 - 45.3	4.45	27.16	1.76	29.85	3.15	28.46	N/A	3.35	28.26
AT-MW-2	31.86	2.3 - 12.3	3.69	28.17	1.4	30.46	2.93	28.93	N/A	3.24	28.62
AT-MW-3	32.09	2.2 - 12.2	3.54	28.55	1.04	31.05	2.94	29.15	N/A	3	29.09
AT-MW-4	32.79	2.3 - 12.3	4.79	28	2.5	30.29	3.98	28.81	N/A	4.26	28.53
AT-MW-5	33.03	2.3 - 12.3	4.62	28.41	2.11	30.92	3.66	29.37	N/A	4.03	29
H17-MW-18D	34.29	30.0 - 40.0	NM	NM	NM	NM	5.89	28.40	N/A	5.84	28.45
Former USTs 25 and 26 Wells											
AF-01	23.02	2.5 - 12.5	4.92	18.1	NM	NM	3.6	19.42	N/A	3.58	19.44
AF-02	21.94	2.0 - 12.0	4.58	17.36	NM	NM	NM	NM	N/A	3.87	18.07
AF-03	22.27	2.0 - 12.0	4.75	17.52	NM	NM	NM	NM	N/A	3.81	18.46
AF-04	22.24	2.0 - 12.0	3.01	19.23	NM	NM	1.68	20.56	N/A	2.31	19.93
AF-05	22.21	2.0 - 12.0	2.36	19.85	destroyed						
AF-07	b	2.5 - 12.5	4.92	b	2.22	b	NM	NM	3.73	NM	NM
AF-08	23.1	2.5 - 12.5	3.79	19.31	NM	NM	3.1	20	N/A	3.12	19.98
AF-09	22.93	2.0 - 12.0	NM	NM	destroyed						
AF-11	21.89	1.0 - 11.0	2.99	18.9	NM	NM	NM	NM	N/A	2.44	19.45
AF-12R	22.56	3.5 - 13.5	8.35	14.21	destroyed						
AF-13	22.79	2.5 - 12.5	2.99	19.8	1.31	21.48	NM	NM	N/A	2.56	20.23
AF-14	23.04	1.4 - 11.4	2.91	20.13	1.47	21.57	3.37	19.67	N/A	2.41	20.63
AF-15	23.28	1.5 - 11.5	3.95	19.33	NM	NM	4.64	18.64	N/A	3.38	19.9
AF-16	22.17	1.6 - 11.6	NM	NM	destroyed						
AF-17	18.93	2.0 - 12.0	NM	NM	destroyed						
AF-18	20.13	1.3 - 11.3	3.88	16.25	NM	NM	NM	NM	N/A	3.19	16.94
AF-19	19.68	1.4 - 11.4	1.19	18.49	destroyed						
AF-20	22.84	3.0 - 13.0	4.54	18.3	NM	NM	3.7	19.14	N/A	3.4	19.44
AF-23	23.25	3.0 - 13.0	4.44	18.81	2.89	20.36	3.88	19.37	N/A	3.86	19.39
AF-24	22.85	2.0 - 12.0	2.57	20.28	NM	NM	2.2	20.65	N/A	2.18	20.67
AF-25	15.03	0.1 - 10.1	NM	NM	NM	NM	NM	NM	N/A	1.05	13.98
AF-26	17.65	2.0 - 12.0	3.32	14.33	destroyed						
AF-28	17.11	2.0 - 12.0	NM	NM	destroyed						
AF-29	19.06	2.0 - 12.0	4.5	14.56	NM	NM	NM	NM	N/A	4.51	14.55
AF-33	18.07	2.3 - 11.8	2.6	15.47	NM	NM	NM	NM	N/A	2.4	15.67
AF-34	17.85	1.4 - 10.9	6.02	11.83	destroyed						
AF-35	17.63	1.2 - 10.7	4.18	13.45	NM	NM	NM	NM	N/A	3.85	13.78
AF-36	17.52	1.4 - 10.9	3.45	14.07	destroyed						
AF-37	20.06	4.4 - 14.3	NM	NM	destroyed						
AF-39	22.12	4.4 - 14.3	4.53	17.59	destroyed						
AF-40	22.78	28.5 - 33.0	5.34	17.44	destroyed						
AF-41	22.33	28.5 - 33.0	NM	NM	NM	NM	4.69	17.64	N/A	4.75	17.58
AF-42	19.03	28.5 - 33.0	0.9	18.13	destroyed						
AF-53	22.93	20.0 - 30.0	NM	NM	NM	NM	4.6	18.33	N/A	3.55	19.38
AF-54	22.43	32.4 - 42.4	4.11	18.32	1.83	20.6	3.29	19.14	N/A	3.26	19.17
AF-55	22.76	24.0 - 34.0	4.23	18.53	2.25	20.51	3.21	19.55	N/A	3.68	19.08
AF-56	22.99	19.9 - 29.9	NM	NM	2.23	20.76	4.34	18.65	N/A	3.32	19.67

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

Table 6-1
Groundwater Elevations
HAA-17
Hunter Army Airfield-Savannah, GA

Well ID	Top of Casing Elevation (ft above MSL)	Screened Interval (ft BGS)	Depth to Water (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	Depth to Water (ft)	Groundwater Elevation (ft)	Depth to Product (ft)	Depth to Water (ft)	Groundwater Elevation (ft)
AF-57	22.21	57.8 - 62.8	3.72	18.49	1.3	20.91	2.8	19.41	N/A	2.75	19.46
AF-58	22.32	2.7 - 12.7	8.71	13.61	4.72	17.6	7.51	14.81	N/A	7.87	14.45
AF-59	22.33	2.3 - 12.3	4.14	18.19	NM	NM	NM	NM	N/A	3.31	19.02
AF-60	23.77	20.0 - 30.0	2.7	21.07	NM	NM	2.98	20.79	N/A	2.66	21.11
AF-61	23.47	20.0 - 30.0	3.73	19.74	NM	NM	4.56	18.91	N/A	3.19	20.28
AF-62	22.11	3.0 - 13.0	NM	NM	destroyed						
AF-68	24.26	34.5 - 39.5	NM	NM	3.02	21.24	4.48	19.78	N/A	4.52	19.74
AF-69	23.83	40.2 - 45.2	NM	NM	3.79	20.04	NM	NM	N/A	5.63	18.2
AF-70	24	15.0 - 20.0	NM	NM	NM	NM	3.64	20.36	N/A	3.56	20.44
AF-71	23.06	15.3 - 20.3	NM	NM	NM	NM	NM	NM	N/A	4.17	18.89
AF-72	17.72	2.5 - 12.5	NM	NM	destroyed						
H17-MW-19S	19.23	5.0 - 15.0	NM	NM	NM	NM	7.46	11.77	N/A	5.38	13.85
H17-MW-20D	19.75	18.0 - 28.0	NM	NM	NM	NM	2.49	17.26	N/A	2.59	17.16
H17-MW-21S	19.33	7.0 - 17.0	NM	NM	NM	NM	4.85	14.48	N/A	4.85	14.48
H17-MW-21D	19.33	25.0 - 35.0	NM	NM	NM	NM	2.15	17.18	N/A	2.09	17.24
H17-MW-22S	18.66	7.0 - 17.0	NM	NM	NM	NM	5.61	13.05	N/A	3.05	15.61
H17-MW-22D	18.36	25.0 - 35.0	NM	NM	NM	NM	2.42	15.94	N/A	2.2	16.16
Building 1290 Investigation Wells											
MW-01D	36.40	19.95 - 29.95	6.79	29.61	NM	NM	NM	NM	N/A	5.48	30.92
MW-01S	36.43	5.72 - 15.72	6.75	29.68	NM	NM	NM	NM	N/A	5.05	31.38
MW-02D	36.05	19.90 - 29.90	6.38	29.67	4.35	31.7	NM	NM	N/A	5.1	30.95
MW-02S	36.05	4.3 - 14.3	6.28	29.77	4.3	31.75	NM	NM	N/A	5.04	31.01
MW-03D	b	19.59 - 29.58	6.95	b	4.94	b	NM	NM	N/A	5.65	N/A
MW-03S	b	6.70 - 11.70	6.78	b	4.9	b	NM	NM	N/A	5.43	N/A
MW-04D	36.25	19.91 - 29.91	6.82	29.43	NM	NM	NM	NM	N/A	5.46	30.79
MW-04S	36.23	5.66 - 15.66	6.69	29.54	NM	NM	NM	NM	N/A	5.33	30.90
MW-05D	36.16	20.0 - 30.0	6.35	29.81	4.49	31.67	NM	NM	N/A	5.27	30.89
MW-05S	36.14	5.80 - 15.80	6.32	29.82	4.49	31.65	NM	NM	N/A	5.23	30.91
MW-06S	36.03	4.0 - 9.0	6.44	29.59	NM	NM	NM	NM	N/A	5.7	30.33
MW-07D	36.93	24.6 - 34.6	6.85	30.08	4.15	32.78	NM	NM	N/A	6.2	30.73
MW-07S	36.92	7.89 - 17.89	6.73	30.19	4.31	32.61	NM	NM	N/A	6.02	30.90
MW-08D	36.72	14.50 - 24.50	6.74	29.98	3.84	32.88	5.62	31.1	N/A	5.65	31.07
MW-08S	36.53	5.40 - 15.40	6.56	29.97	3.66	32.87	5.42	31.11	N/A	5.49	31.04
MW-09D	37.35	20.39 - 30.39	9.65	27.7	7.11	30.24	8.81	28.54	N/A	8.8	28.55
MW-09S	37.39	5.55 - 15.55	8.46	28.93	5.4	31.99	7.4	29.99	N/A	7.51	29.88
MW-12D	37.27	24.3 - 34.3	7.8	29.47	5.91	31.36	NM	NM	N/A	6.56	30.71
MW-12S	37.29	7.6 - 17.6	7.75	29.54	5.76	31.53	NM	NM	N/A	6.45	30.84
MW-13D	36.81	20.01 - 30.01	7.11	29.7	4.71	32.1	NM	NM	N/A	5.56	31.25
MW-13S	36.63	5.59 - 15.59	6.8	29.83	4.35	32.28	NM	NM	N/A	5.36	31.27
H17-MW-17S	36.76	8.0 - 18.0	NM	NM	NM	NM	6.58	30.18	N/A	6.7	30.06
H17-MW-17D	36.79	32.0 - 42.0	NM	NM	NM	NM	7.59	29.20	N/A	8.04	28.75
Historic Unknown Wells											
MW-15	31.30	--	4.2	27.10	NM	NM	NM	NM	N/A	3.65	27.65
MW-16	30.33	--	3.55	26.78	1.35	28.98	3	27.33	N/A	3.17	27.16

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

Table 7-1
Monitor Well Pair Groundwater Hydraulic Head Comparison
Hunter Army Airfield, Savannah, Georgia
HAA-17 Site-Wide Groundwater

Well ID	MW-2S	MW-2D	MW-5S	MW-5D	MW-7S	MW-7D	MW-8S	MW-8D	MW-9S	MW-9D
Date	2/8/2010		2/8/2010		2/8/2010		2/8/2010		2/8/2010	
Well Depth (ft BGS)	14.3	29.9	15.8	30	17.9	34.6	15.4	24.5	15.5	30.4
TOC Elevation (ft above MSL)	36.05	36.05	36.14	36.16	36.92	36.93	36.53	36.72	37.39	37.35
Water Level (ft BTOC)	4.30	4.35	4.49	4.49	4.31	4.15	3.66	3.84	5.40	7.11
Groundwater Elevation (ft above MSL)	31.75	31.70	31.65	31.67	32.61	32.78	32.87	32.88	31.99	30.24
Vertical Head Difference	-0.05		0.02		0.17		0.01		-1.75	

Well ID	MW-12S	MW-12D	MW-13S	MW13D	H17-MW-17S	H17-MW-17D	H17-MW-21S	H17-MW-21D	H17-MW-22S	H17-MW-22D
Date	2/1/2010		2/1/2010		2/1/2010		2/1/2010		2/1/2010	
Well Depth (ft BGS)	17.6	34.3	15.6	30	18	42	17	35	17	35
TOC Elevation (ft above MSL)	37.29	37.27	36.63	36.81	36.76	36.79	19.33	19.33	18.66	18.36
Water Level (ft BTOC)	5.76	5.91	4.35	4.71	6.58	7.59	4.85	2.15	5.61	2.42
Groundwater Elevation (ft above MSL)	31.53	31.36	32.28	32.10	30.18	29.20	14.48	17.18	13.05	15.94
Vertical Head Difference	-0.17		-0.18		-0.98		2.70		2.89	

Notes:
1.) ft BGS: feet below ground surface
2.) ft BTOC: feet below top of casing
3.) MSL: mean sea level
4.) * = TOC elevation for HGL-3B is from historical survey data

Table 7-2
Groundwater Velocity
HAA-17 Site-Wide Groundwater

WELL	Screen Interval (feet bgs)		K (ft/day)	SE Gradient	Porosity	Velocity	
						ft / day	ft / yr
AF-08	2.5 - 12.5	Slug-in	0.89				
		Slug-out	0.61				
	slug-out utilized		0.61	0.009	0.25	0.02	8
AF-20	3.0 - 13.0	Slug-in	0.72				
		Slug-out	0.66				
	slug-out utilized		0.66	0.009	0.25	0.02	9
AF-24	2.0 - 12.0	Slug-in	0.60				
		Slug-out	0.55				
	slug-out utilized		0.55	0.009	0.25	0.02	7
AF-53	20.0 - 30.0	Slug-in	1.6				
		Slug-out	1.6				
		average	1.6	0.009	0.25	0.06	21
AF-54	32.4 - 42.4	Slug-in	46				
		Slug-out	81				
		average	63	0.009	0.25	2.3	830
AF-55	24.0 - 34.0	Slug-in	3.4				
		Slug-out	3.8				
		average	3.6	0.009	0.25	0.13	48
AF-57	57.8 - 62.8	Slug-in	3.3				
		Slug-out	2.7				
		average	3.0	0.009	0.25	0.11	39

Note: Groundwater Velocity = (K) x (Gradient) / (effective porosity)
bgs - below ground surface
ft / day - feet per day
ft / yr - feet per year

Table 7-3
Soil Analyses
ARCADIS 2009/2010 Additional DPT Investigation

	Location ID	H17-AF01	H17-AF01	H17-AF01	H17-AF15	H17-AF15	H17-AF15	H17-AF15	H17-AF53	H17-AF53	H17-AF53
	Sample Depth	21-22	31-32	37-38	21-22	29-30	37-38	44-45	25-26	35-36	42-43
	Sample Date	12/7/2009	12/7/2009	12/7/2009	12/8/2009	12/8/2009	12/8/2009	12/8/2009	12/8/2009	12/8/2009	12/8/2009
Chemical Name	HSRA Soil										
VOCs - USEPA Method 8260B (mg/kg)											
1,1,1-Trichloroethane	5.44	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
1,1,2,2-Tetrachloroethane	0.13	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
1,1,2-Trichloro-1,2,2-Trifluoroethane	6.92	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
1,1,2-Trichloroethane	0.5	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
1,1-Dichloroethane	0.03	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
1,1-Dichloroethene	0.36	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
1,2,4-Trichlorobenzene	10.8	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
1,2-Dibromo-3-chloropropane (DBCP)	--	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
1,2-Dibromoethane	0.01	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
1,2-Dichlorobenzene	25	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
1,2-Dichloroethane	0.02	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
1,2-Dichloropropane	0.02	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
1,3-Dichlorobenzene	2.22	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
1,4-Dichlorobenzene	0.13	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
2-Butanone	0.79	<0.29	<0.28	<0.22	<0.012	<0.022	<0.011	<0.0094	<0.011	<0.0091	<0.0079
2-Hexanone	--	<0.29	<0.28	<0.22	<0.012	<0.022	<0.011	<0.0094	<0.011	<0.0091	<0.0079
4-Methyl-2-pentanone	3.3	<0.29	<0.28	<0.22	<0.012	<0.022	<0.011	<0.0094	<0.011	<0.0091	<0.0079
Acetone	2.74	<0.58	<0.56	<0.44	**0.2 J**	**0.28 J**	**0.13 J**	**0.18 J**	**0.036 J**	<0.018	<0.016
Benzene	0.02	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Benzene, 1-methylethyl	21.9	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Bromodichloromethane	1.18	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Bromoform	1	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Bromomethane	0.8	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Carbon disulfide	--	<0.15	<0.14	<0.11	**0.011 J**	**0.03 J**	**0.0015 J**	**0.0032 J**	**0.018 J**	**0.012 J**	**0.0026 J**
Carbon tetrachloride	0.17	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
CFC-11	0.7	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
CFC-12	1.49	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Chlorobenzene	4.18	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Chloroethane	0.17	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Chloroform	0.68	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Chloromethane	0.04	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
cis-1,2-Dichloroethene	0.53	<0.15	<0.022	<0.11	<0.006	**0.0022 J**	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
cis-1,3-Dichloropropene	--	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Cyclohexane	25	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Dibromochloromethane	1.63	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Ethylbenzene	20	<0.15	<0.14	<0.11	<0.006	**0.0064 J**	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Methyl acetate	--	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Methylcyclohexane	--	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Methylene chloride	0.08	<0.15	<0.14	<0.11	**0.0045 J**	**0.007 J**	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Styrene	14	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
tert-Butyl methyl ether	--	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Tetrachloroethene	0.13	<0.15	<0.14	<0.11	<0.006	**0.0075 J**	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Toluene	14.4	<0.15	<0.14	<0.11	<0.006	**0.0051 J**	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
trans-1,2-Dichloroethene	0.53	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
trans-1,3-Dichloropropene	--	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Trichloroethene	0.13	**0.35**	**0.47**	<0.11	**0.035**	**0.077**	<0.0055	<0.0047	**0.036**	**0.0088**	**0.0053**
Vinyl chloride	0.04	<0.15	<0.14	<0.11	<0.006	<0.011	<0.0055	<0.0047	<0.0053	<0.0046	<0.004
Xylenes (total)	20	<0.15	<0.14	<0.11	**0.0047 J**	**0.041**	<0.0055	<0.0047	<0.0053	<0.0046	<0.004

Notes:
- Indicate the analyte was detected above applicable standards
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
HSRA Soil - Georgia Environmental Protection Division Hazardous Substance Release Act (Rule 391-3-19-.04(3)(b)).
mg/kg - milligrams per kilogram
NA - Not analyzed
VOCs - Volatile Organic Compounds

Table 7-3
Soil Analyses
ARCADIS 2009/2010 Additional DPT Investigation

	Location ID	H17-AF61	H17-AF61	H17-AF61	H17-AF61	H17-AF62	H17-AF62	H17-AF62	H17-AF101	H17-AF101	H17-AF102	H17-AF102
	Sample Depth	22-23	36-37	41-42	48-49	21-22	26-27	36-37	24-25	34-35	34-35	44-45
	Sample Date	12/9/2009	12/9/2009	12/9/2009	12/9/2009	12/8/2009	12/8/2009	12/8/2009	12/10/2009	12/10/2009	12/15/2009	12/15/2009
Chemical Name	HSRA Soil											
VOCs - USEPA Method 8260B (mg/kg)												
1,1,1-Trichloroethane	5.44	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
1,1,2,2-Tetrachloroethane	0.13	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
1,1,2-Trichloro-1,2,2-Trifluoroethane	6.92	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
1,1,2-Trichloroethane	0.5	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
1,1-Dichloroethane	0.03	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
1,1-Dichloroethene	0.36	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	**0.0043**	<0.31	<0.0032	<0.0025
1,2,4-Trichlorobenzene	10.8	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
1,2-Dibromo-3-chloropropane (DBCP)	--	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
1,2-Dibromoethane	0.01	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
1,2-Dichlorobenzene	25	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
1,2-Dichloroethane	0.02	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
1,2-Dichloropropane	0.02	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
1,3-Dichlorobenzene	2.22	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
1,4-Dichlorobenzene	0.13	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
2-Butanone	0.79	<0.0042	<0.37	<0.004	<0.014	<0.29	<0.21	<0.011	<0.0059	<0.63	<0.0064	<0.005
2-Hexanone	--	<0.0042	<0.37	<0.004	<0.014	<0.29	<0.21	<0.011	<0.0059	<0.63	<0.0064	<0.005
4-Methyl-2-pentanone	3.3	<0.0042	<0.37	<0.004	<0.014	<0.29	**0.037 J**	<0.011	<0.0059	<0.63	<0.0064	<0.005
Acetone	2.74	**0.038**	<0.73	<0.0081	<0.027	<0.57	<0.42	<0.021	**0.02**	<1.3	**0.0081 J**	<0.01
Benzene	0.02	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Benzene, 1-methylethyl	21.9	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Bromodichloromethane	1.18	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Bromoform	1	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Bromomethane	0.8	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Carbon disulfide	--	**0.0063 J**	<0.18	**0.0015 J**	**0.0048 J**	<0.14	<0.11	**0.0049 J**	**0.0058 J**	<0.31	**0.0025 J**	**0.035 J**
Carbon tetrachloride	0.17	**0.0041**	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
CFC-11	0.7	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
CFC-12	1.49	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Chlorobenzene	4.18	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Chloroethane	0.17	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Chloroform	0.68	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Chloromethane	0.04	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
cis-1,2-Dichloroethene	0.53	**0.00054 J**	<0.18	<0.002	<0.0068	<0.14	**0.031 J**	<0.0053	**0.094**	<0.31	<0.0032	<0.0025
cis-1,3-Dichloropropene	--	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Cyclohexane	25	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Dibromochloromethane	1.63	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Ethylbenzene	20	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Methyl acetate	--	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Methylcyclohexane	--	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Methylene chloride	0.08	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Styrene	14	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
tert-Butyl methyl ether	--	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Tetrachloroethene	0.13	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Toluene	14.4	<0.0021	<0.18	<0.002	<0.0068	<0.14	**0.036 J**	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
trans-1,2-Dichloroethene	0.53	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
trans-1,3-Dichloropropene	--	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Trichloroethene	0.13	**0.53**	**0.75**	**0.0021**	<0.0068	<0.14	**0.2**	<0.0053	**0.94**	**0.81 J**	<0.0032	<0.0025
Vinyl chloride	0.04	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025
Xylenes (total)	20	<0.0021	<0.18	<0.002	<0.0068	<0.14	<0.11	<0.0053	<0.0029	<0.31	<0.0032	<0.0025

Notes:

- Indicate the analyte was detected above applicable standards

BOLD - indicate the analyte was detected.

J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

HSRA Soil - Georgia Environmental Protection Division Hazardous Substance Release Act (Rule 391-3-19-.04(3)(b)).

mg/kg - milligrams per kilogram

NA - Not analyzed

VOCs - Volatile Organic Compounds

Table 7-3
Soil Analyses
ARCADIS 2009/2010 Additional DPT Investigation

	Location ID	H17-AF103	H17-AF103	H17-AF104	H17-AF104	H17-AF104	H17-AF105	H17-AF105	H17-AF107	H17-AF107	H17-AF108	H17-AF108
	Sample Depth	34-35	44-45	24-25	34-35	44-45	34-35	44-45	34-35	44-45	34-35	44-45
	Sample Date	12/16/2009	12/16/2009	12/16/2009	12/16/2009	12/16/2009	12/16/2009	12/16/2009	12/17/2009	12/17/2009	12/17/2009	12/17/2009
Chemical Name	HSRA Soil											
VOCs - USEPA Method 8260B (mg/kg)												
1,1,1-Trichloroethane	5.44	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
1,1,2,2-Tetrachloroethane	0.13	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
1,1,2-Trichloro-1,2,2-Trifluoroethane	6.92	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
1,1,2-Trichloroethane	0.5	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
1,1-Dichloroethane	0.03	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
1,1-Dichloroethene	0.36	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
1,2,4-Trichlorobenzene	10.8	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
1,2-Dibromo-3-chloropropane (DBCP)	--	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
1,2-Dibromoethane	0.01	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
1,2-Dichlorobenzene	25	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
1,2-Dichloroethane	0.02	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
1,2-Dichloropropane	0.02	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
1,3-Dichlorobenzene	2.22	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
1,4-Dichlorobenzene	0.13	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
2-Butanone	0.79	<0.0056	<0.0047	<0.0053	<0.0061	<0.0059	<0.0058	<0.0056	<0.0046	<0.0063	<0.007	<0.0057
2-Hexanone	--	<0.0056	<0.0047	<0.0053	<0.0061	<0.0059	<0.0058	<0.0056	<0.0046	<0.0063	<0.007	<0.0057
4-Methyl-2-pentanone	3.3	<0.0056	<0.0047	<0.0053	<0.0061	**0.0072**	<0.0058	<0.0056	<0.0046	<0.0063	<0.007	<0.0057
Acetone	2.74	<0.011	<0.0095	<0..011	<0.012	<0.012	<0.012	<0.011	<0.0092	<0.013	<0.014	<0.011
Benzene	0.02	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Benzene, 1-methylethyl	21.9	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Bromodichloromethane	1.18	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Bromoform	1	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Bromomethane	0.8	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Carbon disulfide	--	**0.0024 J**	**0.0042**	**0.00086 J**	<0.003	**0.003**	**0.00081 J**	**0.00093 J**	**0.0021 J**	<0.0031	<0.0035	**0.0016 J**
Carbon tetrachloride	0.17	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
CFC-11	0.7	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
CFC-12	1.49	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Chlorobenzene	4.18	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Chloroethane	0.17	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Chloroform	0.68	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Chloromethane	0.04	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
cis-1,2-Dichloroethene	0.53	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
cis-1,3-Dichloropropene	--	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Cyclohexane	25	<0.0028	<0.0024	<0.0027	<0.003	**0.00058 J**	<0.0029	**0.00058 J**	**0.00042 J**	<0.0031	<0.0035	<0.0029
Dibromochloromethane	1.63	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Ethylbenzene	20	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Methyl acetate	--	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Methylcyclohexane	--	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Methylene chloride	0.08	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Styrene	14	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
tert-Butyl methyl ether	--	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Tetrachloroethene	0.13	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Toluene	14.4	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
trans-1,2-Dichloroethene	0.53	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
trans-1,3-Dichloropropene	--	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Trichloroethene	0.13	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	**0.0015 J**	<0.0031	<0.0035	<0.0029
Vinyl chloride	0.04	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029
Xylenes (total)	20	<0.0028	<0.0024	<0.0027	<0.003	<0.0029	<0.0029	<0.0028	<0.0023	<0.0031	<0.0035	<0.0029

Notes:

- Indicate the analyte was detected above applicable standards

BOLD - indicate the analyte was detected.

J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

HSRA Soil - Georgia Environmental Protection Division Hazardous Substance Release Act (Rule 391-3-19-.04(3)(b)).

mg/kg - milligrams per kilogram

NA - Not analyzed

VOCs - Volatile Organic Compounds

Table 7-3
Soil Analyses
ARCADIS 2009/2010 Additional DPT Investigation

	Location ID	H17-FD1	H17-FD1	H17-FD2	H17-FD2	H17-FD3	H17-FD3	H17-PF1	H17-PF1	H17-PF1	H17-PF2	H17-PF2
	Sample Depth	34-35	44-45	34-35	44-45	34-35	44-45	6-7	34-35	44-45	34-35	44-45
	Sample Date	12/14/2009	12/14/2009	12/14/2009	12/14/2009	12/14/2009	12/14/2009	12/11/2009	12/11/2009	12/11/2009	12/10/2009	12/10/2009
Chemical Name	HSRA Soil											
VOCs - USEPA Method 8260B (mg/kg)												
1,1,1-Trichloroethane	5.44	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
1,1,2,2-Tetrachloroethane	0.13	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
1,1,2-Trichloro-1,2,2-Trifluoroethane	6.92	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
1,1,2-Trichloroethane	0.5	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
1,1-Dichloroethane	0.03	<0.0035	<0.0033	<0.0025	**0.0026 J**	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
1,1-Dichloroethene	0.36	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
1,2,4-Trichlorobenzene	10.8	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
1,2-Dibromo-3-chloropropane (DBCP)	--	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
1,2-Dibromoethane	0.01	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
1,2-Dichlorobenzene	25	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
1,2-Dichloroethane	0.02	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
1,2-Dichloropropane	0.02	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
1,3-Dichlorobenzene	2.22	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
1,4-Dichlorobenzene	0.13	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
2-Butanone	0.79	<0.0071	<0.0066	<0.0049	<0.0055	<0.0071	<0.0082	<0.0084	<0.0054	<0.0079	<0.0046	<0.017
2-Hexanone	--	<0.0071	<0.0066	<0.0049	<0.0055	<0.0071	<0.0082	<0.0084	<0.0054	<0.0079	<0.0046	<0.017
4-Methyl-2-pentanone	3.3	<0.0071	<0.0066	<0.0049	<0.0055	<0.0071	<0.0082	<0.0084	<0.0054	<0.0079	<0.0046	<0.017
Acetone	2.74	**0.014**	<0.013	<0.0098	**0.049**	<0.014	<0.016	**0.0079 J**	**0.0093 J**	**0.024**	<0.0093	<0.035
Benzene	0.02	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Benzene, 1-methylethyl	21.9	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Bromodichloromethane	1.18	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Bromoform	1	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Bromomethane	0.8	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Carbon disulfide	--	<0.0035	<0.0033	<0.0025	**0.095**	**0.0011 J**	**0.0011 J**	<0.0042	<0.0027	**0.0012 J**	**0.0021 J**	**0.0061 J**
Carbon tetrachloride	0.17	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
CFC-11	0.7	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
CFC-12	1.49	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Chlorobenzene	4.18	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Chloroethane	0.17	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Chloroform	0.68	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Chloromethane	0.04	<0.0035	<0.0033	<0.0025	**0.0029**	**0.0024 J**	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
cis-1,2-Dichloroethene	0.53	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	**0.0013 J**	<0.0042	<0.0027	**0.001 J**	**0.00043 J**	**0.0038 J**
cis-1,3-Dichloropropene	--	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Cyclohexane	25	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Dibromochloromethane	1.63	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Ethylbenzene	20	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Methyl acetate	--	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Methylcyclohexane	--	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Methylene chloride	0.08	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Styrene	14	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
tert-Butyl methyl ether	--	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Tetrachloroethene	0.13	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Toluene	14.4	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
trans-1,2-Dichloroethene	0.53	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
trans-1,3-Dichloropropene	--	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Trichloroethene	0.13	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	**0.015**	**0.0092**	**0.095**
Vinyl chloride	0.04	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086
Xylenes (total)	20	<0.0035	<0.0033	<0.0025	<0.0027	<0.0035	<0.0041	<0.0042	<0.0027	<0.0039	<0.0023	<0.0086

Notes:

- Indicate the analyte was detected above applicable standards

BOLD - indicate the analyte was detected.

J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

HSRA Soil - Georgia Environmental Protection Division Hazardous Substance Release Act (Rule 391-3-19-.04(3)(b)).

mg/kg - milligrams per kilogram

NA - Not analyzed

VOCs - Volatile Organic Compounds

Table 7-3
Soil Analyses
ARCADIS 2009/2010 Additional DPT Investigation

	Location ID	H17-PF3	H17-PF3	H17-PF4	H17-PF4
	Sample Depth	2-3	6-7	34-35	44-45
	Sample Date	12/11/2009	12/11/2009	12/14/2009	12/14/2009
Chemical Name	HSRA Soil				
VOCs - USEPA Method 8260B (mg/kg)					
1,1,1-Trichloroethane	5.44	<0.47	<0.13	<0.0023	<0.0032
1,1,2,2-Tetrachloroethane	0.13	<0.47	<0.13	<0.0023	<0.0032
1,1,2-Trichloro-1,2,2-Trifluoroethane	6.92	<0.47	<0.13	<0.0023	<0.0032
1,1,2-Trichloroethane	0.5	<0.47	<0.13	<0.0023	<0.0032
1,1-Dichloroethane	0.03	<0.47	<0.13	<0.0023	<0.0032
1,1-Dichloroethene	0.36	<0.47	<0.13	<0.0023	<0.0032
1,2,4-Trichlorobenzene	10.8	<0.47	<0.13	<0.0023	<0.0032
1,2-Dibromo-3-chloropropane (DBCP)	--	<0.47	<0.13	<0.0023	<0.0032
1,2-Dibromoethane	0.01	<0.47	<0.13	<0.0023	<0.0032
1,2-Dichlorobenzene	25	<0.47	<0.13	<0.0023	<0.0032
1,2-Dichloroethane	0.02	<0.47	<0.13	<0.0023	<0.0032
1,2-Dichloropropane	0.02	<0.47	<0.13	<0.0023	<0.0032
1,3-Dichlorobenzene	2.22	<0.47	<0.13	<0.0023	<0.0032
1,4-Dichlorobenzene	0.13	<0.47	<0.13	<0.0023	<0.0032
2-Butanone	0.79	<0.93	<0.27	<0.0046	<0.0064
2-Hexanone	--	<0.93	<0.27	<0.0046	<0.0064
4-Methyl-2-pentanone	3.3	**0.31 J**	<0.27	<0.0046	<0.0064
Acetone	2.74	<1.9	<0.54	<0.0092	**0.077**
Benzene	0.02	<0.47	<0.13	<0.0023	<0.0032
Benzene, 1-methylethyl	21.9	**3.7**	**0.62 J**	<0.0023	<0.0032
Bromodichloromethane	1.18	<0.47	<0.13	<0.0023	<0.0032
Bromoform	1	<0.47	<0.13	<0.0023	<0.0032
Bromomethane	0.8	<0.47	<0.13	<0.0023	<0.0032
Carbon disulfide	--	<0.47	<0.13	<0.0023	**0.2**
Carbon tetrachloride	0.17	<0.47	<0.13	<0.0023	<0.0032
CFC-11	0.7	<0.47	<0.13	<0.0023	<0.0032
CFC-12	1.49	<0.47	<0.13	<0.0023	<0.0032
Chlorobenzene	4.18	<0.47	<0.13	<0.0023	<0.0032
Chloroethane	0.17	<0.47	<0.13	<0.0023	<0.0032
Chloroform	0.68	<0.47	<0.13	<0.0023	<0.0032
Chloromethane	0.04	<0.47	<0.13	**0.00088 J**	**0.0014 J**
cis-1,2-Dichloroethene	0.53	<0.47	<0.13	<0.0023	<0.0032
cis-1,3-Dichloropropene	--	<0.47	<0.13	<0.0023	<0.0032
Cyclohexane	25	<0.47	<0.13	<0.0023	<0.0032
Dibromochloromethane	1.63	<0.47	<0.13	<0.0023	<0.0032
Ethylbenzene	20	**4.3**	**0.7 J**	<0.0023	<0.0032
Methyl acetate	--	<0.47	<0.13	<0.0023	<0.0032
Methylcyclohexane	--	**11**	**6.0 J**	<0.0023	<0.0032
Methylene chloride	0.08	<0.47	<0.13	<0.0023	<0.0032
Styrene	14	<0.47	<0.13	<0.0023	<0.0032
tert-Butyl methyl ether	--	<0.47	<0.13	<0.0023	<0.0032
Tetrachloroethene	0.13	<0.47	<0.13	**0.0024**	<0.0032
Toluene	14.4	**2.6**	**0.3 J**	**0.00097 J**	<0.0032
trans-1,2-Dichloroethene	0.53	<0.47	<0.13	<0.0023	<0.0032
trans-1,3-Dichloropropene	--	<0.47	<0.13	<0.0023	<0.0032
Trichloroethene	0.13	<0.47	<0.13	<0.0023	<0.0032
Vinyl chloride	0.04	<0.47	<0.13	<0.0023	<0.0032
Xylenes (total)	20	**55**	**5.2 J**	**0.0013 J**	<0.0032

Notes:
- Indicate the analyte was detected above applicable standards
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
HSRA Soil - Georgia Environmental Protection Division Hazardous Substance Release Act (Rule 391-3-19-.04(3)(b)).
mg/kg - milligrams per kilogram
NA - Not analyzed
VOCs - Volatile Organic Compounds

Table 7-4
Groundwater Analytical Results
ARCADIS 2009 DPT Investigation

		Location ID	H17-AF102	H17-AF103	H17-AF104	H17-AF105	H17-AF107	H17-AF108	H17-FD1	H17-FD2	H17-FD3	H17-PF1	H17-PF2	H17-PF4
		Sample Depth	41-45	41-45	41-45	41-45	41-45	41-45	41-45	41-45	41-45	41-45	41-45	41-45
		Sample Date	12/15/2009	12/15/2009	12/17/2009	12/16/2009	12/17/2009	12/17/2009	12/15/2009	12/15/2009	12/15/2009	12/15/2009	12/17/2009	12/15/2009
Chemical Name	MCL	Type I RRS												
VOCs - USEPA Method 8260B (µg/L)														
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**7.1**	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethene	7	7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**2.4**	< 0.5	< 0.5	**0.21 J**	< 0.5
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane (DBCP)	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.73**	< 0.5	**2.2**	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.99**	< 0.5	< 0.5	< 0.5	< 0.5
1,3-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	**0.78 J**	< 10	< 10	< 10	< 10	< 10	**0.37 J**	< 10	< 10	< 10	< 10
Acetone		4,000	**6.9 J**	**3.2 J**	**4.5 B**	**3.0 B**	**1.9 B**	**2.7 B**	< 10	< 10	< 10	< 10	< 10	**4.3 J**
Benzene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.34 J**	< 0.5	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	**0.37 J**	**0.36 J**	**0.73 UB**	< 0.5	< 0.5	**0.75 UB**	**0.61**	**0.72**	**1.3**	< 0.5	**0.36 UB**	**0.53**
Carbon tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.32 J**	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	70	< 0.5	< 0.5	**0.45 J**	< 0.5	< 0.5	< 0.5	**0.87**	**0.20 J**	**6.2**	**0.18 J**	**7.5**	**0.37 J**
cis-1,3-Dichloropropene			< 0.5	**2.0**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.45 B**
Dibromochloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.9**	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylcyclohexane			< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylene chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
tert-Butyl methyl ether			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	**2.6**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	**0.38 J**	< 0.5	< 0.5	< 0.5	**1.1**	**2.2**	< 0.5	**1.7**
Vinyl chloride	2	2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**3.4**	< 0.5	< 0.5	< 0.5	< 0.5

Notes:
* - Duplicate sample
- Indicate the analyte was detected above one or more applicable standards
BOLD - indicate the analyte was detected.
B - Analyte was detected in an associated blank as well as in the sample.
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (5/2009).
µg/L - Micrograms per Liter
NA - Not analyzed
RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 2003).
VOCs - Volatile Organic Compounds

Table 7-5
Groundwater Analytical Results
Shallow Permanent Monitor Wells

		Location ID	AF-13	AF-14	AF-23	AF-25	AF-26	AF-35	AF-58	AF-70	AF-71	AF-72	AT-MW-02	AT-MW-03		AT-MW-04	AT-MW-05	1290-MW-2S	1290-MW-3S	1290-MW-5S	1290-MW-7S	1290-MW-8S	1290-MW-9S
		Sample Date	2/10/2010	2/10/2010	2/10/2010	2/11/2010	2/11/2010	2/11/2010	2/11/2010	11/18/2011	11/18/2011	12/20/2011	2/17/2010	2/17/2010	2/17/2010*	2/17/2010	2/17/2010	2/11/2010	2/11/2010	2/16/2010	2/11/2010	2/16/2010	2/16/2010
Chemical Name	MCL	Type I RRS																					
VOCs - USEPA Method 8260B (µg/L)																							
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	**0.73 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	7	7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.4**	< 10	**0.19 J**	**3.6**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.8**
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane (EDB)	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10 UJ	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10 UJ	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 100	< 10	< 10 UJ	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone		4,000	< 10	**18**	**17**	< 10	< 10	< 10	**2.4 J**	< 200	<20	< 20 UJ	< 10	< 10	**18**	< 10	**18**	**1.1 J**	**17**	< 10	**17**	**18**	< 10
Benzene	5	5	**0.25 J**	< 0.5	< 0.5	**0.37 J**	< 0.5	**0.12 J**	< 0.5	< 10	**0.21 J**	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	**0.56**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 20	< 2	< 2 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 20	< 2	< 2 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorodibromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 20	< 2	< 2 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	**0.30 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	70	**0.65**	< 0.5	**0.16 J**	**24**	< 0.5	**14**	**110**	< 10	**20**	**290**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	**0.20 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 0.5	< 0.5	< 0.5	**1.2**	< 0.5	**0.096 J**	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methylcyclohexane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene Chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.33 J**	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	**0.56**	< 0.5	**0.84**	**0.93**	< 10	**1.2**	**1.6**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tribromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	NA	< 1 UJ	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	5	5	< 0.5	< 0.5	< 0.5	**77**	< 0.5	**2.1**	**270**	**3.9 J**	**4.8**	**390**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl Chloride	2	2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.35 J**	< 10	**2.5**	**0.51 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 10	<1	**0.54 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Metals - USEPA Method 6010B (µg/L)																							
Barium, Total	2,000	2,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**9.4 J**	**20 J**	**21 J**	**37**	<25.0	NA	NA	NA	NA	NA	NA
Chromium, Total	100		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.2 J**	<5.0	<5.0	**2.2 J**	<5.0	NA	NA	NA	NA	NA	NA

Notes:
* - Duplicate sample
[shaded] - Indicate the analyte was detected above one or more applicable standards
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
UJ - The analyte was not identified, but the associated numerical value for the quantitation limit is approximate.
MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (5/2009).
µg/L - Micrograms per Liter
NA - Not analyzed
RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 2003).
VOCs - Volatile Organic Compounds

Table 7-5
Groundwater Analytical Results
Shallow Permanent Monitor Wells

		Location ID	1290-MW-12S	1290-MW-13S	MW-15S	MW-16S	H17-MW-17S	H17-MW-19S		H17-MW-21S	H17-MW-22S	H17-MW-26S	H17-MW-27S
		Sample Date	2/11/2010	2/16/2010	2/19/2010	2/17/2010	5/25/2010	5/25/2010	5/25/2010*	5/25/2010	5/25/2010	12/14/2011	1/5/2012
Chemical Name	MCL	Type I RRS											
VOCs - USEPA Method 8260B (µg/L)													
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
1,1-Dichloroethylene	7	7	< 0.5	< 0.5	< 0.5	**0.49 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
1,2-Dibromo-3-chloropropane	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
1,2-Dibromoethane (EDB)	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10
2-Hexanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10
4-Methyl-2-pentanone			< 10	< 10	< 10	< 10	**3.5 J**	< 10	< 10	< 10	< 10	<10	<10
Acetone		4,000	**1.5 J**	< 10	< 10	< 10	**28**	**5.1 J**	< 10	**1.9 J**	**3.7 J**	<20	<20
Benzene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	**0.18 J**	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<2	<2
Carbon disulfide		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.17 J**	<1
Carbon Tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<2	<2
Chlorodibromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5	**0.69**	< 0.5	< 0.5	< 0.5	< 0.5	<2	<2
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
cis-1,2-Dichloroethene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
m-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA
Methyl acetate			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA
Methyl tert-butyl ether			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Methylcyclohexane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	NA
Methylene Chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Styrene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.24 J**	< 0.5	< 0.5	< 0.5	<1	<1
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Tribromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Trichloroethylene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Vinyl Chloride	2	2	< 0.5	< 0.5	< 0.5	**1.3**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<1	<1
Metals - USEPA Method 6010B (µg/L)													
Barium, Total	2,000	2,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Total	100		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
* - Duplicate sample
[shaded] - Indicate the analyte was detected above one or more applicable standards
BOLD - indicate the analyte was detected.
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
UJ - The analyte was not identified, but the associated numerical value for the quantitation limit is approximate.
MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (5/2009).
µg/L - Micrograms per Liter
NA - Not analyzed
RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 2003).
VOCs - Volatile Organic Compounds

Table 7-6
Groundwater Analytical Results
Deep Permanent Monitor Wells

		Location ID	AF-41	AF-53	AF-54	AF-55	AF-55	AF-56	AF-57	AF-68	AF-69	AT-MW-1	1290-MW-2D	1290-MW-3D	1290-MW-5D	1290-MW-7D
		Sample Date	2/10/2010	11/18/2011	2/10/2010	2/10/2010	2/10/2010*	2/10/2010	2/10/2010	2/10/2010	2/10/2010	2/17/2010	2/11/2010	2/11/2010	2/16/2010	2/11/2010
Chemical Name	MCL	Type I RRS														
VOCs - USEPA Method 8260B (µg/L)																
1,1,1-Trichloroethane	200	200	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	NA	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1,2-Trichloroethane	5	5	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethane		4,000	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,1-Dichloroethylene	7	7	**0.89**	< 20	**1.1**	**0.90**	**0.86**	< 2.5	< 0.5	**1.5**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2,4-Trichlorobenzene	70	70	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromo-3-chloropropane (DBCP)	.2		< 0.5	NA	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dibromoethane (EDB)	.05		< 0.5	NA	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichlorobenzene	600	600	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloroethane	5	5	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,2-Dichloropropane	5	5	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	75	75	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2-Butanone (MEK)			< 10	< 200	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Hexanone			< 10	< 200	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methyl-2-pentanone			< 10	< 200	< 10	< 10	< 10	< 50	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone		4,000	**1.1 J**	< 400	**17**	**17**	**18**	< 50	**18**	**17**	**17**	< 10	**17**	**18**	< 10	**2.0 J**
Benzene	5	5	< 0.5	< 20	**0.19 J**	**0.94**	**0.93**	**3.2**	< 0.5	**1.7**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzene, 1-methylethyl			< 0.5	NA	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane		100	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Bromomethane			< 0.5	< 40	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon disulfide		4,000	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	5	5	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-11			< 0.5	NA	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
CFC-12			< 0.5	NA	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	100	100	< 0.5	< 40	<40	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chlorodibromomethane			< 0.5	< 5 H	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroethane			< 0.5	< 40	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform		100	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chloromethane			< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,2-Dichloroethene	70	70	**48**	**33**	**52**	**110**	**110**	**15**	**0.47 J**	**79**	**3.4**	**0.63**	< 0.5	< 0.5	< 0.5	< 0.5
cis-1,3-Dichloropropene			< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cyclohexane			< 0.5	NA	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	700	700	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
m-Dichlorobenzene			< 0.5	NA	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl acetate			< 1.0	NA	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether			< 0.5	< 20	< 0.5	**0.24 J**	< 0.5	**1.7 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methylcyclohexane			< 5.0	NA	< 5.0	< 5.0	< 5.0	< 25	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene Chloride	5	5	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	100	100	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	5	5	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	1,000	1,000	< 0.5	< 20	< 0.5	< 0.5	< 0.5	**1.3 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,2-Dichloroethene	100		**0.24 J**	< 20	**0.24 J**	**2.3**	**2.3**	< 2.5	< 0.5	**1.4**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
trans-1,3-Dichloropropene			< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tribromomethane			< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethylene	**5**	**5**	**46**	**1200**	**270**	**170**	**170**	**1100**	**< 0.5**	**410**	**66**	**14**	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5**
Vinyl Chloride	2	2	< 0.5	< 20	**0.074 J**	**0.19 J**	**0.15 J**	< 2.5	< 0.5	**0.15 J**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes (total)	10,000	10,000	< 0.5	< 20	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Metals - USEPA Method 6010B (µg/L)																
Barium, Total	2,000	2,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	**28**	NA	NA	NA	NA
Chromium, Total	100		NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0	NA	NA	NA	NA

Notes:

- Indicate the analyte was detected above one or more applicable standards

BOLD - indicate the analyte was detected.

J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

UJ - The analyte was not identified, but the associated numerical value for the quantitation limit is approximate.

MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (5/2009).

µg/L - Micrograms per Liter

NA - Not analyzed

RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 2003).

VOCs - Volatile Organic Compounds

H - Sample was run out of holding time

Table 7-6
Groundwater Analytical Results
Deep Permanent Monitor Wells

		Location ID	1290-MW-8D	1290-MW-9D	1290-MW-12D	1290-MW-13D	H17-MW-17D	H17-MW-18D	H17-MW-20D	H17-MW-21D	H17-MW-22D	H17-MW-23D	H17-MW-24	H17-MW-25D	H17-MW-26D	H17-MW-27D	H17-MW-29D
		Sample Date	2/16/2010	2/16/2010	2/11/2010	2/16/2010	5/25/2010	5/25/2010	5/25/2010	5/25/2010	5/25/2010	12/12/2011	1/5/2012	12/14/2011	12/14/2011	1/5/2012	1/5/2012
Chemical Name	MCL	Type I RRS															
VOCs - USEPA Method 8260B (µg/L)																	
1,1,1-Trichloroethane	200	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2,2-Tetrachloroethane		0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
1,1,2-Trichloro-1,2,2-Trifluoroethane		1,000,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethane		4,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
1,1-Dichloroethylene	7	7	**5.1**	**0.40 J**	< 0.5	< 0.5	< 0.5	< 0.5	**0.94**	< 0.5	< 0.5	**1.3**	< 1	< 1	< 1	< 1	< 1
1,2,4-Trichlorobenzene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane (DBCP)	.2		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane (EDB)	.05		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	600	600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloroethane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
1,2-Dichloropropane	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
1,4-Dichlorobenzene	75	75	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<10	<10
2-Hexanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone			< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	<10	<10	<10	<10	<10
Acetone		4,000	< 10	**18**	< 10	< 10	**4.6 J**	< 10	< 10	**1.5 J**	< 10	< 20	<20	<20	<20	<20	<20
Benzene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**5.2**	< 0.5	< 0.5	< 0.5	**0.63 J**	< 1	< 1	< 1	< 1	< 1
Benzene, 1-methylethyl			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
Bromodichloromethane		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
Bromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2 UJ	<2	<2	<2	<2	<2
Carbon disulfide		4,000	< 0.5	< 0.5	< 0.5	< 0.5	**1.9**	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	**0.13 J**
Carbon Tetrachloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
CFC-11			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
CFC-12			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
Chlorobenzene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2	<2	<2	<2	<2	<2
Chlorodibromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	<1	< 1	< 1	< 1	< 1
Chloroethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2	<2	<2	<2	<2	<2
Chloroform		100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.7**	< 1	< 1	< 1	< 1	< 1
Chloromethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	70	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**1.1**	**59**	< 0.5	< 0.5	**60**	< 1	< 1	< 1	< 1	< 1
cis-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
Cyclohexane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
Ethylbenzene	700	700	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
m-Dichlorobenzene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	NA	NA	NA	NA
Methyl acetate			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**3.6**	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
Methylcyclohexane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	NA	NA	NA	NA	NA
Methylene Chloride	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
Styrene	100	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
Toluene	1,000	1,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	**2**
trans-1,2-Dichloroethene	100		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	**0.7**	< 0.5	< 0.5	**0.34 J**	< 1	< 1	< 1	< 1	< 1
trans-1,3-Dichloropropene			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
Tribromomethane			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethylene	**5**	**5**	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5**	**< 0.5**	**2.6**	**280**	**< 0.5**	**< 0.5**	**460**	< 1	< 1	< 1	< 1	< 1
Vinyl Chloride	2	2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
Xylenes (total)	10,000	10,000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 1	< 1
Metals - USEPA Method 6010B (µg/L)																	
Barium, Total	2,000	2,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Total	100		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

- Indicate the analyte was detected above one or more applicable standards

BOLD - indicate the analyte was detected.

J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

UJ - The analyte was not identified, but the associated numerical value for the quantitation limit is approximate.

MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (5/2009).

µg/L - Micrograms per Liter

NA - Not analyzed

RRS - GAEPD Rule 391-3-19-.07 Risk Reduction Standard (July 23, 2003).

VOCs - Volatile Organic Compounds

H - Sample was run out of holding time

Table 8-10

Risk Reduction Standards for Potential Groundwater Ingestion Based on Industrial (Type 4) Exposure

Human Health Risk Reduction Standards

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSc (mg/L)	NON-CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSnc (mg/L)	RRS (mg/L)
Volatile Organic Compounds							
Acetone	NA	NA	NA	9.2E+01	9.1E+01	4.6E+01	4.6E+01
Benzene	5.2E-02	1.0E-02	8.7E-03	4.1E-01	8.8E-02	7.2E-02	8.7E-03
2-Butanone (Methyl ethyl ketone)	NA	NA	NA	6.1E+01	1.5E+01	1.2E+01	1.2E+01
Carbon disulfide	NA	NA	NA	1.0E+01	2.0E+00	1.7E+00	1.7E+00
Chloroethane	NA	NA	NA	NA	2.9E+01	2.9E+01	2.9E+01
Chloroform	9.2E-02	3.6E-03	3.4E-03	1.0E+00	2.9E-01	2.2E-01	3.4E-03
Chloromethane	NA	NA	NA	NA	2.6E-01	2.6E-01	2.6E-01
1,2-Dichlorobenzene	NA	NA	NA	9.2E+00	5.8E-01	5.5E-01	5.5E-01
1,1-Dichloroethane	5.0E-01	5.1E-02	4.6E-02	2.0E+01	NA	2.0E+01	4.6E-02
1,2-Dichloroethane	3.1E-02	3.1E-03	2.9E-03	6.1E-01	2.0E-02	2.0E-02	2.9E-03
1,1-Dichloroethene	NA	NA	NA	5.1E+00	5.8E-01	5.2E-01	5.2E-01
1,2-Dichloroethene	NA	NA	NA	9.2E-01	1.8E-01	1.5E-01	1.5E-01
cis-1,2-Dichloroethene	NA	NA	NA	2.0E-01	NA	2.0E-01	2.0E-01
trans-1,2-Dichloroethene	NA	NA	NA	2.0E+00	1.8E-01	1.6E-01	1.6E-01
1,2-Dichloropropane	7.9E-02	8.2E-03	7.4E-03	9.2E+00	1.2E-02	1.2E-02	7.4E-03
1,3-Dichloropropene	2.9E-02	2.0E-02	1.2E-02	3.1E+00	5.8E-02	5.7E-02	1.2E-02
CFC-12	NA	NA	NA	2.0E+01	2.9E-01	2.9E-01	2.9E-01
Ethylbenzene	2.6E-01	3.3E-02	2.9E-02	1.0E+01	2.9E+00	2.3E+00	2.9E-02
Isopropylbenzene	NA	NA	NA	1.0E+01	1.2E+00	1.0E+00	1.0E+00
Methyl isobutyl ketone	NA	NA	NA	8.2E+00	8.8E+00	4.2E+00	4.2E+00
Methylene chloride	3.8E-01	1.7E-01	1.2E-01	6.1E+00	2.9E+00	2.0E+00	1.2E-01
Styrene	NA	NA	NA	2.0E+01	2.9E+00	2.6E+00	2.6E+00
1,1,2,2-Tetrachloroethane	1.4E-02	NA	1.4E-02	2.0E+00	NA	2.0E+00	1.4E-02
Tetrachloroethene (PCE)	1.4E+00	3.1E-01	2.6E-01	6.1E-01	1.2E-01	9.8E-02	9.8E-02
Toluene	NA	NA	NA	8.2E+00	1.5E+01	5.2E+00	5.2E+00
Trichloroethene (TCE)	6.2E-02	2.0E+01	6.2E-02	5.1E-02	5.8E-03	5.2E-03	5.2E-03
Vinyl chloride	4.0E-03	1.9E-02	3.3E-03	3.1E-01	2.9E-01	1.5E-01	3.3E-03
Xylenes	NA	NA	NA	2.0E+01	2.9E-01	2.9E-01	2.9E-01
Semi Volatile Organic Compounds							

Table 8-10

Risk Reduction Standards for Potential Groundwater Ingestion Based on Industrial (Type 4) Exposure

Human Health Risk Reduction Standards

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSc (mg/L)	NON-CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSnc (mg/L)	RRS (mg/L)
Benzoic acid	NA	NV	NA	4.1E+02	NV	4.1E+02	4.1E+02
Polycyclic Aromatic Hydrocarbons							
Naphthalene	NA	2.4E-03	2.4E-03	2.0E+00	8.8E-03	8.7E-03	2.4E-03
Inorganics							
Barium	NA	NV	NA	2.0E+01	NV	2.0E+01	2.0E+01
Cadmium	NA	NV	NA	1E-3/5E-4	NV	1E-3/5E-4	1E-3/5E-4
Chromium, Total	NA	NV	NA	NA	NV	NA	NA

RRSc (cancer effects) is calculated using a target cancer risk (TCR) of 1E-05; RRSnc (non-cancer effects) is calculated using a target hazard index (THI) of 1.

mg/L Milligrams per liter.
NA Not available; insufficient toxicity data.
NV Not volatile.
RRS Risk reduction standard (mg/L); for each constituent, the minimum of the cancer-effects (RRSc) and the non-cancer-effects (RRSnc).

Table 8-11

Comparison of Maximum Concentrations Detected in Sediment to Type 1 and 2 Risk Reduction Standards

Human Health Risk Reduction Standards

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	Maximum Concentration (mg/kg)	Type 1 RRS [a] (mg/kg)	Source of Type 1 Standard	Type 1 Standard Exceeded?
Volatile Organic Compounds				
Acetone	0.12	400	GW	no
Benzene	0.018	0.50	GW	no
2-Butanone (Methyl ethyl ketone)	0.037	200	GW	no
Cyclohexane	0.0018	20	A-I	no
Ethylbenzene	0.0036	70	GW	no
Isopropylbenzene	0.00057	22	A-I	no
Methyl acetate	0.00042	640,000	PRGnc-Res	no
tert-Butyl methyl ether	0.00058	500	PRGc-Res	no
Tetrachloroethene (PCE)	0.052	0.50	GW	no
Toluene	0.00084	100	GW	no
Xylenes	0.010	1,000	GW	no

mg/kg Milligrams per kilogram.
RRS Risk Reduction Standard.

[a] Source of Type 1 RRS:
A-1: Appendix I notification requirement (NC) ("App I NC").
A-III: Appendix III Table 2 (16 metals).

[b] Source of Type 2 RRS:
Type 1 RRS.

Table 8-12

Comparison of Maximum Concentrations Detected in Surface Water to Georgia In-Stream Standards

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance		Maximum Concentration Detected (mg/L)	Georgia In-Stream Standard [a]	Georgia In-Stream Standard Exceeded?
Volatile Organic Compounds				
Acetone	[b]	0.0078	4.0	no
Benzene		0.00022	0.051	no

[a] 391-3-6-.03 Water Use Classifications and Water Quality Standards

[b] An in-stream standard was not available; Type 1 risk reduction standard is presented.

mg/L Milligrams per liter.

NA Not available.

Table 8-13
Groundwater Risk Assessment Dataset
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Constituent [a]	CASN	Frequency of Detection (FOD) [b]			Detects			Detection Limits			Maximum Location
		number of detects / number of samples			FOD %	Min (mg/L)	Max (mg/L)	Min (mg/L)		Max (mg/L)	
Volatile Organic Compounds											
1,1-Dichloroethane	75-34-3	1	-	30	3	0.00073	0.00073	0.0005	-	0.001	AF-72(12/20/2011)
1,1-Dichloroethylene	75-35-4	5	-	30	17	0.00019	0.0036	0.0005	-	0.001	AF-72(12/20/2011)
4-Methyl-2-pentanone	108-10-1	1	-	30	3	0.0035	0.0035	0.01	-	0.01	H17-MW-17S(5/25/2010)
Acetone	67-64-1	14	-	30	47	0.0011	0.028	0.01	-	0.02	H17-MW-17S(5/25/2010)
Benzene	71-43-2	5	-	30	17	0.00012	0.00037	0.0005	-	0.001	AF-25(2/11/2010)
Benzene, 1-methylethyl	98-82-8	1	-	25	4	0.00056	0.00056	0.0005	-	0.0005	AT-MW-05(2/17/2010)
Carbon disulfide	75-15-0	1	-	30	3	0.00017	0.00017	0.0005	-	0.001	H17-MW-26S(12/14/2011)
Chloroethane	75-00-3	1	-	30	3	0.00069	0.00069	0.0005	-	0.002	H17-MW-17S(5/25/2010)
Chloroform	67-66-3	1	-	30	3	0.0003	0.0003	0.0005	-	0.001	AT-MW-05(2/17/2010)
cis-1,2-Dichloroethene	156-59-2	7	-	30	23	0.00016	0.29	0.0005	-	0.001	AF-72(12/20/2011)
Ethylbenzene	100-41-4	1	-	30	3	0.0002	0.0002	0.0005	-	0.001	AT-MW-05(2/17/2010)
Methyl tert-butyl ether	1634-04-4	2	-	30	7	0.000096	0.0012	0.0005	-	0.001	AF-25(2/11/2010)
Toluene	108-88-3	2	-	30	7	0.00024	0.00033	0.0005	-	0.001	AF-35(2/11/2010)
trans-1,2-Dichloroethene	156-60-5	5	-	30	17	0.00056	0.0016	0.0005	-	0.001	AF-72(12/20/2011)
Trichloroethylene	79-01-6	6	-	30	20	0.00039	0.39	0.0005	-	0.001	AF-72(12/20/2011)
Vinyl Chloride	75-01-4	4	-	30	13	0.00035	0.0025	0.0005	-	0.001	AF-71(11/18/2011)
Xylenes (total)	1330-20-7	1	-	30	3	0.00054	0.00054	0.0005	-	0.001	AF-72(12/20/2011)
Metals,Total											
Barium, Total	7440-39-3	3	-	4	75	0.0094	0.037	0.025	-	0.025	AT-MW-04(2/17/2010)
Chromium, Total	7440-47-3	2	-	4	50	0.0022	0.0022	0.005	-	0.005	AT-MW-02(2/17/2010),AT-MW-04(2/17/2010)

– Not detected/ not analyzed/ not applicable.
CASN Chemical abstracts registry number.
mg/L Milligrams per liter.
ND Non-detects.

[a] Only chemicals detected at least once in are presented.
For duplicate samples, the highest detected value or the lowest detection limit were used.
For constituents analyzed in two methods, the result of the more precise method was used.
[b] Frequency of detection (FOD) = number of detects / total number of samples analyzed.

Table 8-14
Summary of Input Parameters For Current Groundwater
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Resident Receptor - Current Maximum Concentrations
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 1290 Site)
Hunter Army Airfield, Savannah, Georgia

Chemical CAS No. (numbers only, no dashes)	Initial Groundwater Concentration C_W (µg/L)	Constituent
67641	2.80E+01	Acetone
71432	3.70E-01	Benzene
75150	1.70E-01	Carbon Disulfide
75003	6.90E-01	Ethyl Chloride
67663	3.00E-01	Chloroform
75343	7.30E-01	1,1-Dichloroethane
75354	3.60E+00	1,1-Dichloroethene
156592	2.90E+02	cis-1,2-Dichloroethene
156605	1.60E+00	trans-1,2-Dichloroethene
100414	2.00E-01	Ethylbenzene
98828	5.60E-01	Isopropylbenzene
1634044	1.20E+00	Methyl tert-Butyl Ether (MTBE)
108101	3.50E+00	4-Methyl-2-pentanone
108883	3.30E-01	Toluene
79016	3.90E+02	Trichloroethene
75014	2.50E+00	Vinyl Chloride
1330207	5.40E-01	Xylene, Mixture

ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (centimeter)	ENTER Depth below grade to water table, L_{WT} (centimeter)	ENTER Thickness of soil stratum A, h_A (centimeter)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (centimeter)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (centimeter)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of L_{WT} (cell G28)							
19.5	15	241.92	241.92	0	0	A	S	S		

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.38	0.05								

ENTER Enclosed space floor thickness, L_{crack} (centimeter)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (centimeter)	ENTER Enclosed space floor width, W_B (centimeter)	ENTER Enclosed space height, H_B (centimeter)	ENTER Floor-wall seam crack width, w (centimeter)	ENTER Indoor air exchange rate, ER (1/hour)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	1000	1000	244	0.1	0.48	

ENTER Averaging time for carcinogens, AT_C (years)	ENTER Averaging time for noncarcinogens, AT_{NC} (years)	ENTER Exposure duration, ED (years)	ENTER Exposure frequency, EF (days/year)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Exposure Time ET (hours/day)
70	30	30	350	1.0E-05	1	24

°C = degrees centimeter
cm^3/cm^3 = cubic centimeter per cubic centimeter
cm^2 = square centimeters
µg/L = microgram per liter
g/cm^3 = grams per cubic centimeter
$g/cm\text{-}s^2$ = gram per centimeter per square second
L/m = liter per meter

Table 8-15
Summary of Input Parameters
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Resident Receptor - Current Maximum Concentrations
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 1290 Site)
Hunter Army Airfield, Savannah, Georgia

Chemical Name	Henry's law constant at ave. gw temp H_{TS} (atm-m^3/mol)	Henry's law constant at ave. gw temp H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_{A} (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_{T} (cm^2/s)	Source vapor conc., C_{source} ($\mu g/m^3$)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Acetone	2.76E-05	1.15E-03	1.78E-04	1.71E-02	1.41E-03	9.33E-03	3.22E+01	9.95E+01	1.71E-02	1.24E+63	9.32E-04	3.00E-02	NA	3.1E+01
Benzene	4.30E-03	1.79E-01	1.78E-04	1.45E-02	5.78E-04	5.16E-03	6.63E+01	9.95E+01	1.45E-02	4.56E+74	5.96E-04	3.95E-02	7.8E-06	3.0E-02
Carbon Disulfide	3.26E-03	1.36E-01	1.78E-04	1.42E-02	5.67E-04	5.06E-03	3.94E+04	9.95E+01	1.42E-02	1.99E+76	5.87E-04	2.31E+01	NA	7.0E-01
Ethyl Chloride	3.26E-03	1.36E-01	1.78E-04	1.42E-02	5.67E-04	5.06E-03	2.17E+02	9.95E+01	1.42E-02	1.99E+76	5.87E-04	1.28E-01	NA	1.0E+01
Chloroform	5.73E-03	2.39E-01	1.78E-04	1.11E-02	4.41E-04	3.94E-03	4.77E+01	9.95E+01	1.11E-02	4.35E+97	4.77E-04	2.28E-02	2.3E-05	9.8E-02
1,1-Dichloroethane	7.73E-03	3.22E-01	1.78E-04	9.75E-03	3.88E-04	3.47E-03	1.80E+02	9.95E+01	9.75E-03	7.10E+110	4.28E-04	7.72E-02	1.6E-06	NA
1,1-Dichloroethene	4.68E-04	1.95E-02	1.78E-04	1.22E-02	5.14E-04	4.50E-03	2.34E+01	9.95E+01	1.22E-02	6.49E+88	5.34E-04	1.25E-02	NA	2.0E-01
cis-1,2-Dichloroethene	1.01E-04	4.22E-03	1.78E-04	1.13E-02	5.92E-04	4.79E-03	1.48E+01	9.95E+01	1.13E-02	6.19E+95	5.61E-04	8.29E-03	NA	NA
trans-1,2-Dichloroethene	4.98E-03	2.07E-01	1.78E-04	1.26E-02	5.02E-04	4.48E-03	6.85E+01	9.95E+01	1.26E-02	8.27E+85	5.31E-04	3.64E-02	NA	6.0E-02
Ethylbenzene	5.73E-03	2.39E-01	1.78E-04	1.11E-02	4.41E-04	3.94E-03	4.77E+01	9.95E+01	1.11E-02	4.35E+97	4.77E-04	2.28E-02	NA	1.0E+00
Isopropylbenzene	7.73E-03	3.22E-01	1.78E-04	9.75E-03	3.88E-04	3.47E-03	1.80E+02	9.95E+01	9.75E-03	7.10E+110	4.28E-04	7.72E-02	NA	4.0E-01
Methyl tert-Butyl Ether (MTBE	4.68E-04	1.95E-02	1.78E-04	1.22E-02	5.14E-04	4.50E-03	2.34E+01	9.95E+01	1.22E-02	6.49E+88	5.34E-04	1.25E-02	2.6E-07	3.0E+00
4-Methyl-2-pentanone	1.01E-04	4.22E-03	1.78E-04	1.13E-02	5.92E-04	4.79E-03	1.48E+01	9.95E+01	1.13E-02	6.19E+95	5.61E-04	8.29E-03	NA	3.0E+00
Toluene	4.98E-03	2.07E-01	1.78E-04	1.26E-02	5.02E-04	4.48E-03	6.85E+01	9.95E+01	1.26E-02	8.27E+85	5.31E-04	3.64E-02	NA	5.0E+00
Trichloroethene	7.54E-03	3.14E-01	1.78E-04	1.11E-02	4.42E-04	3.95E-03	1.22E+05	9.95E+01	1.11E-02	2.28E+97	4.78E-04	5.85E+01	4.1E-06	2.0E-03
Vinyl Chloride	2.38E-02	9.91E-01	1.78E-04	1.73E-02	6.87E-04	6.14E-03	2.48E+03	9.95E+01	1.73E-02	2.55E+62	6.85E-04	1.70E+00	4.4E-06	1.0E-01
Xylene, Mixture	3.75E-03	1.56E-01	1.78E-04	1.37E-02	5.47E-04	4.88E-03	8.44E+01	9.95E+01	1.37E-02	7.70E+78	5.70E-04	4.82E-02	NA	1.0E-01

atm-m^3/mol = atmospheres-cubic meter per mole
cm^2/s = square centimeters per second
cm^3/s = cubic centimeters per second
g/cm-s = gram per centimeter-second
$\mu g/m^3$ = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter

Table 8-16
Summary of Results
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Resident Receptor - Current Maximum Concentrations
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 1290 Site)
Hunter Army Airfield, Savannah, Georgia

Constituent	Indoor groundwater conc., carcinogen (µg/L)	Indoor groundwater conc., noncarcinogen (µg/L)	Risk-based exposure groundwater conc., (µg/L)	Pure water solubility, S (µg/L)	Final exposure groundwater conc., (µg/L)	Total Excess Lifetime Cancer Risk (unitless)	Total Non-Cancer Hazard (unitless)
Acetone	NA	NA	NA	1.00E+09	NA	NA	9.3E-07
Benzene	NA	NA	NA	1.79E+06	NA	1.3E-07	1.3E-03
Carbon Disulfide	NA	NA	NA	4.52E+06	NA	NA	3.2E-02
Ethyl Chloride	NA	NA	NA	1.69E+05	NA	NA	1.2E-05
Chloroform	NA	NA	NA	6.13E+04	NA	2.2E-07	2.2E-04
1,1-Dichloroethane	NA	NA	NA	5.10E+07	NA	5.1E-08	NA
1,1-Dichloroethene	NA	NA	NA	1.90E+07	NA	NA	6.0E-05
cis-1,2-Dichloroethene	NA	NA	NA	4.52E+06	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA	4.52E+06	NA	NA	5.8E-04
Ethylbenzene	NA	NA	NA	1.69E+05	NA	NA	2.2E-05
Isopropylbenzene	NA	NA	NA	6.13E+04	NA	NA	1.9E-04
Methyl tert-Butyl Ether (MTBE)	NA	NA	NA	5.10E+07	NA	1.3E-09	4.0E-06
4-Methyl-2-pentanone	NA	NA	NA	1.90E+07	NA	NA	2.7E-06
Toluene	NA	NA	NA	5.26E+05	NA	NA	7.0E-06
Trichloroethene	NA	NA	NA	1.28E+06	NA	9.9E-05	2.8E+01
Vinyl Chloride	NA	NA	NA	8.80E+06	NA	3.1E-06	1.6E-02
Xylene, Mixture	NA	NA	NA	1.06E+05	NA	NA	4.6E-04
Total Risk and Hazard						**1E-04**	**28**

µg/L = micrograms per liter

Table 8-17
Summary of Input Parameters For Current Groundwater
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Site Worker Receptor - Current Maximum Concentrations
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 1290 Site)
Hunter Army Airfield, Savannah, Georgia

Chemical CAS No. (numbers only, no dashes)	Initial Groundwater Concentration C_W (µg/L)	Chemical
67641	2.80E+01	Acetone
71432	3.70E-01	Benzene
75150	1.70E-01	Carbon Disulfide
75003	6.90E-01	Ethyl Chloride
67663	3.00E-01	Chloroform
75343	7.30E-01	1,1-Dichloroethane
75354	3.60E+00	1,1-Dichloroethene
156592	2.90E+02	cis-1,2-Dichloroethene
156605	1.60E+00	trans-1,2-Dichloroethene
100414	2.00E-01	Ethylbenzene
98828	5.60E-01	Isopropylbenzene
1634044	1.20E+00	Methyl tert-Butyl Ether (MTBE)
108101	3.50E+00	4-Methyl-2-pentanone
108883	3.30E-01	Toluene
79016	3.90E+02	Trichloroethene
75014	2.50E+00	Vinyl Chloride
1330207	5.40E-01	Xylene, Mixture

ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (centimeter)	ENTER Depth below grade to water table, L_{WT} (centimeter)	ENTER Thickness of soil stratum A, h_A (centimeter)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (centimeter)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (centimeter)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of L_{WT} (cell G28)							
19.5	15	241.92	241.92	0	0	A	S	S		

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.38	0.05								

ENTER Enclosed space floor thickness, L_{crack} (centimeter)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (centimeter)	ENTER Enclosed space floor width, W_B (centimeter)	ENTER Enclosed space height, H_B (centimeter)	ENTER Floor-wall seam crack width, w (centimeter)	ENTER Indoor air exchange rate, ER (1/hour)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	1000	1000	244	0.1	0.48	

ENTER Averaging time for carcinogens, AT_C (years)	ENTER Averaging time for noncarcinogens, AT_{NC} (years)	ENTER Exposure duration, ED (years)	ENTER Exposure frequency, EF (days/year)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Exposure Time ET (hours/day)
70	25	25	250	1.0E-06	1	8

°C = degrees centimeter
g/cm^3 = grams per cubic centimeter
cm^3/cm^3 = cubic centimeter per cubic centimeter
$g/cm\text{-}s^2$ = gram per centimeter per square second
cm^2 = square centimeters
L/m = liter per meter
µg/L = microgram per liter

Table 8-18
Summary of Input Parameters
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Site Worker Receptor - Current Maximum Concentrations
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 1290 Site)
Hunter Army Airfield, Savannah, Georgia

Chemical Name	Henry's law constant at ave. gw temp H_{TS} (atm-m^3/mol)	Henry's law constant at ave. gw temp H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_{A} (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_{T} (cm^2/s)	Source vapor conc., C_{source} ($\mu g/m^3$)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Acetone	2.76E-05	1.15E-03	1.78E-04	1.71E-02	1.41E-03	9.33E-03	3.22E+01	9.95E+01	1.71E-02	1.24E+63	9.32E-04	3.00E-02	NA	3.1E+01
Benzene	4.30E-03	1.79E-01	1.78E-04	1.45E-02	5.78E-04	5.16E-03	6.63E+01	9.95E+01	1.45E-02	4.56E+74	5.96E-04	3.95E-02	7.8E-06	3.0E-02
Carbon Disulfide	1.17E-02	4.86E-01	1.78E-04	1.72E-02	6.84E-04	6.11E-03	8.27E+01	9.95E+01	1.72E-02	6.31E+62	6.82E-04	5.64E-02	NA	7.0E-01
Ethyl Chloride	9.24E-03	3.85E-01	1.78E-04	1.68E-02	6.67E-04	5.96E-03	2.65E+02	9.95E+01	1.68E-02	2.69E+64	6.69E-04	1.77E-01	NA	1.0E+01
Chloroform	2.90E-03	1.21E-01	1.78E-04	1.24E-02	4.99E-04	4.45E-03	3.62E+01	9.95E+01	1.24E-02	8.06E+86	5.28E-04	1.91E-02	2.3E-05	9.8E-02
1,1-Dichloroethane	4.45E-03	1.85E-01	1.78E-04	1.35E-02	5.40E-04	4.82E-03	1.35E+02	9.95E+01	1.35E-02	8.30E+79	5.64E-04	7.64E-02	1.6E-06	NA
1,1-Dichloroethene	2.14E-02	8.89E-01	1.78E-04	1.40E-02	5.54E-04	4.95E-03	3.20E+03	9.95E+01	1.40E-02	2.81E+77	5.77E-04	1.85E+00	NA	2.0E-01
cis-1,2-Dichloroethene	3.20E-03	1.33E-01	1.78E-04	1.43E-02	5.72E-04	5.10E-03	3.87E+04	9.95E+01	1.43E-02	4.10E+75	5.91E-04	2.29E+01	NA	NA
trans-1,2-Dichloroethene	3.26E-03	1.36E-01	1.78E-04	1.42E-02	5.67E-04	5.06E-03	2.17E+02	9.95E+01	1.42E-02	1.99E+76	5.87E-04	1.28E-01	NA	6.0E-02
Ethylbenzene	5.73E-03	2.39E-01	1.78E-04	1.11E-02	4.41E-04	3.94E-03	4.77E+01	9.95E+01	1.11E-02	4.35E+97	4.77E-04	2.28E-02	NA	1.0E+00
Isopropylbenzene	7.73E-03	3.22E-01	1.78E-04	9.75E-03	3.88E-04	3.47E-03	1.80E+02	9.95E+01	9.75E-03	7.10E+110	4.28E-04	7.72E-02	NA	4.0E-01
Methyl tert-Butyl Ether (MTBE	4.68E-04	1.95E-02	1.78E-04	1.22E-02	5.14E-04	4.50E-03	2.34E+01	9.95E+01	1.22E-02	6.49E+88	5.34E-04	1.25E-02	2.6E-07	3.0E+00
4-Methyl-2-pentanone	1.01E-04	4.22E-03	1.78E-04	1.13E-02	5.92E-04	4.79E-03	1.48E+01	9.95E+01	1.13E-02	6.19E+95	5.61E-04	8.29E-03	NA	3.0E+00
Toluene	4.98E-03	2.07E-01	1.78E-04	1.26E-02	5.02E-04	4.48E-03	6.85E+01	9.95E+01	1.26E-02	8.27E+85	5.31E-04	3.64E-02	NA	5.0E+00
Trichloroethene	7.54E-03	3.14E-01	1.78E-04	1.11E-02	4.42E-04	3.95E-03	1.22E+05	9.95E+01	1.11E-02	2.28E+97	4.78E-04	5.85E+01	4.1E-06	2.0E-03
Vinyl Chloride	2.38E-02	9.91E-01	1.78E-04	1.73E-02	6.87E-04	6.14E-03	2.48E+03	9.95E+01	1.73E-02	2.55E+62	6.85E-04	1.70E+00	4.4E-06	1.0E-01
Xylene, Mixture	3.75E-03	1.56E-01	1.78E-04	1.37E-02	5.47E-04	4.88E-03	8.44E+01	9.95E+01	1.37E-02	7.70E+78	5.70E-04	4.82E-02	NA	1.0E-01

atm-m^3/mol = atmospheres-cubic meter per mole
cm^2/s = square centimeters per second
cm^3/s = cubic centimeters per second
g/cm-s = gram per centimeter-second
$\mu g/m^3$ = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter

Table 8-19
Summary of Results
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Site Worker Receptor - Current Maximum Concentrations
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 1290 Site)
Hunter Army Airfield, Savannah, Georgia

Constituent	Indoor groundwater conc., carcinogen (µg/L)	Indoor groundwater conc., noncarcinogen (µg/L)	Risk-based exposure groundwater conc., (µg/L)	Pure water solubility, S (µg/L)	Final exposure groundwater conc., (µg/L)	Total Excess Lifetime Cancer Risk (unitless)	Total Non-Cancer Hazard (unitless)
Acetone	NA	NA	NA	1.00E+09	NA	NA	2.2E-07
Benzene	NA	NA	NA	1.79E+06	NA	2.5E-08	3.0E-04
Carbon Disulfide	NA	NA	NA	2.16E+06	NA	NA	1.8E-05
Ethyl Chloride	NA	NA	NA	6.71E+06	NA	NA	4.1E-06
Chloroform	NA	NA	NA	7.95E+06	NA	3.6E-08	4.5E-05
1,1-Dichloroethane	NA	NA	NA	5.04E+06	NA	1.0E-08	NA
1,1-Dichloroethene	NA	NA	NA	2.42E+06	NA	NA	2.1E-03
cis-1,2-Dichloroethene	NA	NA	NA	6.41E+06	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA	4.52E+06	NA	NA	4.9E-04
Ethylbenzene	NA	NA	NA	1.69E+05	NA	NA	5.2E-06
Isopropylbenzene	NA	NA	NA	6.13E+04	NA	NA	4.4E-05
Methyl tert-Butyl Ether (MTBE)	NA	NA	NA	5.10E+07	NA	2.6E-10	9.5E-07
4-Methyl-2-pentanone	NA	NA	NA	1.90E+07	NA	NA	6.3E-07
Toluene	NA	NA	NA	5.26E+05	NA	NA	1.7E-06
Trichloroethene	NA	NA	NA	1.28E+06	NA	2.0E-05	6.7E+00
Vinyl Chloride	NA	NA	NA	8.80E+06	NA	6.1E-07	3.9E-03
Xylene, Mixture	NA	NA	NA	1.06E+05	NA	NA	1.1E-04
Total Risk and Hazard						**2E-05**	**7**

µg/L = micrograms per liter

Table 8-1
Risk Reduction Standard Equations for Exposure to Soil
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

ROUTE-SPECIFIC RRSs:

Oral:

$$(RRS_o)_{C\ or\ NC} = \frac{(TCR\ or\ THI)\ x\ BW\ x\ (AT_C\ or\ AT_{NC})\ x\ (10^6\ mg/kg)}{IRs\ x\ EF\ x\ ED\ x\ [SF_O\ or\ (1/RfD_O)]}$$

Inhalation:

$$(RRS_i)_{C\ or\ NC} = \frac{(TCR\ or\ THI)\ x\ (AT_C\ or\ AT_{NC})\ x\ BW}{[(1/VF)\ +\ (1/PEF)]\ x\ EF\ x\ ED\ x\ [SF_i\ or\ (1/RfD_I)]}$$

where:

$$PEF = \frac{LS\ x\ V\ x\ DH}{A}\ x\ \frac{(1000\ g/kg)\ x\ (3{,}600\ sec/hr)}{RPF\ x\ (1\text{-}G)\ x\ (Um/Ut)^3\ x\ F_x}$$

$$VF = \frac{LS\ x\ V\ x\ DH}{A}\ x\ \frac{(3.14\ x\ \bullet\ x\ T)^{1/2}}{2\ x\ Dei\ x\ E\ x\ Kas\ x\ (10^{-3}\ kg/g)}$$

$$\bullet = \frac{Dei\ x\ E}{E\ +\ [ps\ x\ (1\text{-}E)/Kas]}$$

$$Dei = Di\ x\ E^{0.33}$$

$$Kas = H/(RT\ x\ Kd)$$

Cancer Effects RRS:

$$RRS_C = \frac{1}{\frac{1}{(RRS_O)_C} + \frac{1}{(RRS_I)_C}}$$

Non-Cancer Effects RRS:

$$RRS_{NC} = \frac{1}{\frac{1}{(RRS_O)_{NC}} + \frac{1}{(RRS_I)_{NC}}}$$

RRS = Minimum result of RRS_C and RRS_{NC}.

where:

•	Alpha; calculation intermediate (cm^2/sec).
A	Contiguous area of contamination (20,250,000 cm^2; USEPA [1991] default).
AT_C	Averaging time for cancer effects (25,550 days).
AT_{NC}	Averaging time for non-cancer effects (10,950 for adult residents; 2,190 days for child residents; 9,125 days for site workers); ED x 365 days/year.
BW	Body weight (70 kg for adult receptors; 15 kg for child resident).
DH	Diffusion Height (2 m, USEPA [1991] default)
Dei	Effective diffusivity (cm^2/sec).
Di	Diffusivity in air (cm^2/sec); constituent specific.
E	Total soil porosity (0.35 unitless, USEPA default).
ED	Exposure duration (30 years for adult resident; 6 years for child resident; 25 years for site worker).
EF	Exposure frequency (350 days/year for resident receptors; 250 days/year for site worker).
Foc	Fraction organic carbon in soil (0.02 unitless, USEPA default).
Fx	Function of Ut/Um (unitless); $Fx = 0.18\ x\ [8x^3 + 12x]\ x\ \exp(-x^2)$, where $x = 0.886\ x\ (Ut/Um)$.

G	Fraction of vegetative cover (unitless) (0).
H	Henry's Law Constant (atm-m^3/mol); constituent specific.
IR_{air}	Inhalation rate (15 m^3/day for residents; 20 m^3/day for site workers).
IR_{soil}	Incidental soil ingestion rate (114 mg/day for adult resident; 200 mg/day for child resident; 50 mg/day for site worker).
Kas	Soil-air partition coefficient (g soil/ cm^3 air).
Kd	Soil-water partition coefficient (cm^3/g or mL/g); constituent specific. Kd is calculated as Foc × Koc.
Koc	Organic carbon partition coefficient (cm^3/g or mL/g); constituent specific.
LS	Length of side of contaminated area (45 m, USEPA default).
PEF	Particulate emission factor (4.63 x 10^9 m^3/kg, USEPA default).
ps	True soil or particle density (2.65 g/cm^3, USEPA default).
RfDi	Reference dose for inhalation (mg/kg/day).
RfDo	Reference dose for ingestion (mg/kg/day).
RPF	Respirable particle fraction (0.036 g/m^2/hr).
RRS	Risk reduction standard for soil (mg/kg); minimum of the RRS_C (based on cancer effects) and the RRS_{NC} (based on non-cancer effects), which are based on the route-specfic RRSs (RRSo for the oral route and RRSi for the inhalation route).
RT	Product of the ideal gas constant (8.206 x 10^{-5} atm-m^3/mol/K) and the absolute temperature (K); RT = 0.02445 atm-m^3/mol at 25ºC (298 K).
SF	Cancer slope factor or oral (SF_o) or inhalation (SF_i) exposure (kg-day/mg).
T	Exposure interval (7.9 x 108 sec, USEPA default).
TCR	Target cancer risk (unitless); results presented for TCR value of 10^{-5} (10^{-4} for Class C carcinogens).
THI	Target hazard index (unitless); results presented for THI value of 1.
Um	Wind speed, annual average (3.0 m/sec).
Ut	Equivalent threshold value of windspeed at 10 meters (12.8 m/sec).
V	Wind speed in the mixing zone (2.25 m/sec, USEPA default).
VF	Volatilization factor (m^3/kg).

SAMPLE CALCULATIONS, Tetrachloroethene, Industrial Exposure (Type 4).

$$x = 0.886 \times \frac{12.8 \text{ m/sec}}{3.0 \text{ m/sec}} = 3.780$$

$$Fx = 0.18\,[(8 \times 3.780^3) + (12 \times 3.78)] \times \exp(-(3.780^2)) = 5.36\text{E-}05$$

$$Dei = 0.079 \text{ cm}^2\text{/sec} \times (0.35)^{0.33} = 0.05587 \text{ cm}^2\text{/sec}$$

$$Kas = \frac{1.03 \times 10^{-2} \text{ atm-m}^3\text{/mol}}{(0.02445 \text{ atm-m}^3\text{/mol}) \times 0.02 \times 95.5 \text{ cm}^3\text{/g}} = 2.20\text{E-}01 \text{ g/cm}^3$$

$$\bullet = \frac{0.05587 \text{ cm}^2\text{/sec} \times 0.35}{0.35 + [2.65 \text{ g/cm}^3 \times (1 - 0.35)/2.21 \times 10^{-1} \text{ g/cm}^3)]}$$

$$= 2.40\text{E-}03 \text{ cm}^2\text{/sec}$$

$$VF = \frac{45 \text{ m} * 2.25 \text{ m/s} * 2 \text{ m}}{2.03 \times 10^7 \text{ cm}^2} \times \frac{(3.14 \times 2.4 \times 10^{-3} \text{ cm}^2\text{/sec} \times 7.9 \times 10^8 \text{ sec})^{1/2}}{2 \times 0.05587 \text{ cm}^2\text{/sec} \times 0.35 \times 2.21 \times 10^{-1} \text{ g/cm}^3 \times 10^{-3} \text{ kg/g}}$$

$$= 2{,}816 \text{ m}^3\text{/kg}$$

CANCER EFFECTS:

Oral:

$$(RRS_O)_C = \frac{10^{-5} \times 70 \text{ kg} \times 25{,}550 \text{ days} \times 10^6 \text{ mg/kg}}{50 \text{ mg/day} \times 250 \text{ days/yr} \times 25 \text{ yrs} \times (2.1 \times 10^{-3} \text{ kg-day/mg})}$$

$$= 27{,}250 \text{ mg/kg}$$

Inhalation:

$$(RRS_I)_C = \frac{10^{-5} \times 70 \text{ kg} \times 25{,}550 \text{ days}}{[(1/2{,}818 \text{ m}^3\text{/kg}) + (1/4.63 \times 10^9 \text{ m}^3\text{/kg})] \times 250 \text{ days/yr} \times 25 \text{ yrs} \times 20 \text{ m}^3\text{/day} \times (9.1 \times 10^{-4} \text{ kg-day/mg})}$$

$$= 443 \text{ mg/kg}$$

CANCER EFFECTS RRS:

$$RRS_C = \frac{1}{\frac{1}{27{,}250\ mg/kg} + \frac{1}{443\ mg/kg}} = 436\ mg/kg$$

NON-CANCER EFFECTS:

Oral:

$$(RRS_O)_{NC} = \frac{1 \times 70\ kg \times 9{,}125\ days \times 10^6\ mg/kg}{50\ mg/day \times 250\ days/yr \times 25\ yrs \times [1/6.0 \times 10^{-3}\ mg/kg\text{-}day]}$$

$$= 12{,}260\ mg/kg$$

Inhalation:

$$(RRS_I)_{NC} = \frac{1 \times 70\ kg \times 9{,}125\ days}{[(1/2{,}818\ m^3/kg) + (1/4.63 \times 10^9\ m^3/kg)] \times 250\ days/yr \times 25\ yrs \times 20\ m^3/day \times (1/1.1 \times 10^{-2}\ kg\text{-}day/mg)}$$

$$= 158\ mg/kg$$

NON-CANCER EFFECTS RRS:

$$RRS_{NC} = \frac{1}{\frac{1}{12{,}260\ mg/kg} + \frac{1}{158\ mg/kg}} = 160\ mg/kg$$

RRS = Minumum result of RRS_C (436 mg/kg) and RRS_{NC} (160 mg/kg) = 160 mg/kg

Table 8-2
Risk Reduction Standard Equations for Exposure to Groundwater
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

ROUTE-SPECIFIC RRSs:

Oral:

$$(RRS_o)_{C\ or\ NC} = \frac{(TCR\ or\ THI)\ x\ BW\ x\ (AT_C\ or\ AT_{NC})}{IR_w\ x\ EF\ x\ ED\ x\ [SF_O\ or\ (1/RfD_O)]}$$

Inhalation:

$$(RRS_i)_{C\ or\ NC} = \frac{(TCR\ or\ THI)\ x\ (AT_C\ or\ AT_{NC})\ x\ BW}{K\ x\ IR_a\ x\ EF\ x\ ED\ x\ [SF_i\ or\ (1/RfD_I)]}$$

Cancer Effects RRS:

$$RRS_C = \frac{1}{\frac{1}{(RRS_O)_C} + \frac{1}{(RRS_I)_C}}$$

Non-Cancer Effects RRS:

$$RRS_{NC} = \frac{1}{\frac{1}{(RRS_O)_{NC}} + \frac{1}{(RRS_I)_{NC}}}$$

RRS = Minimum result of RRS_C and RRS_{NC}.

where:

AT_C	Averaging time for cancer effects (25,550 days).
AT_{NC}	Averaging time for non-cancer effects (10,950 for adult residents; 2,190 days for child residents; 9,125 days for site workers); ED x 365 days/year.
BW	Body weight (70 kg for adult receptors; 15 kg for child resident).
ED	Exposure duration (30 years for adult resident; 6 years for child resident; 25 years for site worker).
EF	Exposure frequency (250 days/year).
IR_{air}	Inhalation rate (15 m^3/day for residents; 20 m^3/day for site workers).
IR_w	Ingestion rate of drinking water (2 L/day for adult residents; 1 L/day for child residents and site workers) (USEPA 1997a).
K	Volatilization factor for volatile organic compounds (VOCs) from household tap water (0.5 L/m^3) (USEPA 1991).
RfDi	Reference dose for inhalation (mg/kg/day).
RfDo	Reference dose for ingestion (mg/kg/day).
RRS	Risk reduction standard for soil (mg/L); minimum of the RRS_C (based on cancer effects) and the RRS_{NC} (based on non-cancer effects), which are based on the route-specfic RRSs (RRSo for the oral route and RRSi for the inhalation route).
TCR	Target cancer risk (unitless); results presented for TCR value of 10^{-5} (10^{-4} for Class C carcinogens).
THI	Target hazard index (unitless); results presented for THI value of 1.

SAMPLE CALCULATIONS, Tetrachloroethene, Industrial Exposure (Type 4).

CANCER EFFECTS:

Oral:

$$(RRS_O)_C = \frac{10^{-5}\ x\ 70\ kg\ x\ 25{,}550\ days}{1\ L/day\ x\ 250\ days/yr\ x\ 25\ yrs\ x\ (2.1\ x\ 10^{-3}\ kg\text{-}day/mg)}$$

$$= 1.36\ mg/L$$

Inhalation:

$$(RRS_I)_C = \frac{10^{-5} \text{ x } 70 \text{ kg x } 25{,}550 \text{ days}}{0.5 \text{ L/m}^3 \text{ x } 250 \text{ days/yr x } 25 \text{ yrs x } 20 \text{ m}^3\text{/day x } (9.1 \text{ x } 10^{-4} \text{ kg-day/mg})}$$

$$= 0.314 \text{ mg/L}$$

CANCER EFFECTS RRS:

$$RRS_C = \frac{1}{\frac{1}{1.36 \text{ mg/L}} + \frac{1}{0.314 \text{ mg/L}}} = 0.26 \text{ mg/L}$$

NON-CANCER EFFECTS:

Oral:

$$(RRS_O)_{NC} = \frac{1 \text{ x } 70 \text{ kg x } 9{,}125 \text{ days}}{1 \text{ L/day x } 250 \text{ days/yr x } 25 \text{ yrs x } [1/6.0 \text{ x } 10^{-3} \text{ mg/kg-day}]}$$

$$= 0.61 \text{ mg/L}$$

Inhalation:

$$(RRS_I)_{NC} = \frac{1 \text{ x } 70 \text{ kg x } 9{,}125 \text{ days}}{0.5 \text{ L/m}^3 \text{ x } 250 \text{ days/yr x } 25 \text{ yrs x } 20 \text{ m}^3\text{/day x } (1/1.1 \text{ x } 10^{-2} \text{ kg-day/mg})}$$

$$= 0.11 \text{ mg/L}$$

NON-CANCER EFFECTS RRS:

$$RRS_{NC} = \frac{1}{\frac{1}{0.61 \text{ mg/L}} + \frac{1}{0.11 \text{ mg/L}}} = 0.095 \text{ mg/L}$$

RRS = Minumum result of RRS_C (0.26 mg/L) and RRS_{NC} (0.095 mg/L) = 0.095 mg/L

Table 8-20
Summary of Input Parameters For Historical Maximum Groundwater Concentrations
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Resident Receptor - Historical Maximum Concentrations
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 1290 Site)
Hunter Army Airfield, Savannah, Georgia

Chemical CAS No. (numbers only, no dashes)	Initial Groundwater Concentration C_W (µg/L)	Chemical
67641	8.63E+03	Acetone
71432	9.92E+03	Benzene
78933	7.80E+00	2-Butanone
75150	3.18E+00	Carbon Disulfide
75003	6.90E-01	Ethyl Chloride
67663	4.70E+00	Chloroform
74873	9.20E-01	Chloromethane
95501	2.20E+00	1,2-Dichlorobenzene
75343	1.03E+01	1,1-Dichloroethane
107062	1.20E+00	1,2-Dichloroethane
75354	5.47E+01	1,1-Dichloroethene
540590	3.78E+02	1,2-Dichloroethene (mixed)
156592	1.10E+02	cis-1,2-Dichloroethene
156605	2.30E+00	trans-1,2-Dichloroethene
78875	9.90E-01	1,2-Dichloropropane
10061015	2.00E+00	cis-1,3-Dichloropropene
10061026	2.60E+00	trans-1,3-Dichloropropene
75718	1.05E+01	Dichlorodifluoromethane
100414	6.45E+02	Ethylbenzene
98828	8.10E-01	Isopropylbenzene
108101	3.50E+00	4-Methyl-2-pentanone
75092	1.67E+01	Methylene Chloride
100425	5.20E-01	Styrene
79345	4.40E-01	1,1,2,2-Tetrachloroethane
127184	6.90E-01	Tetrachloroethene
108883	3.92E+01	Toluene
79016	7.73E+03	Trichloroethene
75014	2.73E+01	Vinyl Chloride
1330207	2.46E+02	Xylene, Mixture
91203	6.22E+00	Naphthalene

ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (centimeter)	ENTER Depth below grade to water table, L_{WT} (centimeter)	ENTER Thickness of soil stratum A, h_A (centimeter)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (centimeter)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (centimeter)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of L_{WT} (cell G28)							
19.5	15	241.92	241.92	0	0	A	S	S		

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.38	0.05								

ENTER Enclosed space floor thickness, L_{crack} (centimeter)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (centimeter)	ENTER Enclosed space floor width, W_B (centimeter)	ENTER Enclosed space height, H_B (centimeter)	ENTER Floor-wall seam crack width, w (centimeter)	ENTER Indoor air exchange rate, ER (1/hour)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	1000	1000	244	0.1	0.48	

ENTER Averaging time for carcinogens, AT_C (years)	ENTER Averaging time for noncarcinogens, AT_{NC} (years)	ENTER Exposure duration, ED (years)	ENTER Exposure frequency, EF (days/year)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Exposure Time ET (hours/day)
70	30	30	350	1.0E-05	1	24

°C = degrees centimeter
g/cm^3 = grams per cubic centimeter
cm^3/cm^3 = cubic centimeter per cubic centimeter
$g/cm\text{-}s^2$ = gram per centimeter per square second
cm^2 = square centimeters
L/m = liter per meter
µg/L = microgram per liter

Table 8-21
Summary of Input Parameters
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Resident Receptor - Historical Maximum Concentrations
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 1290 Site)
Hunter Army Airfield, Savannah, Georgia

Chemical Name	Henry's law constant at ave. gw temp H_{TS} (atm-m^3/mol)	Henry's law constant at ave. gw temp H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_{A} (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_{T} (cm^2/s)	Source vapor conc., C_{source} ($\mu g/m^3$)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Acetone	2.76E-05	1.15E-03	1.78E-04	1.71E-02	1.41E-03	9.33E-03	9.93E+03	9.95E+01	1.71E-02	1.24E+63	9.32E-04	9.25E+00	NA	3.1E+01
Benzene	4.30E-03	1.79E-01	1.78E-04	1.45E-02	5.78E-04	5.16E-03	1.78E+06	9.95E+01	1.45E-02	4.56E+74	5.96E-04	1.06E+03	7.8E-06	3.0E-02
2-Butanone	4.37E-05	1.82E-03	1.78E-04	1.48E-02	9.97E-04	7.25E-03	1.42E+01	9.95E+01	1.48E-02	1.23E+73	7.77E-04	1.10E-02	NA	5.0E+00
Carbon Disulfide	1.17E-02	4.86E-01	1.78E-04	1.72E-02	6.84E-04	6.11E-03	1.55E+03	9.95E+01	1.72E-02	6.31E+62	6.82E-04	1.05E+00	NA	7.0E-01
Ethyl Chloride	9.24E-03	3.85E-01	1.78E-04	1.68E-02	6.67E-04	5.96E-03	2.65E+02	9.95E+01	1.68E-02	2.69E+64	6.69E-04	1.77E-01	NA	1.0E+01
Chloroform	2.90E-03	1.21E-01	1.78E-04	1.24E-02	4.99E-04	4.45E-03	5.67E+02	9.95E+01	1.24E-02	8.06E+86	5.28E-04	3.00E-01	2.3E-05	9.8E-02
Chloromethane	7.61E-03	3.17E-01	1.78E-04	2.00E-02	7.97E-04	7.12E-03	2.92E+02	9.95E+01	2.00E-02	8.44E+53	7.66E-04	2.24E-01	NA	9.0E-02
1,2-Dichlorobenzene	1.33E-03	5.54E-02	1.78E-04	9.08E-03	3.72E-04	3.29E-03	1.22E+02	9.95E+01	9.08E-03	1.02E+119	4.09E-04	4.98E-02	NA	2.0E-01
1,1-Dichloroethane	4.45E-03	1.85E-01	1.78E-04	1.35E-02	5.40E-04	4.82E-03	1.91E+03	9.95E+01	1.35E-02	8.30E+79	5.64E-04	1.08E+00	1.6E-06	NA
1,2-Dichloroethane	9.03E-04	3.76E-02	1.78E-04	1.39E-02	5.70E-04	5.04E-03	4.51E+01	9.95E+01	1.39E-02	9.59E+77	5.85E-04	2.64E-02	2.6E-05	7.0E-03
1,1-Dichloroethene	2.14E-02	8.89E-01	1.78E-04	1.40E-02	5.54E-04	4.95E-03	4.86E+04	9.95E+01	1.40E-02	2.81E+77	5.77E-04	2.81E+01	NA	2.0E-01
1,2-Dichloroethene (mixed)	3.24E-03	1.35E-01	1.78E-04	1.42E-02	5.69E-04	5.07E-03	5.11E+04	9.95E+01	1.42E-02	1.21E+76	5.88E-04	3.00E+01	NA	6.0E-02
cis-1,2-Dichloroethene	3.20E-03	1.33E-01	1.78E-04	1.43E-02	5.72E-04	5.10E-03	1.47E+04	9.95E+01	1.43E-02	4.10E+75	5.91E-04	8.67E+00	NA	NA
trans-1,2-Dichloroethene	3.26E-03	1.36E-01	1.78E-04	1.42E-02	5.67E-04	5.06E-03	3.13E+02	9.95E+01	1.42E-02	1.99E+76	5.87E-04	1.83E-01	NA	6.0E-02
1,2-Dichloropropane	2.15E-03	8.96E-02	1.78E-04	1.19E-02	4.78E-04	4.25E-03	8.87E+01	9.95E+01	1.19E-02	1.41E+91	5.09E-04	4.51E-02	1.0E-05	4.0E-03
1,3-Dichloropropene	2.67E-03	1.11E-01	1.78E-04	1.23E-02	4.95E-04	4.41E-03	5.11E+02	9.95E+01	1.23E-02	4.40E+87	5.25E-04	2.68E-01	4.0E-06	2.0E-02
Dichlorodifluoromethane	2.65E-01	1.10E+01	1.78E-04	1.23E-02	4.87E-04	4.36E-03	1.16E+05	9.95E+01	1.23E-02	8.40E+87	5.19E-04	6.02E+01	NA	1.0E-01
Ethylbenzene	5.73E-03	2.39E-01	1.78E-04	1.11E-02	4.41E-04	3.94E-03	1.54E+05	9.95E+01	1.11E-02	4.35E+97	4.77E-04	7.35E+01	NA	1.0E+00
Isopropylbenzene	7.73E-03	3.22E-01	1.78E-04	9.75E-03	3.88E-04	3.47E-03	2.61E+02	9.95E+01	9.75E-03	7.10E+110	4.28E-04	1.12E-01	NA	4.0E-01
4-Methyl-2-pentanone	1.01E-04	4.22E-03	1.78E-04	1.13E-02	5.92E-04	4.79E-03	1.48E+01	9.95E+01	1.13E-02	6.19E+95	5.61E-04	8.29E-03	NA	3.0E+00
Methylene Chloride	2.61E-03	1.09E-01	1.78E-04	1.62E-02	6.48E-04	5.78E-03	1.81E+03	9.95E+01	1.62E-02	7.74E+66	6.53E-04	1.18E+00	4.7E-07	1.0E+00
Styrene	1.98E-03	8.25E-02	1.78E-04	1.15E-02	4.63E-04	4.12E-03	4.29E+01	9.95E+01	1.15E-02	1.00E+94	4.96E-04	2.13E-02	NA	1.0E+00
1,1,2,2-Tetrachloroethane	2.63E-04	1.10E-02	1.78E-04	7.91E-03	3.75E-04	3.15E-03	4.83E+00	9.95E+01	7.91E-03	4.37E+136	3.95E-04	1.90E-03	5.8E-05	NA
Tetrachloroethene	1.31E-02	5.46E-01	1.78E-04	8.16E-03	3.24E-04	2.90E-03	3.77E+02	9.95E+01	8.16E-03	2.89E+132	3.66E-04	1.38E-01	2.6E-07	4.0E-02
Toluene	4.98E-03	2.07E-01	1.78E-04	1.26E-02	5.02E-04	4.48E-03	8.13E+03	9.95E+01	1.26E-02	8.27E+85	5.31E-04	4.32E+00	NA	5.0E+00
Trichloroethene	7.54E-03	3.14E-01	1.78E-04	1.11E-02	4.42E-04	3.95E-03	2.43E+06	9.95E+01	1.11E-02	2.28E+97	4.78E-04	1.16E+03	4.1E-06	2.0E-03
Vinyl Chloride	2.38E-02	9.91E-01	1.78E-04	1.73E-02	6.87E-04	6.14E-03	2.71E+04	9.95E+01	1.73E-02	2.55E+62	6.85E-04	1.85E+01	4.4E-06	1.0E-01
Xylene, Mixture	3.75E-03	1.56E-01	1.78E-04	1.37E-02	5.47E-04	4.88E-03	3.85E+04	9.95E+01	1.37E-02	7.70E+78	5.70E-04	2.19E+01	NA	1.0E-01
Naphthalene	2.93E-04	1.22E-02	1.78E-04	9.78E-03	4.38E-04	3.76E-03	7.59E+01	9.95E+01	9.78E-03	3.10E+110	4.59E-04	3.48E-02	NA	3.0E-03

atm-m^3/mol = atmospheres-cubic meter per mole
cm^2/s = square centimeters per second
cm^3/s = cubic centimeters per second
g/cm-s = gram per centimeter-second
$\mu g/m^3$ = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter

Table 8-22
Summary of Results
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Resident Receptor - Historical Maximum Concentrations
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 1290 Site)
Hunter Army Airfield, Savannah, Georgia

Constituent	Indoor groundwater conc., carcinogen (µg/L)	Indoor groundwater conc., noncarcinogen (µg/L)	Risk-based exposure groundwater conc., (µg/L)	Pure water solubility, S (µg/L)	Final exposure groundwater conc., (µg/L)	Total Excess Lifetime Cancer Risk (unitless)	Total Non-Cancer Hazard (unitless)
Acetone	NA	NA	NA	1.00E+09	NA	NA	2.9E-04
Benzene	NA	NA	NA	6.13E+04	NA	3.4E-03	3.4E+01
2-Butanone	NA	NA	NA	1.90E+07	NA	NA	2.1E-06
Carbon Disulfide	NA	NA	NA	1.30E+07	NA	NA	1.4E-03
Ethyl Chloride	NA	NA	NA	3.10E+05	NA	NA	1.7E-05
Chloroform	NA	NA	NA	2.83E+06	NA	2.8E-06	2.9E-03
Chloromethane	NA	NA	NA	2.06E+05	NA	NA	2.4E-03
1,2-Dichlorobenzene	NA	NA	NA	5.26E+05	NA	NA	2.4E-04
1,1-Dichloroethane	NA	NA	NA	1.28E+06	NA	7.1E-07	NA
1,2-Dichloroethane	NA	NA	NA	8.80E+06	NA	2.8E-07	3.6E-03
1,1-Dichloroethene	NA	NA	NA	3.10E+04	NA	NA	1.3E-01
1,2-Dichloroethene (mixed)	NA	NA	NA	3.50E+06	NA	NA	4.8E-01
cis-1,2-Dichloroethene	NA	NA	NA	6.41E+06	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA	4.52E+06	NA	NA	2.9E-03
1,2-Dichloropropane	NA	NA	NA	2.80E+06	NA	1.9E-07	1.1E-02
1,3-Dichloropropene	NA	NA	NA	2.80E+06	NA	4.4E-07	1.3E-02
Dichlorodifluoromethane	NA	NA	NA	2.80E+05	NA	NA	5.8E-01
Ethylbenzene	NA	NA	NA	1.69E+05	NA	NA	7.0E-02
Isopropylbenzene	NA	NA	NA	6.13E+04	NA	NA	2.7E-04
4-Methyl-2-pentanone	NA	NA	NA	1.90E+07	NA	NA	2.7E-06
Methylene Chloride	NA	NA	NA	1.30E+07	NA	2.3E-07	1.1E-03
Styrene	NA	NA	NA	3.10E+05	NA	NA	2.0E-05
1,1,2,2-Tetrachloroethane	NA	NA	NA	2.83E+06	NA	4.5E-08	NA
Tetrachloroethene	NA	NA	NA	2.06E+05	NA	1.5E-08	3.3E-03
Toluene	NA	NA	NA	5.26E+05	NA	NA	8.3E-04
Trichloroethene	NA	NA	NA	1.28E+06	NA	2.0E-03	5.6E+02
Vinyl Chloride	NA	NA	NA	8.80E+06	NA	3.4E-05	1.8E-01
Xylene, Mixture	NA	NA	NA	1.06E+05	NA	NA	2.1E-01
Naphthalene	NA	NA	NA	3.10E+04	NA	NA	1.1E-02
Total Risk and Hazard						**5E-03**	**592**

µg/L = micrograms per liter

Table 8-23
Summary of Input Parameters For Historical Maximum Groundwater Concentration
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Site Worker Receptor-Historical Maximum Concentrations
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 1290 Site)
Hunter Army Airfield, Savannah, Georgia

Chemical CAS No. (numbers only, no dashes)	Initial Groundwater Concentration C_W (µg/L)	Chemical
67641	8.63E+03	Acetone
71432	9.92E+03	Benzene
78933	7.80E+00	2-Butanone
75150	3.18E+00	Carbon Disulfide
75003	6.90E-01	Chloroethane
67663	4.70E+00	Chloroform
74873	9.20E-01	Chloromethane
95501	2.20E+00	1,2-Dichlorobenzene
75343	1.03E+01	1,1-Dichloroethane
107062	1.20E+00	1,2-Dichloroethane
75354	5.47E+01	1,1-Dichloroethene
540590	3.78E+02	1,2-Dichloroethene (mixed)
156592	1.10E+02	cis-1,2-Dichloroethene
156605	2.30E+00	trans-1,2-Dichloroethene
78875	9.90E-01	1,2-Dichloropropane
542756	4.60E+00	1,3-Dichloropropene
75718	1.05E+01	Dichlorodifluoromethane
100414	6.45E+02	Ethylbenzene
98828	8.10E-01	Isopropylbenzene
108101	3.50E+00	4-Methyl-2-pentanone
75092	1.67E+01	Methylene Chloride
100425	5.20E-01	Styrene
79345	4.40E-01	1,1,2,2-Tetrachloroethane
127184	6.90E-01	Tetrachloroethene
108883	3.92E+01	Toluene
79016	7.73E+03	Trichloroethene
75014	2.73E+01	Vinyl Chloride
1330207	2.46E+02	Xylene, Mixture
91203	6.22E+00	Naphthalene

ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (centimeter)	ENTER Depth below grade to water table, L_{WT} (centimeter)	ENTER Thickness of soil stratum A, h_A (centimeter)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (centimeter)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (centimeter)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of L_{WT} (cell G28)							
19.5	15	241.92	241.92	0	0	A	S	S		

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.38	0.05								

ENTER Enclosed space floor thickness, L_{crack} (centimeter)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (centimeter)	ENTER Enclosed space floor width, W_B (centimeter)	ENTER Enclosed space height, H_B (centimeter)	ENTER Floor-wall seam crack width, w (centimeter)	ENTER Indoor air exchange rate, ER (1/hour)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	1000	1000	244	0.1	0.48	

ENTER Averaging time for carcinogens, AT_C (years)	ENTER Averaging time for noncarcinogens, AT_{NC} (years)	ENTER Exposure duration, ED (years)	ENTER Exposure frequency, EF (days/year)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Exposure Time ET (hours/day)
70	25	25	250	1.0E-06	1	8

°C = degrees centimeter
g/cm^3 = grams per cubic centimeter
cm^3/cm^3 = cubic centimeter per cubic centimeter
$g/cm\text{-}s^2$ = gram per centimeter per square second
cm^2 = square centimeters
L/m = liter per meter
µg/L = microgram per liter

Table 8-24
Summary of Input Parameters
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Site Worker Receptor-Historical Maximum Concentrations
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 1290 Site)
Hunter Army Airfield, Savannah, Georgia

Chemical Name	Henry's law constant at ave. gw temp H_{TS} (atm-m^3/mol)	Henry's law constant at ave. gw temp H'_{TS} (unitless)	Vapor viscosity at ave. soil temperature, μ_{TS} (g/cm-s)	Stratum A effective diffusion coefficient, D^{eff}_A (cm^2/s)	Capillary zone effective diffusion coefficient, D^{eff}_{cz} (cm^2/s)	Total overall effective diffusion coefficient, D^{eff}_T (cm^2/s)	Source vapor conc., C_{source} ($\mu g/m^3$)	Average vapor flow rate into bldg., Q_{soil} (cm^3/s)	Crack effective diffusion coefficient, D^{crack} (cm^2/s)	Exponent of equivalent foundation Peclet number, exp(Pe^f) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., $C_{building}$ ($\mu g/m^3$)	Unit risk factor, URF ($\mu g/m^3)^{-1}$	Reference conc., RfC (mg/m^3)
Acetone	2.76E-05	1.15E-03	1.78E-04	1.71E-02	1.41E-03	9.33E-03	9.93E+03	9.95E+01	1.71E-02	1.24E+63	9.32E-04	9.25E+00	NA	3.1E+01
Benzene	4.30E-03	1.79E-01	1.78E-04	1.45E-02	5.78E-04	5.16E-03	1.78E+06	9.95E+01	1.45E-02	4.56E+74	5.96E-04	1.06E+03	7.8E-06	3.0E-02
2-Butanone	4.37E-05	1.82E-03	1.78E-04	1.48E-02	9.97E-04	7.25E-03	1.42E+01	9.95E+01	1.48E-02	1.23E+73	7.77E-04	1.10E-02	NA	5.0E+00
Carbon Disulfide	1.17E-02	4.86E-01	1.78E-04	1.72E-02	6.84E-04	6.11E-03	1.55E+03	9.95E+01	1.72E-02	6.31E+62	6.82E-04	1.05E+00	NA	7.0E-01
Chloroethane	9.24E-03	3.85E-01	1.78E-04	1.68E-02	6.67E-04	5.96E-03	2.65E+02	9.95E+01	1.68E-02	2.69E+64	6.69E-04	1.77E-01	NA	1.0E+01
Chloroform	2.90E-03	1.21E-01	1.78E-04	1.24E-02	4.99E-04	4.45E-03	5.67E+02	9.95E+01	1.24E-02	8.06E+86	5.28E-04	3.00E-01	2.3E-05	9.8E-02
Chloromethane	7.61E-03	3.17E-01	1.78E-04	2.00E-02	7.97E-04	7.12E-03	2.92E+02	9.95E+01	2.00E-02	8.44E+53	7.66E-04	2.24E-01	NA	9.0E-02
1,2-Dichlorobenzene	1.33E-03	5.54E-02	1.78E-04	9.08E-03	3.72E-04	3.29E-03	1.22E+02	9.95E+01	9.08E-03	1.02E+119	4.09E-04	4.98E-02	NA	2.0E-01
1,1-Dichloroethane	4.45E-03	1.85E-01	1.78E-04	1.35E-02	5.40E-04	4.82E-03	1.91E+03	9.95E+01	1.35E-02	8.30E+79	5.64E-04	1.08E+00	1.6E-06	NA
1,2-Dichloroethane	9.03E-04	3.76E-02	1.78E-04	1.39E-02	5.70E-04	5.04E-03	4.51E+01	9.95E+01	1.39E-02	9.59E+77	5.85E-04	2.64E-02	2.6E-05	7.0E-03
1,1-Dichloroethene	2.14E-02	8.89E-01	1.78E-04	1.40E-02	5.54E-04	4.95E-03	4.86E+04	9.95E+01	1.40E-02	2.81E+77	5.77E-04	2.81E+01	NA	2.0E-01
1,2-Dichloroethene (mixed)	3.24E-03	1.35E-01	1.78E-04	1.42E-02	5.69E-04	5.07E-03	5.11E+04	9.95E+01	1.42E-02	1.21E+76	5.88E-04	3.00E+01	NA	6.0E-02
cis-1,2-Dichloroethene	3.20E-03	1.33E-01	1.78E-04	1.43E-02	5.72E-04	5.10E-03	1.47E+04	9.95E+01	1.43E-02	4.10E+75	5.91E-04	8.67E+00	NA	NA
trans-1,2-Dichloroethene	3.26E-03	1.36E-01	1.78E-04	1.42E-02	5.67E-04	5.06E-03	3.13E+02	9.95E+01	1.42E-02	1.99E+76	5.87E-04	1.83E-01	NA	6.0E-02
1,2-Dichloropropane	2.15E-03	8.96E-02	1.78E-04	1.19E-02	4.78E-04	4.25E-03	8.87E+01	9.95E+01	1.19E-02	1.41E+91	5.09E-04	4.51E-02	1.0E-05	4.0E-03
1,3-Dichloropropene	2.67E-03	1.11E-01	1.78E-04	1.23E-02	4.95E-04	4.41E-03	5.11E+02	9.95E+01	1.23E-02	4.40E+87	5.25E-04	2.68E-01	4.0E-06	2.0E-02
Dichlorodifluoromethane	2.65E-01	1.10E+01	1.78E-04	1.23E-02	4.87E-04	4.36E-03	1.16E+05	9.95E+01	1.23E-02	8.40E+87	5.19E-04	6.02E+01	NA	1.0E-01
Ethylbenzene	5.73E-03	2.39E-01	1.78E-04	1.11E-02	4.41E-04	3.94E-03	1.54E+05	9.95E+01	1.11E-02	4.35E+97	4.77E-04	7.35E+01	NA	1.0E+00
Isopropylbenzene	7.73E-03	3.22E-01	1.78E-04	9.75E-03	3.88E-04	3.47E-03	2.61E+02	9.95E+01	9.75E-03	7.10E+110	4.28E-04	1.12E-01	NA	4.0E-01
4-Methyl-2-pentanone	1.01E-04	4.22E-03	1.78E-04	1.13E-02	5.92E-04	4.79E-03	1.48E+01	9.95E+01	1.13E-02	6.19E+95	5.61E-04	8.29E-03	NA	3.0E+00
Methylene Chloride	2.61E-03	1.09E-01	1.78E-04	1.62E-02	6.48E-04	5.78E-03	1.81E+03	9.95E+01	1.62E-02	7.74E+66	6.53E-04	1.18E+00	4.7E-07	1.0E+00
Styrene	1.98E-03	8.25E-02	1.78E-04	1.15E-02	4.63E-04	4.12E-03	4.29E+01	9.95E+01	1.15E-02	1.00E+94	4.96E-04	2.13E-02	NA	1.0E+00
1,1,2,2-Tetrachloroethane	2.63E-04	1.10E-02	1.78E-04	7.91E-03	3.75E-04	3.15E-03	4.83E+00	9.95E+01	7.91E-03	4.37E+136	3.95E-04	1.90E-03	5.8E-05	NA
Tetrachloroethene	1.31E-02	5.46E-01	1.78E-04	8.16E-03	3.24E-04	2.90E-03	3.77E+02	9.95E+01	8.16E-03	2.89E+132	3.66E-04	1.38E-01	2.6E-07	4.0E-02
Toluene	4.98E-03	2.07E-01	1.78E-04	1.26E-02	5.02E-04	4.48E-03	8.13E+03	9.95E+01	1.26E-02	8.27E+85	5.31E-04	4.32E+00	NA	5.0E+00
Trichloroethene	7.54E-03	3.14E-01	1.78E-04	1.11E-02	4.42E-04	3.95E-03	2.43E+06	9.95E+01	1.11E-02	2.28E+97	4.78E-04	1.16E+03	4.1E-06	2.0E-03
Vinyl Chloride	2.38E-02	9.91E-01	1.78E-04	1.73E-02	6.87E-04	6.14E-03	2.71E+04	9.95E+01	1.73E-02	2.55E+62	6.85E-04	1.85E+01	4.4E-06	1.0E-01
Xylene, Mixture	3.75E-03	1.56E-01	1.78E-04	1.37E-02	5.47E-04	4.88E-03	3.85E+04	9.95E+01	1.37E-02	7.70E+78	5.70E-04	2.19E+01	NA	1.0E-01
Naphthalene	2.93E-04	1.22E-02	1.78E-04	9.78E-03	4.38E-04	3.76E-03	7.59E+01	9.95E+01	9.78E-03	3.10E+110	4.59E-04	3.48E-02	NA	3.0E-03

atm-m^3/mol = atmospheres-cubic meter per mole
cm^2/s = square centimeters per second
cm^3/s = cubic centimeters per second
g/cm-s = gram per centimeter-second
$\mu g/m^3$ = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter

Table 8-25
Summary of Results
USEPA Spreadsheets for the Johnson and Ettinger Vapor Intrusion Model
Site Worker Receptor-Historical Maximum Concentrations
HAA-17 (Former USTs 25 and 26, Purge Facility and Building 1290 Site)
Hunter Army Airfield, Savannah, Georgia

Constituent	Indoor groundwater conc., carcinogen (µg/L)	Indoor groundwater conc., noncarcinogen (µg/L)	Risk-based exposure groundwater conc., (µg/L)	Pure water solubility, S (µg/L)	Final exposure groundwater conc., (µg/L)	Total Excess Lifetime Cancer Risk (unitless)	Total Non-Cancer Hazard (unitless)
Acetone	NA	NA	NA	1.00E+09	NA	NA	6.8E-05
Benzene	NA	NA	NA	1.79E+06	NA	6.7E-04	8.1E+00
2-Butanone	NA	NA	NA	2.23E+08	NA	NA	5.0E-07
Carbon Disulfide	NA	NA	NA	2.16E+06	NA	NA	3.4E-04
Chloroethane	NA	NA	NA	6.71E+06	NA	NA	4.1E-06
Chloroform	NA	NA	NA	7.95E+06	NA	5.6E-07	7.0E-04
Chloromethane	NA	NA	NA	5.32E+06	NA	NA	5.7E-04
1,2-Dichlorobenzene	NA	NA	NA	1.56E+05	NA	NA	5.7E-05
1,1-Dichloroethane	NA	NA	NA	5.04E+06	NA	1.4E-07	NA
1,2-Dichloroethane	NA	NA	NA	8.60E+06	NA	5.6E-08	8.6E-04
1,1-Dichloroethene	NA	NA	NA	2.42E+06	NA	NA	3.2E-02
1,2-Dichloroethene (mixed)	NA	NA	NA	3.50E+06	NA	NA	1.1E-01
cis-1,2-Dichloroethene	NA	NA	NA	6.41E+06	NA	NA	NA
trans-1,2-Dichloroethene	NA	NA	NA	4.52E+06	NA	NA	7.0E-04
1,2-Dichloropropane	NA	NA	NA	2.80E+06	NA	3.7E-08	2.6E-03
1,3-Dichloropropene	NA	NA	NA	2.80E+06	NA	8.7E-08	3.1E-03
Dichlorodifluoromethane	NA	NA	NA	2.80E+05	NA	NA	1.4E-01
Ethylbenzene	NA	NA	NA	1.69E+05	NA	NA	1.7E-02
Isopropylbenzene	NA	NA	NA	6.13E+04	NA	NA	6.4E-05
4-Methyl-2-pentanone	NA	NA	NA	1.90E+07	NA	NA	6.3E-07
Methylene Chloride	NA	NA	NA	1.30E+07	NA	4.5E-08	2.7E-04
Styrene	NA	NA	NA	3.10E+05	NA	NA	4.9E-06
1,1,2,2-Tetrachloroethane	NA	NA	NA	2.83E+06	NA	9.0E-09	NA
Tetrachloroethene	NA	NA	NA	2.06E+05	NA	2.9E-09	7.9E-04
Toluene	NA	NA	NA	5.26E+05	NA	NA	2.0E-04
Trichloroethene	NA	NA	NA	1.28E+06	NA	3.9E-04	1.3E+02
Vinyl Chloride	NA	NA	NA	8.80E+06	NA	6.6E-06	4.2E-02
Xylene, Mixture	NA	NA	NA	1.06E+05	NA	NA	5.0E-02
Naphthalene	NA	NA	NA	3.10E+04	NA	NA	2.6E-03
Total Risk and Hazard						**1E-03**	**141**

µg/L = micrograms per liter

Table 8-3
Toxicity Values
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance		Cancer Effects: Cancer Slope Factors (CSF) CSFo Oral (kg-day/mg)	ref	CSFi Inhalation (kg-day/mg)	ref	Weight of Evidence	Target Cancer Risk (TCR) (for Type 3)	Noncancer Effects: Reference Doses (RfD) RfDo Oral (mg/kg/day)	ref	RfDi Inhalation (mg/kg/day)	ref
Volatile Organic Compounds											
Acetone		NA		NA		D	NC	9.0E-01	I	8.9E+00	A
Benzene		5.5E-02	I	2.7E-02	I	A	1.0E-05	4.0E-03	I	8.6E-03	I
2-Butanone (Methyl ethyl ketone)		NA		NA		D	NC	6.0E-01	I	1.4E+00	I
Carbon disulfide		NA		NA		NA	NC	1.0E-01	I	2.0E-01	I
Chloroethane		NA		NA		C	1.0E-04	NA		2.9E+00	I
Chloroform		3.1E-02	C	8.1E-02	I	B2	1.0E-05	1.0E-02	I	2.8E-02	A
Chloromethane		NA		NA		D	NC	NA		2.6E-02	I
Cyclohexane		NA		NA		NA	NC	NA		1.7E+00	I
1,2-Dichlorobenzene		NA		NA		D	NC	9.0E-02	I	5.7E-02	H
1,1-Dichloroethane		5.7E-03	C	5.6E-03	C	C	1.0E-04	2.0E-01	P	NA	
1,2-Dichloroethane		9.1E-02	I	9.1E-02	I	B2	1.0E-05	6.0E-03	X	2.0E-03	P
1,1-Dichloroethene		NA		NA		C	1.0E-04	5.0E-02	I	5.7E-02	I
1,2-Dichloroethene		NA		NA		NA	NC	9.0E-03	H	1.7E-02	
cis-1,2-Dichloroethene		NA		NA		D	NC	2.0E-03	I	NA	
trans-1,2-Dichloroethene		NA		NA		NA	NC	2.0E-02	I	1.7E-02	P
1,2-Dichloropropane		3.6E-02	C	3.5E-02	C	B2	1.0E-05	9.0E-02	A	1.1E-03	I
1,3-Dichloropropene		1.0E-01	I	1.4E-02	I	B2	1.0E-05	3.0E-02	I	5.7E-03	I
CFC-12		NA		NA		NA	NC	2.0E-01	I	2.9E-02	Screen
Ethylbenzene	[a]	1.1E-02	C	8.8E-03	C	D	1.0E-05	1.0E-01	I	2.9E-01	I
Isopropylbenzene		NA		NA		D	NC	1.0E-01	I	1.1E-01	I
Methyl acetate		NA		NA		NA	NC	1.0E+00	H	NA	
tert-Butyl methyl ether		1.8E-03	C	9.1E-04	C	NA	1.0E-05	NA		8.6E-01	I
Methyl isobutyl ketone		NA		NA		NA	NC	8.0E-02	H	8.6E-01	I
Methylene chloride		7.5E-03	I	1.6E-03	I	B2	1.0E-05	6.0E-02	I	2.9E-01	A
Styrene		NA		NA		NA	NC	2.0E-01	I	2.9E-01	I
1,1,2,2-Tetrachloroethane		2.0E-01	I	NA		C	1.0E-04	2.0E-02	I	NA	
Tetrachloroethene (PCE)		2.1E-03	I	9.1E-04	I	Likely to be carcinogenic in humans	1.0E-05	6.0E-03	I	1.1E-02	I
Toluene		NA		NA		D	NC	8.0E-02	I	1.4E+00	I
Trichloroethene (TCE)		4.6E-02	I	1.4E-05	I	carcinogenic to humans	1.0E-05	5.0E-04	I	5.7E-04	I
Vinyl chloride	[b]	7.2E-01/1.4E+00	I	1.5E-02/3.0E-02	I	A	1.0E-05	3.0E-03	I	2.9E-02	I
Xylenes		NA		NA		D	NC	2.0E-01	I	2.9E-02	I
Semi Volatile Organic Compounds											
Benzoic acid		NA		NA		D	NC	4.0E+00	I	NA	
Di-n-butyl phthalate		NA		NA		D	NC	1.0E-01	I	NA	
Polycyclic Aromatic Hydrocarbons											
Benzo[a]pyrene		7.3E+00	I	3.9E+00	C	B2	1.0E-05	NA		NA	
Benzo[b]fluoranthene		7.3E-01	E	3.9E-01	C	B2	1.0E-05	NA		NA	
Benzo[k]fluoranthene		7.3E-02	E	3.9E-01	C	B2	1.0E-05	NA		NA	
Chrysene		7.3E-03	E	3.9E-02	C	B2	1.0E-05	NA		NA	
Fluoranthene		NA		NA		D	NC	4.0E-02	I	NA	
Naphthalene		NA		1.2E-01	C	C	1.0E-04	2.0E-02	I	8.6E-04	I
Phenanthrene		NA		NA		D	NC	NA		NA	
Pyrene		NA		NA		D	NC	3.0E-02	I	NA	
Inorganics											
Arsenic		1.5E+00	I	1.5E+01	I	A	1.0E-05	3.0E-04	I	4.3E-06	C
Barium		NA		NA		D	NC	2.0E-01	I	1.4E-04	H
Cadmium	[c]	NA		6.3E+00	I	D/B1	1.0E-05	1E-3/5E-4	I	NA	
Chromium, Total	[d]	NA		NA		D	NC	NA		NA	
Lead		NA		NA		B2	1.0E-05	NA		NA	
Mercury		NA		NA		C	1.0E-04	1.6E-04	C	8.6E-05	I
Selenium		NA		NA		D	NC	5.0E-03	I	5.7E-03	C

Table 8-3
Toxicity Values
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

References [ref]:

A	Agency for Toxic Substances Disease Registry (ATDSR) (ATSDR 2012).
C	CalEPA, Toxicity Criteria database (CalEPA 2012).
E	Environmental Criteria and Assessment Office as referenced in the USEPA Regional Screening Level Table (USEPA 2011a).
H	USEPA, Health Effects Summary Table (HEAST; USEPA 1997b).
I	USEPA, Integrated Risk Information System (IRIS; USEPA 2012a).
P	Provisional Peer Reviewed Toxicity Values (PPRTV; USEPA 2012b).
X	PPRTV Appendix as referenced in the USEPA Regional Screening Level Table (USEPA 2011a).

USEPA cancer weight-of-evidence categories are as follows:

Group A: Human Carcinogen (sufficient evidence of carcinogenicity in humans)
Group B: Probable Human Carcinogen
B1 - limited evidence of carcinogenicity in humans
B2 - sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans
Group C: Possible Human Carcinogen (limited evidence of carcinogenicity in animals and inadequate or lack of human data)
Group D: Not Classifiable as to Human Carcinogenicity (inadequate or no evidence)
Group E: Evidence of Noncarcinogenicity for Humans (no evidence of carcinogenicity in adequate studies)

[a]	The IRIS summary for ethylbenzene states that ethylbenzene is not classifiable as to human carcinogenicity due to the lack of animal bioassays and human studies.
[b]	Values are for adult/child exposure.
[c]	RfDo values for diet / water.
[d]	Toxicity values are not available for total chromium.

kg-day/mg	Kilogram-day per milligram.
mg/kg-day	Milligram per kilogram-day.
NA	Not available or applicable.

Table 8-4
Physical-Chemical Properties of the Detected Soil Constiutents
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	Henry's Law Constant (atm-m³/mol) (25 °C)	[ref]	Diffusivity in Air (cm²/sec)	[ref]	Effective Diffusivity (cm²/sec) (calc)	Molecular Weight (g/mole)	[ref]	Koc or Kd (cm^3/g)	[ref]	Kas (g/cm³) (calc)	alpha (cm²/sec) (calc)	Volatilization Factor (VF) (m³/kg) (calc)
Volatile Organic Compounds												
Acetone	3.50E-05	RSL	1.06E-01	RSL	7.49E-02	58.08	RSL	2.36E+00	RSL	3.03E-02	4.58E-04	6.72E+03
Benzene	5.55E-03	RSL	8.95E-02	RSL	6.33E-02	78.11	RSL	1.46E+02	RSL	7.78E-02	9.86E-04	4.53E+03
2-Butanone (Methyl ethyl ketone)	5.69E-05	RSL	9.14E-02	RSL	6.47E-02	72.11	RSL	4.51E+00	RSL	2.58E-02	3.37E-04	7.83E+03
Carbon disulfide	1.44E-02	RSL	1.06E-01	RSL	7.53E-02	76.13	RSL	2.17E+01	RSL	1.36E+00	1.63E-02	8.89E+02
Chloroethane	1.11E-02	RSL	1.04E-01	RSL	7.34E-02	64.52	RSL	2.17E+01	RSL	1.04E+00	1.28E-02	1.05E+03
Chloroform	3.67E-03	RSL	7.69E-02	RSL	5.44E-02	119.38	RSL	3.18E+01	RSL	2.36E-01	2.49E-03	2.77E+03
Chloromethane	8.82E-03	RSL	1.24E-01	RSL	8.77E-02	50.49	RSL	1.32E+01	RSL	1.36E+00	1.90E-02	8.21E+02
Cyclohexane	1.50E-01	RSL	8.00E-02	RSL	5.66E-02	84.16	RSL	1.46E+02	RSL	2.10E+00	1.69E-02	7.78E+02
1,2-Dichlorobenzene	1.92E-03	RSL	5.62E-02	RSL	3.97E-02	147	RSL	3.83E+02	RSL	1.03E-02	8.26E-05	1.59E+04
1,1-Dichloroethane	5.62E-03	RSL	8.36E-02	RSL	5.92E-02	98.96	RSL	3.18E+01	RSL	3.61E-01	4.04E-03	2.12E+03
1,2-Dichloroethane	1.18E-03	RSL	8.57E-02	RSL	6.06E-02	98.96	RSL	3.96E+01	RSL	6.09E-02	7.41E-04	5.25E+03
1,1-Dichloroethene	2.61E-02	RSL	8.63E-02	RSL	6.10E-02	96.94	RSL	3.18E+01	RSL	1.68E+00	1.55E-02	8.66E+02
1,2-Dichloroethene	4.08E-03	RSL	8.79E-02	RSL	6.21E-02	96.94	RSL	3.96E+01	RSL	2.11E-01	2.55E-03	2.75E+03
cis-1,2-Dichloroethene	4.08E-03	RSL	8.84E-02	RSL	6.25E-02	96.94	RSL	3.96E+01	RSL	2.11E-01	2.57E-03	2.74E+03
trans-1,2-Dichloroethene	4.08E-03	RSL	8.76E-02	RSL	6.20E-02	96.94	RSL	3.96E+01	RSL	2.11E-01	2.54E-03	2.75E+03
1,2-Dichloropropane	2.82E-03	RSL	7.33E-02	RSL	5.19E-02	112.99	RSL	6.07E+01	RSL	9.50E-02	9.82E-04	4.53E+03
1,3-Dichloropropene	3.55E-03	RSL	7.63E-02	RSL	5.39E-02	110.97	RSL	7.22E+01	RSL	1.01E-01	1.08E-03	4.31E+03
CFC-12	3.43E-01	RSL	7.60E-02	RSL	5.38E-02	120.91	RSL	4.39E+01	RSL	1.60E+01	4.11E-02	1.68E+02
Ethylbenzene	7.88E-03	RSL	6.85E-02	RSL	4.84E-02	106.17	RSL	4.46E+02	RSL	3.61E-02	3.53E-04	7.64E+03
Isopropylbenzene	1.15E-02	RSL	6.03E-02	RSL	4.26E-02	120.2	RSL	6.98E+02	RSL	3.37E-02	2.90E-04	8.43E+03
Methyl acetate	1.15E-04	RSL	9.58E-02	RSL	6.77E-02	74.08	RSL	3.06E+00	RSL	7.68E-02	1.04E-03	4.42E+03
tert-Butyl methyl ether	5.87E-04	RSL	7.53E-02	RSL	5.32E-02	88.15	RSL	1.16E+01	RSL	1.04E-01	1.10E-03	4.27E+03
Methyl isobutyl ketone	1.38E-04	RSL	6.98E-02	RSL	4.93E-02	100.16	RSL	1.26E+01	RSL	2.24E-02	2.24E-04	9.63E+03
Methylene chloride	3.25E-03	RSL	9.99E-02	RSL	7.07E-02	84.93	RSL	2.17E+01	RSL	3.06E-01	4.14E-03	2.12E+03
Styrene	2.75E-03	RSL	7.11E-02	RSL	5.03E-02	104.15	RSL	4.46E+02	RSL	1.26E-02	1.28E-04	1.27E+04
1,1,2,2-Tetrachloroethane	3.67E-04	RSL	4.89E-02	RSL	3.46E-02	167.85	RSL	9.49E+01	RSL	7.91E-03	5.55E-05	1.94E+04
Tetrachloroethene (PCE)	1.77E-02	RSL	5.05E-02	RSL	3.57E-02	165.83	RSL	9.49E+01	RSL	3.81E-01	2.57E-03	2.65E+03
Toluene	6.64E-03	RSL	7.78E-02	RSL	5.50E-02	92.14	RSL	2.34E+02	RSL	5.81E-02	6.41E-04	5.64E+03
Trichloroethene (TCE)	9.85E-03	RSL	6.87E-02	RSL	4.86E-02	131.39	RSL	6.07E+01	RSL	3.32E-01	3.07E-03	2.45E+03
Vinyl chloride	2.78E-02	RSL	1.07E-01	RSL	7.58E-02	62.5	RSL	2.17E+01	RSL	2.62E+00	2.63E-02	5.82E+02
Xylenes	5.18E-03	RSL	8.47E-02	RSL	5.99E-02	106.17	RSL	3.83E+02	RSL	2.77E-02	3.35E-04	7.86E+03

Table 8-4
Physical-Chemical Properties of the Detected Soil Constiutents
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	Henry's Law Constant (atm-m³/mol) (25 °C)	[ref]	Diffusivity in Air (cm²/sec)	[ref]	Effective Diffusivity (cm²/sec) (calc)	Molecular Weight (g/mole)	[ref]	Koc or Kd (cm^3/g)	[ref]	Kas (g/cm^3) (calc)	alpha (cm^2/sec) (calc)	Volatilization Factor (VF) (m^3/kg) (calc)
Semi Volatile Organic Compounds												
Benzoic acid	3.81E-08	RSL	7.02E-02	RSL	4.96E-02	122.12	RSL	1.66E+01	RSL	4.71E-06	4.75E-08	NV
Di-n-butyl phthalate	1.81E-06	RSL	2.14E-02	RSL	1.52E-02	278.35	RSL	1.16E+03	RSL	3.20E-06	9.85E-09	NV
Polycyclic Aromatic Hydrocarbons												
Benzo[a]pyrene	4.57E-07	RSL	4.76E-02	RSL	3.37E-02	252.32	RSL	5.87E+05	RSL	1.59E-09	1.09E-11	NV
Benzo[b]fluoranthene	6.57E-07	RSL	4.76E-02	RSL	3.37E-02	252.32	RSL	5.99E+05	RSL	2.24E-09	1.53E-11	NV
Benzo[k]fluoranthene	5.84E-07	RSL	4.76E-02	RSL	3.37E-02	252.32	RSL	5.87E+05	RSL	2.03E-09	1.39E-11	NV
Chrysene	5.23E-06	RSL	2.61E-02	RSL	1.85E-02	228.3	RSL	1.81E+05	RSL	5.93E-08	2.22E-10	NV
Fluoranthene	8.86E-06	RSL	2.76E-02	RSL	1.95E-02	202.26	RSL	5.55E+04	RSL	3.27E-07	1.30E-09	NV
Naphthalene	4.40E-04	RSL	6.05E-02	RSL	4.28E-02	128.18	RSL	1.54E+03	RSL	5.83E-04	5.07E-06	6.42E+04
Phenanthrene	2.33E-05	SCDM	5.43E-02	L90-calc	3.84E-02	178.23	SCDM	2.97E+04	SCDM	1.60E-06	1.25E-08	1.29E+06
Pyrene	1.19E-05	RSL	2.78E-02	RSL	1.97E-02	202.26	RSL	5.43E+04	RSL	4.48E-07	1.79E-09	NV
Inorganics												
Arsenic	—	—	—	—	—	74.922	RSL	2.90E+01	Kd-SCD			NV
Barium	—	—	—	—	—	137.33	RSL	4.10E+01	Kd-SCD			NV
Cadmium	—	—	—	—	—	112.41	RSL	7.50E+01	Kd-SCD			NV
Chromium, Total	—	—	—	—	—	52	RSL	1.90E+01	Kd-SCD			NV
Lead	—	—	—	—	—	207.2	RSL	9.00E+02	Kd-SCD			NV
Mercury	1.14E-02	RSL	3.07E-02	RSL	2.17E-02	200.59	RSL	5.20E+01	J&E	4.49E-01	1.82E-03	NV
Selenium	—	—	—	—	—	78.96	RSL	3.00E+02	Kd-SCD			NV

Notes:
Parameters were obtained from USEPA Regional Screening Level (RSL) Table (USEPA 2011a) where available, otherwise, they were obtained from literature sources cited as fol
EPISuite (USEPA 2009); HSDB (NLM 2008); J&E (USEPA 2004b); Lyman, et al. (L90, 1990); SCDM (USEPA 2004a); SSG2 (USEPA 2002).

alpha	attenuation coefficient - calculation intermediate.	cm^3/g	Cubic centimeter per gram.	m^3/kg	Cubic meter per kilogram.
atm-m^3/mole	Atmosphere - cubic meter per mole.	g/cm^3	Gram per cubic centimeter.	NA	Not available or applicable.
calc	Calculated.	Koc	Organic carbon partition coefficient.	NV	Not volatile.
cm^2/sec	Square centimeter per second.	Kas	Soil-air partition coefficient.	ref	Reference.

Table 8-5

Comparison of Maximum Concentrations Detected in Vadose Soil to Type 1 Risk Reduction Standards

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	Maximum Concentration (mg/kg)	Location of Maximum Detection	Type 1 RRS [a] (mg/kg)	Source of Type 1 Standard	Type 1 Standard Exceeded?	Type 2 Standard Exceeded?
Volatile Organic Compounds						
Acetone	0.0988	AT-SS-1 (5/12/2006)	400	GW	no	no
2-Butanone (Methyl ethyl ketone)	0.00424	AT-SS-1 (5/12/2006)	200	GW	no	no
Carbon disulfide	0.0211	AT-MW-2 (5/10/2006)	400	GW	no	no
Chloroform	0.000439	AT-MW-2 (5/10/2006)	8.0	PRGc-Res	no	no
Ethylbenzene	4.3	H17-PF3(12/11/2009)	70	GW	no	no
Isopropylbenzene	3.7	H17-PF3(12/11/2009)	21.88	A-I	no	no
Methyl isobutyl ketone	0.31	H17-PF3(12/11/2009)	200	GW	no	no
1,1,2,2-Tetrachloroethane	0.000667	AT-MW-5 (5/11/2006)	0.020	GW	no	no
Toluene	2.6	H17-PF3(12/11/2009)	100	GW	no	no
Xylenes	55	H17-PF3(12/11/2009)	1,000	GW	no	no
Semi Volatile Organic Compounds						
Di-n-butyl phthalate	0.0432	AT-MW-2 (5/10/2006)	400	GW	no	no
Polycyclic Aromatic Hydrocarbons						
Benzo[a]pyrene	0.253	AT-MW-2 (5/10/2006)	1.64	A-I	no	no
Benzo[b]fluoranthene	0.0474	AT-MW-2 (5/10/2006)	5.0	A-I	no	no
Benzo[k]fluoranthene	0.0153	AT-MW-4 (5/10/2006)	5.0	A-I	no	no
Chrysene	0.0226	AT-MW-4 (5/10/2006)	5.0	A-I	no	no
Fluoranthene	0.0504	AT-MW-4 (5/10/2006)	500	A-I	no	no
Phenanthrene	0.0265	AT-MW-4 (5/10/2006)	110	A-I	no	no
Pyrene	0.0357	AT-MW-4 (5/10/2006)	500	A-I	no	no
Inorganics						
Arsenic	1.1	AT-MW-2 (5/10/2006)	20	A-III	no	no
Barium	19.7	AT-MW-2 (5/10/2006)	1,000	A-III	no	no
Cadmium	0.2	AT-SS-3 (5/12/2006)	2.0	A-III	no	no
Chromium, Total	9.8	AT-MW-4 (5/10/2006)	100	A-III	no	no
Lead	17.8	AT-MW-4 (5/10/2006)	75	A-III	no	no
Mercury	0.172	AT-MW-2 (5/10/2006)	0.50	A-III	no	no
Selenium	1.9	AT-MW-1 (5/11/2006)	2.0	A-III	no	no

mg/kg Milligrams per kilogram.
RRS Risk Reduction Standard.

[a] Source of Type 1 RRS:
A-I: Appendix I notification requirement (NC) ("App I NC").
A-III: Appendix III.

[b] Source of Type 2 RRS:
SSL: Soil screeening level for Migration to Groundwater.
Type 1 RRS.

Table 8-6

Comparison of Maximum Concentrations in Groundwater to Types 1 and 2 Risk Reduction Standards

Human Health Risk Reduction Standards

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	Maximum Concentration Detected (mg/L)	Location of Maximum Detection	Type 1 RRS [a] (mg/L)	Source of Type 1 Standard	Type 2 RRS [b] (mg/L)	Source of Type 2 Standard	Type 1 Standard Exceeded?	Type 2 Standard Exceeded?
Volatile Organic Compounds								
Acetone	8.63	AF-62(3/10/2001)	4.0	A-III	8.0	RRSc	YES	YES
Benzene	9.92	AF-07(9/28/2000)	0.0050	A-III	0.0054	RRSa	YES	YES
2-Butanone (Methyl ethyl ketone)	0.0078	AF-77(10/9/2003)	2.0	A-III	2.3	RRSc	no	no
Carbon disulfide	0.00318	DPT-09(10/3/2007)	4.0	A-III	4.0	Type 1	no	no
Chloroethane	0.00069	H17-MW-17S(5/25/2010)	0.00050	DL	6.0	RRSc	YES	no
Chloroform	0.0047	AF-57	0.080	A-III	0.080	Type 1	no	no
Chloromethane	0.00092	AF-32(9/25/1999)	0.0030	A-III	0.054	RRSc	no	no
1,2-Dichlorobenzene	0.0022	H17-FD3(12/15/2009)	0.60	A-III	0.60	Type 1	no	no
1,1-Dichloroethane	0.0103	AF-51(12/3/2000)	4.0	A-III	4.0	Type 1	no	no
1,2-Dichloroethane	0.0012	AF-72(12/18/2002)	0.0050	A-III	0.0050	Type 1	no	no
1,1-Dichloroethene	0.0547	MW-16S (7/19/2007)	0.0070	A-III	0.10	RRSc	YES	no
1,2-Dichloroethene	0.378	AF-52(12/2/2000)	0.0010	DL	0.029	RRSc	YES	YES
cis-1,2-Dichloroethene	0.11	AF-58(2/11/2010),AF-55(2/10/2010),AF-55(2/10/2010)	0.070	A-III	0.070	Type 1	YES	YES
trans-1,2-Dichloroethene	0.0023	AF-55(2/10/2010),AF-55(2/10/2010)	0.10	A-III	0.10	Type 1	no	no
1,2-Dichloropropane	0.00099	H17-FD2(12/15/2009)	0.0050	A-III	0.0050	Type 1	no	no
1,3-Dichloropropene	0.0046	H17-AF103(12/15/2009)	0.0020	A-III	0.0056	RRSa	YES	no
CFC-12	0.0105	B159-3 (12/4/2002)	1.0	A-III	1.0	Type 1	no	no
Ethylbenzene	0.645	AF-07(9/28/2000)	0.70	A-III	0.70	Type 1	no	no
Isopropylbenzene	0.00081	B159-5 (12/3/2002)	0.00050	DL	0.21	RRSc	YES	no
Methyl isobutyl ketone	0.0035	H17-MW-17S(5/25/2010)	2.0	A-III	2.0	Type 1	no	no
Methylene chloride	0.0167	AF-41(6/8/2001)	0.0050	A-III	0.062	RRSa	YES	no
Styrene	0.00052	AF-30(9/26/1999)	0.10	A-III	0.50	RRSc	no	no
1,1,2,2-Tetrachloroethane	0.00044	DPT-08(10/3/2007)	0.00020	A-III	0.0043	RRSa	YES	no
Tetrachloroethene (PCE)	0.00069	AF-49(12/3/2000)	0.0050	A-III	0.019	RRSc	no	no
Toluene	0.0392	AF-07(9/28/2000)	1.0	A-III	1.0	Type 1	no	no
Trichloroethene (TCE)	7.73	AF-52(12/2/2000)	0.0050	A-III	0.0050	Type 1	YES	YES
Vinyl chloride	0.0273	MW-16S (7/19/2007)	0.0020	A-III	0.0020	Type 1	YES	YES
Xylenes	0.246	AF-07(9/26/1999)	10	A-III	10	Type 1	no	no
Semi Volatile Organic Compounds								
Benzoic acid	0.0149	AT-MW-4 (7/24/2006)	0.020	DL	63	RRSc	no	no
Polycyclic Aromatic Hydrocarbons								
Naphthalene	0.00622	B159-5 (12/3/2002)	0.020	A-III	0.020	Type 1	no	no
Inorganics								
Barium	0.0603	AT-MW-3 (7/24/2006)	2.0	A-III	3.1	RRSc	no	no
Cadmium	0.00051	AT-MW-1 (7/23/2006)	0.0050	A-III	0.0078	RRSc	no	no
Chromium, Total	0.0161	AT-MW-1 (7/23/2006)	0.10	A-III	0.10	Type 1	no	no

Risk Reduction Standard exceeded.

mg/L Milligrams per liter.
NA Not applicable.
RRS Risk Reduction Standard.

[a] Source of Type 1 RRS:
A-III: Appendix III.
DL: Detection limit.

[b] Source of Type 2 RRS:
RRSa: Calculated site-specific residential risk reduction standard based on adult exposure.
RRSc: Calculated site-specific residential risk reduction standard based on child exposure.
Type 1 RRS.

Table 8-7

Risk Reduction Standards for Potential Groundwater Ingestion Based on Residential Adult (Type 2) Exposure

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSc (mg/L)	NON-CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSnc (mg/L)	RRS (mg/L)	
Volatile Organic Compounds								
Acetone	NA	NA	NA	3.3E+01	8.6E+01	2.4E+01	2.4E+01	N
Benzene	1.5E-02	8.3E-03	5.4E-03	1.5E-01	8.3E-02	5.3E-02	5.4E-03	C
2-Butanone (Methyl ethyl ketone)	NA	NA	NA	2.2E+01	1.4E+01	8.5E+00	8.5E+00	N
Carbon disulfide	NA	NA	NA	3.7E+00	1.9E+00	1.3E+00	1.3E+00	N
Chloroethane	NA	NA	NA	NA	2.8E+01	2.8E+01	2.8E+01	N
Chloroform	2.7E-02	2.8E-03	2.6E-03	3.7E-01	2.7E-01	1.6E-01	2.6E-03	C
Chloromethane	NA	NA	NA	NA	2.5E-01	2.5E-01	2.5E-01	N
1,2-Dichlorobenzene	NA	NA	NA	3.3E+00	5.6E-01	4.8E-01	4.8E-01	N
1,1-Dichloroethane	1.5E-01	4.1E-02	3.2E-02	7.3E+00	NA	7.3E+00	3.2E-02	C
1,2-Dichloroethane	9.4E-03	2.5E-03	2.0E-03	2.2E-01	1.9E-02	1.8E-02	2.0E-03	C
1,1-Dichloroethene	NA	NA	NA	1.8E+00	5.6E-01	4.3E-01	4.3E-01	N
1,2-Dichloroethene	NA	NA	NA	3.3E-01	1.7E-01	1.1E-01	1.1E-01	N
cis-1,2-Dichloroethene	NA	NA	NA	7.3E-02	NA	7.3E-02	7.3E-02	N
trans-1,2-Dichloroethene	NA	NA	NA	7.3E-01	1.7E-01	1.4E-01	1.4E-01	N
1,2-Dichloropropane	2.4E-02	6.5E-03	5.1E-03	3.3E+00	1.1E-02	1.1E-02	5.1E-03	C
1,3-Dichloropropene	8.5E-03	1.6E-02	5.6E-03	1.1E+00	5.6E-02	5.3E-02	5.6E-03	C
cis-1,3-Dichloropropene	8.5E-03	1.6E-02	5.6E-03	1.1E+00	5.6E-02	5.3E-02	5.6E-03	C
trans-1,3-Dichloropropene	8.5E-03	1.6E-02	5.6E-03	1.1E+00	5.6E-02	5.3E-02	5.6E-03	C
CFC-12	NA	NA	NA	7.3E+00	2.8E-01	2.7E-01	2.7E-01	N
Ethylbenzene	7.7E-02	2.6E-02	1.9E-02	3.7E+00	2.8E+00	1.6E+00	1.9E-02	C
Isopropylbenzene	NA	NA	NA	3.7E+00	1.1E+00	8.5E-01	8.5E-01	N
Methyl isobutyl ketone	NA	NA	NA	2.9E+00	8.3E+00	2.2E+00	2.2E+00	N
Methylene chloride	1.1E-01	1.4E-01	6.2E-02	2.2E+00	2.8E+00	1.2E+00	6.2E-02	C
Styrene	NA	NA	NA	7.3E+00	2.8E+00	2.0E+00	2.0E+00	N
1,1,2,2-Tetrachloroethane	4.3E-03	NA	4.3E-03	7.3E-01	NA	7.3E-01	4.3E-03	C
Tetrachloroethene (PCE)	4.1E-01	2.5E-01	1.5E-01	2.2E-01	1.1E-01	7.4E-02	7.4E-02	N
Toluene	NA	NA	NA	2.9E+00	1.4E+01	2.4E+00	2.4E+00	N
Trichloroethene (TCE)	1.9E-02	1.6E+01	1.8E-02	1.8E-02	5.6E-03	4.3E-03	4.3E-03	N
Vinyl chloride	1.2E-03	1.5E-02	1.1E-03	1.1E-01	2.8E-01	7.9E-02	1.1E-03	C
Xylenes	NA	NA	NA	7.3E+00	2.8E-01	2.7E-01	2.7E-01	N
Semi Volatile Organic Compounds								
Benzoic acid	NA	NV	NA	1.5E+02	NV	1.5E+02	1.5E+02	N
Polycyclic Aromatic Hydrocarbons								
Naphthalene	NA	1.9E-03	1.9E-03	7.3E-01	8.3E-03	8.2E-03	1.9E-03	C
Inorganics								
Barium	NA	NV	NA	7.3E+00	NV	7.3E+00	7.3E+00	N
Cadmium	NA	NV	NA	1.8E-02	NV	1.8E-02	1.8E-02	N
Chromium, Total	NA	NV	NA	NA	NV	NA	NA	

RRSc (cancer effects) is calculated using a target cancer risk (TCR) of 1E-05; RRSnc (non-cancer effects) is calculated using a target hazard index (THI) of 1.

mg/L Milligrams per liter.
NA Not available; insufficient toxicity data.
NV Not volatile.
RRS Risk reduction standard (mg/L); for each constituent, the minimum of the cancer-effects (RRSc, C) and the non-cancer-effects (RRSnc, N).

Table 8-8
Risk Reduction Standards for Potential Groundwater Ingestion Based on Residential Child (Type 2) Exposure
Human Health Risk Reduction Standards
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSc (mg/L)	NON-CANCER EFFECTS Route-Specific RRS (mg/L) Oral	Inhalation	RRSnc (mg/L)	RRS (mg/L)	
Volatile Organic Compounds								
Acetone	NA	NA	NA	1.4E+01	1.8E+01	8.0E+00	8.0E+00	N
Benzene	3.3E-02	8.9E-03	7.0E-03	6.3E-02	1.8E-02	1.4E-02	7.0E-03	C
2-Butanone (Methyl ethyl ketone)	NA	NA	NA	9.4E+00	3.0E+00	2.3E+00	2.3E+00	N
Carbon disulfide	NA	NA	NA	1.6E+00	4.2E-01	3.3E-01	3.3E-01	N
Chloroethane	NA	NA	NA	NA	6.0E+00	6.0E+00	6.0E+00	N
Chloroform	5.9E-02	3.0E-03	2.9E-03	1.6E-01	5.8E-02	4.3E-02	2.9E-03	C
Chloromethane	NA	NA	NA	NA	5.4E-02	5.4E-02	5.4E-02	N
1,2-Dichlorobenzene	NA	NA	NA	1.4E+00	1.2E-01	1.1E-01	1.1E-01	N
1,1-Dichloroethane	3.2E-01	4.3E-02	3.8E-02	3.1E+00	NA	3.1E+00	3.8E-02	C
1,2-Dichloroethane	2.0E-02	2.7E-03	2.4E-03	9.4E-02	4.2E-03	4.0E-03	2.4E-03	C
1,1-Dichloroethene	NA	NA	NA	7.8E-01	1.2E-01	1.0E-01	1.0E-01	N
1,2-Dichloroethene	NA	NA	NA	1.4E-01	3.6E-02	2.9E-02	2.9E-02	N
cis-1,2-Dichloroethene	NA	NA	NA	3.1E-02	NA	3.1E-02	3.1E-02	N
trans-1,2-Dichloroethene	NA	NA	NA	3.1E-01	3.6E-02	3.2E-02	3.2E-02	N
1,2-Dichloropropane	5.1E-02	7.0E-03	6.1E-03	1.4E+00	2.4E-03	2.4E-03	2.4E-03	N
1,3-Dichloropropene	1.8E-02	1.7E-02	8.9E-03	4.7E-01	1.2E-02	1.2E-02	8.9E-03	C
CFC-12	NA	NA	NA	3.1E+00	6.0E-02	5.8E-02	5.8E-02	N
Ethylbenzene	1.7E-01	2.8E-02	2.4E-02	1.6E+00	6.0E-01	4.3E-01	2.4E-02	C
Isopropylbenzene	NA	NA	NA	1.6E+00	2.4E-01	2.1E-01	2.1E-01	N
Methyl isobutyl ketone	NA	NA	NA	1.3E+00	1.8E+00	7.4E-01	7.4E-01	N
Methylene chloride	2.4E-01	1.5E-01	9.2E-02	9.4E-01	6.0E-01	3.6E-01	9.2E-02	C
Styrene	NA	NA	NA	3.1E+00	6.0E-01	5.0E-01	5.0E-01	N
1,1,2,2-Tetrachloroethane	9.1E-03	NA	9.1E-03	3.1E-01	NA	3.1E-01	9.1E-03	C
Tetrachloroethene (PCE)	8.7E-01	2.7E-01	2.0E-01	9.4E-02	2.4E-02	1.9E-02	1.9E-02	N
Toluene	NA	NA	NA	1.3E+00	3.0E+00	8.8E-01	8.8E-01	N
Trichloroethene (TCE)	4.0E-02	1.7E+01	4.0E-02	7.8E-03	1.2E-03	1.0E-03	1.0E-03	N
Vinyl chloride	1.3E-03	8.1E-03	1.1E-03	4.7E-02	6.0E-02	2.6E-02	1.1E-03	C
Xylenes	NA	NA	NA	3.1E+00	6.0E-02	5.8E-02	5.8E-02	N
Semi Volatile Organic Compounds								
Benzoic acid	NA	NV	NA	6.3E+01	NV	6.3E+01	6.3E+01	N
Polycyclic Aromatic Hydrocarbons								
Naphthalene	NA	2.0E-03	2.0E-03	3.1E-01	1.8E-03	1.8E-03	1.8E-03	N
Inorganics								
Barium	NA	NV	NA	3.1E+00	NV	3.1E+00	3.1E+00	N
Cadmium	NA	NV	NA	7.8E-03	NV	7.8E-03	7.8E-03	N
Chromium, Total	NA	NV	NA	NA	NV	NA	NA	

RRSc (cancer effects) is calculated using a target cancer risk (TCR) of 1E-05; RRSnc (non-cancer effects) is calculated using a target hazard index (THI) of 1.

mg/L	Milligrams per liter.
NA	Not available; insufficient toxicity data.
NV	Not volatile.
RRS	Risk reduction standard (mg/L); for each constituent, the minimum of the cancer-effects (RRSc, C) and the non-cancer-effects (RRSnc, N).

Table 8-9
Comparison of Maximum Concentrations in Groundwater to Types 3 and 4 Risk Reduction Standards
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Detected Regulated Substance	Maximum Concentration Detected (mg/L)	Location of Maximum Detection	Type 3 RRS [a] (mg/L)	Source of Type 3 Standard	Type 4 RRS [b] (mg/L)	Source of Type 4 Standard	Type 3 Standard Exceeded?	Type 4 Standard Exceeded?
Volatile Organic Compounds								
Acetone	8.63	AF-62(3/10/2001)	4.0	A-III	46	RRS	YES	no
Benzene	9.92	AF-07(9/28/2000)	0.0050	A-III	0.0087	RRS	YES	YES
2-Butanone (Methyl ethyl ketone)	0.0078	AF-77(10/9/2003)	2.0	A-III	12	RRS	no	no
Carbon disulfide	0.00318	DPT-09(10/3/2007)	4.0	A-III	4.0	Type 3	no	no
Chloroethane	0.00069	H17-MW-17S(5/25/2010)	0.00050	DL	29	RRS	YES	no
Chloroform	0.0047	AF-57	0.080	A-III	0.080	Type 3	no	no
Chloromethane	0.00092	AF-32(9/25/1999)	0.0030	A-III	0.26	RRS	no	no
1,2-Dichlorobenzene	0.0022	H17-FD3(12/15/2009)	0.60	A-III	0.60	Type 3	no	no
1,1-Dichloroethane	0.0103	AF-51(12/3/2000)	4.0	A-III	4.0	Type 3	no	no
1,2-Dichloroethane	0.0012	AF-72(12/18/2002)	0.0050	A-III	0.0050	Type 3	no	no
1,1-Dichloroethene	0.0547	MW-16S (7/19/2007)	0.0070	A-III	0.52	RRS	YES	no
1,2-Dichloroethene	0.378	AF-52(12/2/2000)	0.0010	DL	0.15	RRS	YES	YES
cis-1,2-Dichloroethene	0.11	AF-58(2/11/2010),AF-55(2/10/2010),AF-55(2/10/2010)	0.070	A-III	0.20	RRS	YES	no
trans-1,2-Dichloroethene	0.0023	AF-55(2/10/2010),AF-55(2/10/2010)	0.10	A-III	0.16	RRS	no	no
1,2-Dichloropropane	0.00099	H17-FD2(12/15/2009)	0.0050	A-III	0.0074	RRS	no	no
1,3-Dichloropropene	0.0046	H17-AF103(12/15/2009)	0.0020	A-III	0.012	RRS	YES	no
CFC-12	0.0105	B159-3 (12/4/2002)	1.0	A-III	1.0	Type 3	no	no
Ethylbenzene	0.645	AF-07(9/28/2000)	0.70	A-III	0.70	Type 3	no	no
Isopropylbenzene	0.00081	B159-5 (12/3/2002)	0.00050	DL	1.0	RRS	YES	no
Methyl isobutyl ketone	0.0035	H17-MW-17S(5/25/2010)	2.0	A-III	4.2	RRS	no	no
Methylene chloride	0.0167	AF-41(6/8/2001)	0.0050	A-III	0.12	RRS	YES	no
Styrene	0.00052	AF-30(9/26/1999)	0.10	A-III	2.6	RRS	no	no
1,1,2,2-Tetrachloroethane	0.00044	DPT-08(10/3/2007)	0.00020	A-III	0.014	RRS	YES	no
Tetrachloroethene (PCE)	0.00069	AF-49(12/3/2000)	0.0050	A-III	0.098	RRS	no	no
Toluene	0.0392	AF-07(9/28/2000)	1.0	A-III	5.2	RRS	no	no
Trichloroethene (TCE)	7.73	AF-52(12/2/2000)	0.0050	A-III	0.0052	RRS	YES	YES
Vinyl chloride	0.0273	MW-16S (7/19/2007)	0.0020	A-III	0.0033	RRS	YES	YES
Xylenes	0.246	AF-07(9/26/1999)	10	A-III	10	Type 3	no	no
Semi Volatile Organic Compounds								
Benzoic acid	0.0149	AT-MW-4 (7/24/2006)	0.020	DL	410	RRS	no	no
Polycyclic Aromatic Hydrocarbons								
Naphthalene	0.00622	B159-5 (12/3/2002)	0.020	A-III	0.020	Type 3	no	no
Inorganics								
Barium	0.0603	AT-MW-3 (7/24/2006)	2.0	A-III	20	RRS	no	no
Cadmium	0.00051	AT-MW-1 (7/23/2006)	0.0050	A-III	0.0050	Type 3	no	no
Chromium, Total	0.0161	AT-MW-1 (7/23/2006)	0.10	A-III	0.10	Type 3	no	no

	Risk Reduction Standard exceeded.
mg/L	Milligrams per liter.
NA	Not applicable.
RRS	Risk Reduction Standard.
[a]	Source of Type 3 RRS: A-III: Appendix III. DL: Detection limit.
[b]	Source of Type 4 RRS: RRS: Calculated site-specific industrial risk reduction standard. Type 3 RRS.

Table 9-1
Surface Soil (0-1 ft bgs) Risk Assessment Dataset
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Constituent [a]	CASN	Frequency of Detection (FOD) [b]			Detects			Detection Limits			Maximum Location
		number of detects / number of samples			FOD %	Min (mg/kg)	Max (mg/kg)	Min (mg/kg)		Max (mg/kg)	
Volatile Organic Compounds (VOCs)											
Acetone	67-64-1	6	-	8	75	0.00759	0.0988	0.00595	-	0.00754	AT-SS-1 (5/12/2006)
2-Butanone (Methyl ethyl ketone)	78-93-3	1	-	8	12.5	0.00424	0.00424	0.00575	-	0.00802	AT-SS-1 (5/12/2006)
Carbon disulfide	75-15-0	5	-	8	62.5	0.00191	0.0211	0.00595	-	0.00708	AT-MW-2 (5/10/2006)
Chloroform	67-66-3	1	-	8	12.5	0.000439	0.000439	0.00115	-	0.00151	AT-MW-2 (5/10/2006)
1,1,2,2-Tetrachloroethane	79-34-5	0	-	8	0	–	–	0.00115	-	0.0016	–
Toluene	108-88-3	3	-	8	37.5	0.00073	0.0935	0.00118	-	0.0016	AT-MW-3(5/10/2006)
Xylenes	1330-20-7	1	-	8	12.5	0.00025	0.00025	0.00115	-	0.0016	AT-SS-2 (5/12/2006)
Semi Volatile Organic Compounds (SVOCs)											
Benzo[a]pyrene	50-32-8	0	-	8	0	–	–	0.0342	-	0.0416	–
Benzo[b]fluoranthene	205-99-2	4	-	8	50	0.018	0.0474	0.0373	-	0.0416	AT-MW-2 (5/10/2006)
Benzo[k]fluoranthene	207-08-9	2	-	8	25	0.0114	0.0153	0.0364	-	0.0416	AT-MW-4 (5/10/2006)
Chrysene	218-01-9	2	-	8	25	0.0191	0.0226	0.0342	-	0.0416	AT-MW-4 (5/10/2006)
Di-n-butyl phthalate	84-74-2	1	-	8	12.5	0.0432	0.0432	0.342	-	0.416	AT-MW-2 (5/10/2006)
Fluoranthene	206-44-0	4	-	8	50	0.0139	0.0504	0.0373	-	0.0416	AT-MW-4 (5/10/2006)
Phenanthrene	85-01-8	2	-	8	25	0.012	0.0265	0.0364	-	0.0416	AT-MW-4 (5/10/2006)
Pyrene	129-00-0	4	-	8	50	0.0137	0.0357	0.0373	-	0.0416	AT-MW-4 (5/10/2006)
Inorganics											
Arsenic	7440-38-2	6	-	8	75	0.64	1.1	0.542	-	0.572	AT-MW-2 (5/10/2006)
Barium	7440-39-3	8	-	8	100	3	19.7	–	-	–	AT-MW-2 (5/10/2006)
Cadmium	7440-43-9	7	-	8	87.5	0.043	0.2	0.037	-	0.037	AT-SS-3 (5/12/2006)
Chromium	7440-47-3	8	-	8	100	1.5	3.8	–	-	–	AT-MW-4 (5/10/2006)
Lead	7439-92-1	8	-	8	100	3	17.8	–	-	–	AT-MW-4 (5/10/2006)
Mercury	7439-97-6	8	-	8	100	0.0062	0.043	–	-	–	AT-MW-3
Selenium	7782-49-2	0	-	8	0	–	–	0.589	-	0.74	–

ft bgs Feet below ground surface.
– Not detected/ not analyzed/ not applicable.
CASN Chemical abstracts registry number.
mg/kg Milligrams per kilograms.

[a] Only constituents analyzed for in soil are presented.
For duplicate samples, the highest detected value or the lowest detection limit were used.
[b] Frequency of detection (FOD) = number of detects / total number of samples analyzed.

Table 9-2
Federal- and State-Listed and Candidate Species of Potential Occurrence
Ecological Risk Assessment
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290
Hunter Army Airfield - Savannah, Georgia

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Status	Habitat	Habitat Present?
Amphibians							
Ambystoma cingulatum	Frosted Flatwoods Salamander	G2	S2	LT	T	Pine flatwoods; moist savannas; isolated cypress/gum ponds	no
Pseudacris brimleyi	Brimley's Chorus Frog	G5	S1			Moist forests; swamps; bottomlands	no
Rana capito	Gopher Frog	G3	S3		R	Sandhills; dry pine flatwoods; breed in isolated wetlands	no
Stereochilus marginatus	Many-lined Salamander	G5	S3			Sluggish, swampy streams and bayheads with substrate of leaf litter	no
Birds							
Ammodramus maritimus	Seaside Sparrow	G4	S3			Salt marshes	no
Charadrius melodus	Piping Plover	G3	S1	LT	T	Sandy beaches; tidal flats	no
Charadrius wilsonia	Wilson's Plover	G5	S2		T	Sandy beaches; tidal flats	no
Haematopus palliatus	American Oystercatcher	G5	S2		R	Sandy beaches; tidal flats; salt marshes	no
Haliaeetus leucocephalus	Bald Eagle	G5	S2		T	Edges of lakes & large rivers; seacoasts	no
Himantopus mexicanus	Black-necked Stilt	G5	S3			Shallow ponds; lagoons	no
Lanius ludovicianus migrans	Migrant Loggerhead Shrike	G4T3Q	S3			Open woods; field edges	no
Mycteria americana	Wood Stork	G4	S2	LE	E	Cypress/gum ponds; marshes; river swamps; bays	no
Nyctanassa violacea	Yellow-crowned Night-heron	G5	S3S4			River swamps; marshes; cypress/gum ponds	no
Nycticorax nycticorax	Black-crowned Night-heron	G5	S4			River swamps; marshes; cypress/gum ponds	no
Passerina ciris	Painted Bunting	G5	S3			Lower coastal plain in thickets, woodland borders, and brushy areas	no
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	E	Open pine woods; pine savannas	no
Rynchops niger	Black Skimmer	G5	S1		R	Tidal ponds; sandy beaches	no
Sterna antillarum	Least Tern	G4	S3		R	Sandy beaches; sandbars	no
Tyto alba	Barn owl	G5	S3S4			Georgia habitat information not available	no
Fish							
Acipenser brevirostrum	Shortnose Sturgeon	G3	S2	LE	E	Estuaries; lower end of large rivers in deep pools with soft substrates	no
Acipenser oxyrinchus oxyrinchus	Atlantic Sturgeon	G3T3	S3			Georgia habitat information not available	no
Moxostoma robustum	Robust Redhorse	G1	S1		E	Medium to large rivers, shallow riffles to deep flowing water; moderately swift current	no
Umbra pygmaea	Eastern Mudminnow	G5	S2S3			Sluggish streams, ponds, and sloughs with mud bottoms and heavy vegetation	no
Invertebrates							
Toxolasma pullus	Savannah Lilliput	G2	S2		T	Large rivers to small creeks, oxbows, and sloughs	no
Mammals							
Eubalaena glacialis	Northern Atlantic Right Whale	G1	S1	LE	E	Open ocean	no
Lasiurus intermedius	Northern Yellow Bat	G4G5	S2S3			Wooded areas near open water or fields	no
Pseudorca crassidens	False Killer Whale	G4	SNRN			Open ocean	no
Trichechus manatus	Manatee	G2	S1S2	LE	E	Open ocean; estuaries; tidal rivers	no
Reptiles							
Caretta caretta	Loggerhead Sea Turtle	G3	S2	LT	E	Open ocean; sounds; coastal rivers; beaches	no
Chelonia mydas	Green Sea Turtle	G3	S1	LT	T	Open ocean; sounds; coastal rivers; beaches	no
Clemmys guttata	Spotted Turtle	G5	S3		U	Heavily vegetated swamps, marshes, bogs, and small ponds; nest and possibly hibernate in surrounding uplands	no
Crotalus adamanteus	Eastern Diamond-backed Rattlesnake	G4	S4			Early successional habitats on barrier islands and mainland; pine flatwoods; sandhills	no
Dermochelys coriacea	Leatherback Sea Turtle	G2	S1	LE	E	Open ocean; sounds; coastal beaches	no
Gopherus polyphemus	Gopher Tortoise	G3	S2		T	Sandhills; dry hammocks; longleaf pine-turkey oak woods; old fields	no
Lepidochelys kempii	Kemp's or Atlantic Ridley	G1	S1	LE	E	Open ocean; sounds; coastal rivers; beaches	no
Malaclemys terrapin	Diamondback Terrapin	G4	S3		U	Entire coast, estuarine and marine edge; All saltmarsh, beaches	no

Notes:
Global rarity rank: 1 = very rare to 5 = very common globally.
State rarity rank: 1 = very rare to 5 = very common.
State protection status: E = Endangered, T = Threatened, R = Rare, U = Unusual.
U.S. protection status: LE = Listed Endangered, LT = Listed Threatened, Candidate.

Data from:
US Fish and Wildlife Service (USFWS) Endangered Species Program online database http://www.fws.gov/endangered/
Georgia Department of Natural Resources Protected Species List by County (May 2010), online at http://www.georgiawildlife.com/node/1370

Table 9-3
Screening Level-Constituents of Potential Ecological Concern in Surface Soil
Ecological Risk Assessment
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Constituent	Frequency of Detection	Maximum Concentration (mg/kg)	Ecological Screening Value (ESVs) [a] (mg/kg)		HQ [b] (unitless)	Screening Level Constituent of Potential Ecological Concern? [c]	
			Value	*Source*		(YES/no)	Rationale
Volatile Organic Compounds (VOCs)							
Acetone	6 - 8 75%	0.0988	2.5	R4	0.04	no	HQ < 1
2-Butanone (Methyl ethyl ketone)	1 - 8 13%	0.00424	89.6	R4	0.00005	no	HQ < 1
Carbon disulfide	5 - 8 63%	0.0211	0.0941	R4	0.2	no	HQ < 1
Chloroform	1 - 8 13%	0.000439	0.001	R4	0.4	no	HQ < 1
Toluene	3 - 8 38%	0.0935	0.05	R4	2	**YES**	**HQ > 1**
Xylenes	1 - 8 13%	0.00025	0.05	R4	0.005	no	HQ < 1
Semi Volatile Organic Compounds (SVOCs)							
Benzo[b]fluoranthene	4 - 8 50%	0.0474	59.8	R4	0.0008	no	HQ < 1
Benzo[k]fluoranthene	2 - 8 25%	0.0153	148	R4	0.0001	no	HQ < 1
Chrysene	2 - 8 25%	0.0226	4.73	R4	0.005	no	HQ < 1
Di-n-butyl phthalate	1 - 8 13%	0.0432	200	R4	0.0002	no	HQ < 1
Fluoranthene	4 - 8 50%	0.0504	0.1	R4	0.5	no	HQ < 1
Phenanthrene	2 - 8 25%	0.0265	0.1	R4	0.3	no	HQ < 1
Pyrene	4 - 8 50%	0.0357	0.1	R4	0.4	no	HQ < 1
Inorganics							
Arsenic	6 - 8 75%	1.1	10	R4	0.1	no	HQ < 1
Barium	8 - 8 100%	19.7	165	R4	0.1	no	HQ < 1
Cadmium	7 - 8 88%	0.2	1.6	R4	0.1	no	HQ < 1
Chromium	8 - 8 100%	3.8	0.4	R4	10	**YES**	**HQ > 1**
Lead	8 - 8 100%	17.8	50	R4	0.4	no	HQ < 1
Mercury	8 - 8 100%	0.043	0.1	R4	0.4	no	HQ < 1

Notes:

[a] Ecological soil screening levels from:
USEPA Region 4 Ecological Screening Values (USEPA 2001b; R4).

[b] The hazard quotient (HQ) is the ratio of the maximum constituent concentration to the screening level. HQs are rounded to one significant figure.

[c] Constituents with a hazard quotient (HQ) greater than 1 (HQ > 1) or without a screening level (NSL) were considered constituents of potential ecological concern (COPECs) for screening level assessment.

Table 9-4
Baseline Level-Constituents of Potential Ecological Concern in Surface Soil
Ecological Risk Assessment
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290
U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Constituent	Frequency of Detection	Maximum Concentration (mg/kg)	Background Concentration [a] (mg/kg)	Alternative Ecological Screening Value (ASVs) [b] (mg/kg)		HQ [b] (unitless)	Constituent of Potential Ecological Concern? [c]	
				Value	*Source*		(YES/no)	Rationale
Toluene	3 - 8 38%	0.0935	NA	5.45	R5	0.02	no	HQ < 1
Chromium	8 - 8 100%	3.8	7.7	26	EcoSSL	0.1	no	max ≤ bkgd

Notes:

[a] Background concentration from:

[b] Ecological soil screening levels from:
USEPA Region 5, RCRA Ecological Screening Levels, August 22, 2003 (R5)
Ecological soil screening Levels (USEPA 2008) EcoSSL
The hazard quotient (HQ) is the ratio of the maximum constituent concentration to the screening level. HQs are rounded to one significant figure.

[c] Constituents with a hazard quotient (HQ) greater than 1 (HQ > 1) or without a screening level (NSL) were considered constituents of potential ecological concern (COPECs) for screening level assessment.

Table 9-5

Uncertainties in the Ecological Risk Assessment

Ecological Risk Assessment

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Assumptions	Description And Discussion Related To Uncertainties in ERA	Level of Uncertainty
Analytical Sampling and Data Analysis		
Limited number of samples	Frequently, there are only a limited number of samples used in ERAs, and very often they are collected in a biased manner (i.e., targeting "hot spots"). This type of sampling often lacks statistical power and does not likely represent the concentrations in the environment in which wildlife exposure occurs.	Overestimate of exposure and risk
Use of maximum concentrations	Maximum concentrations are used to represent the upper estimate exposures. This practice compensates for uncertainty contributed by limited numbers of samples, but overestimates exposure and risk.	Overestimate of exposure and risk
Detection limits	Detection limits may exceed ESVs ~~(e.g., PAHs)~~ or thresholds for adverse impacts are well below the analytical methods used in ERA (e.g., compounds that are known or suspected to cause endocrine effects).	May underestimate risk or effect on risk estimate unknown
Degradation of chemicals not considered	ERAs are almost exclusively based on concentrations of target compounds, and little if any attention is given to degradation compounds that could be more toxic than the original chemical. Conversely, chemical concentrations may decrease over time due to natural physical processes.	Effect on risk estimate unknown
Toxicology and ESVs		
Toxicity and exposure data for a limited number of species	Uncertainties exist in many aspects of the toxicology relied upon for conducting ERAs (Newman 1998; Lovett Doust et al. 1993). Toxicity and wildlife exposure data are only available for a limited number of species (most of them laboratory test species) under a strictly defined set of test conditions that deviate from natural conditions (Sample et al. 1996; Suter 1996; Sample et al. 1997).	Effect on risk estimate unknown
Laboratory testing	In current practice, more than 95 percent of the resources in toxicology are focused toward the study of single chemicals (Cassee et al. 1998), while wildlife exposures rarely occur on a chemical-specific basis. Simplistic extrapolations from laboratory species to wildlife species and testing conditions to field conditions are not likely accurate, and are rarely, if ever, validated against natural conditions (Power 1996; Tannenbaum 2003).	Effect on risk estimate unknown
Adaptation and tolerance	There is little consistency and no quantitative methodology for the consideration of the diminished bioavailability (and, thereby, diminished toxicity) even though this process is well documented (e.g., Alexander and Alexander 1999; Alexander 2000). Similarly, tolerance and adaptation are not considered directly (Millward and Klerks 2002; Grant 2002). Furthermore, the white rat often used in toxicological testing is bred to minimize differences between lab animals, thereby diminishing the genetic variability that gives wildlife some capability for adaptation and tolerance (Tannenbaum 2003).	Overestimate of risk
Predator-prey interactions	There are relatively few studies that actually evaluate the effects of toxicity on predator-prey interactions, or on competition for scarce resources (Atchison et al. 1996), the very conditions within which all wildlife exists (Kapustka and Landis 1998).	Effect on risk estimate unknown

Table 9-5

Uncertainties in the Ecological Risk Assessment

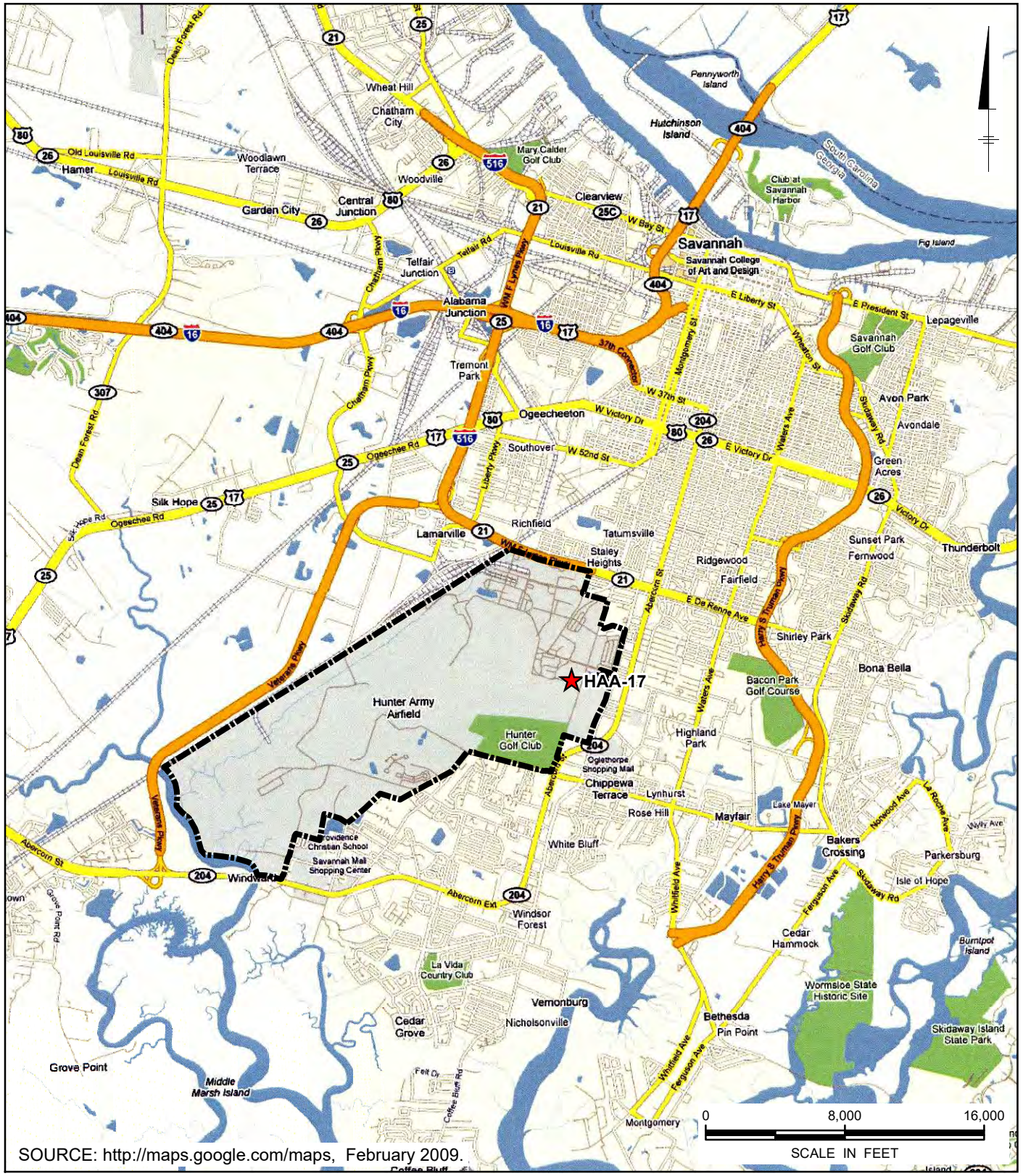
Ecological Risk Assessment

HAA-17 – Former USTs 25 and 26, Purge Facility and Building 1290

U.S. Army Environmental Command And Fort Stewart Directorate of Public Works / Hunter Army Airfield, Savannah, GA

Assumptions	Description And Discussion Related To Uncertainties in ERA	Level of Uncertainty
Hazard Quotients		
Elevated HQs for background concentrations	HQs may exceed a value of 1 for background concentrations of naturally occurring metals (Tannenbaum 2003). This is due to many of the toxicology and ESV uncertainties already discussed.	Overestimate of risk
Interpretation of HQs	An HQ less than or equal to a value of 1 indicates that adverse impacts to wildlife are considered unlikely (USEPA 2001c). However, there is no clear guidance for interpreting the HQs that exceed a value of 1, except that this point of departure indicates that adverse effects of some kind may have occurred or may occur in the future.	Effect on risk estimate unknown
HQs for individual used to evaluate risks to populations	HQs are based on the types of impacts that could occur to individuals (i.e., those individuals exposed to maximum concentrations) and they completely fail to address ecological exposure and risk at spatial scale of populations (Tannenbaum 2003; Durda and Preziosi 1999).	Overestimate of risk to wildlife populations
HQs with unrealistic magnitudes	HQs are seen at magnitudes that suggest that every animal should die upon acute exposure (i.e., in the hundreds or thousands) (Tannenbaum et al. 2003). Often, physical conditions at a site demonstrate that this is not the case.	Overestimate of risk
No evaluation of dermal or inhalation pathways	The dermal and inhalation exposure pathways are generally considered “insignificant” due to protective fur and feathers. Under certain conditions, these exposure pathways may occur, but adequate information is rarely available by which to evaluate them.	Potentially an underestimate of risk

BERA	Baseline Ecological Risk Assessment.
COPC	Constituent of potential concern.
ERA	Ecological risk assessment.
ESV	Ecological screening value.
HQ	Hazard quotient.
PAH	Polynuclear aromatic hydrocarbon.
RTV	Reference toxicity value.
SLERA	Screening level ecological risk assessment.



SOURCE: http://maps.google.com/maps, February 2009.



HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Site Location Map

ARCADIS

FIGURE

3-1

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F3-1 H17_CSR1 REG.mxd - 1/23/2012 @ 5:30:15 PM

BLDG. 1290

Former Drycleaner Location

Former Weapon Cleaning Facility Location

Former SAC Special Weapons Facility Location

PURGE FACILITY

FORMER UST 25 AND 26 LOCATION

SEE FORMER UST 25 AND 26 INSERT

1241 1323 1327 1310 1336 1345 1347 1349 1354

REMOVAL OF UST 25 AND 26 INSERT

UST 25

UST 26

AF-12R (former AF-12)

AF-07R (former AF-07)

DRAINAGE CANAL

SWALE

0 40 80

SCALE IN FEET

0 160 320 480 640

SCALE IN FEET

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

LEGEND

- Monitor Well (shallow)
- Excavation Area (2007)
- Topographic Contour (ft amsl)
- Storm Water Drainage Canal
- Storm Water Drainage System
- Surface Water Flow Direction
- Catch Basin

HUNTER army AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Site Layout Map

ARCADIS

FIGURE **4-1**

CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB/LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F4-1 H17_CSR1 SITE Dsize.mxd - 1/31/2012 @ 11:07:37 AM



Well Identification	Upper Aquifer Zone	Screened Interval (ft BTOC)	Top of Casing Elevation (NAVD 88)	Northing (GA SP EAST)	Easting (GA SP EAST)
CAP Part B Investigations - 1999 through 2002					
AF-01	Shallow	2.5 - 12.5	23.02	979645.78	734225.90
AF-02	Shallow	2.0 - 12.0	21.94	979556.81	734103.05
AF-03	Shallow	2.0 - 12.0	22.27	979520.84	734073.65
AF-04	Shallow	2.0 - 12.0	22.24	979621.51	734170.32
AF-05	Shallow	2.0 - 12.0	22.21	979582.77	734139.43
AF-06	Shallow	2.0 - 12.0	Temporary	979522.40	734073.65
AF-07	Shallow	2.5 - 12.5	22.90	979553.53	734145.20
AF-07R	Shallow	--	--	979553.53	734145.20
AF-08	Shallow	2.5 - 12.5	23.10	979597.57	734249.23
AF-09	Shallow	2.0 - 12.0	22.93	979549.77	734211.34
AF-10	Shallow	2.5 - 12.5	Temporary	979465.65	734145.04
AF-11	Shallow	3.0 - 11.0	21.89	979635.77	734167.54
AF-12	Shallow	2.5 - 12.5	22.86	979578.22	734165.46
AF-12R	Shallow	3.5-13.5	22.56	979578.22	734165.46
AF-13	Shallow	2.5 - 12.5	22.79	979567.47	734243.83
AF-14	Shallow	1.4 - 11.4	23.04	979617.09	734284.56
AF-15	Shallow	1.5 - 11.5	23.28	979641.19	734253.79
AF-16	Shallow	1.6 - 11.6	22.17	979682.25	734223.09
AF-17	Shallow	2.0 - 12.0	18.93	979539.93	734023.58
AF-18	Shallow	1.3 - 11.3	20.13	979517.96	734051.22
AF-19	Shallow	1.4 - 11.4	19.68	979490.11	734038.69
AF-20	Shallow	3.0 - 13.0	22.84	979494.33	734086.22
AF-23	Shallow	3.0 - 13.0	23.25	979456.29	734097.56
AF-24	Shallow	2.0 - 12.0	22.85	979473.21	734199.08
AF-25	Shallow	0.1 - 10.1	15.03	979470.48	734020.29
AF-26	Shallow	2.0 - 12.0	17.65	979544.00	733986.65
AF-27	Shallow	1.0 - 11.0	16.50	979516.52	734005.71
AF-28	Shallow	2.0 - 12.0	17.11	979600.87	734078.69
AF-29	Shallow	2.0 - 12.0	19.06	979587.21	734097.36
AF-33	Shallow	2.3 - 11.8	18.07	979659.91	734123.31
AF-34	Shallow	1.4 - 10.9	17.85	979725.81	734007.30
AF-35	Shallow	1.2 - 10.7	17.63	979653.95	734025.18
AF-36	Shallow	1.4 - 10.9	17.52	979592.53	733954.70
AF-37	Shallow	4.4 - 14.3	20.06	979506.73	733952.49
AF-38	Shallow	4.1 - 14.0	20.14	979405.78	733990.35
AF-39	Shallow	4.4 - 14.3	22.12	979442.65	734050.46
AF-40	Deep	28.5 - 33.0	22.78	979553.10	734141.85
AF-41	Deep	28.5 - 33.0	22.33	979512.40	734087.04
AF-42	Deep	28.5 - 33.0	19.03	979521.20	734000.81
AF-53	Deep	20.0 - 30.0	22.93	979627.01	734303.86
AF-54	Deep	32.4 - 42.4	22.43	979549.86	734233.05
AF-55	Deep	24.0 - 34.0	22.76	979457.49	734156.89
AF-56	Deep	19.9 - 29.9	22.99	979653.25	734329.83
AF-57	Deep	57.8 - 62.8	22.21	979367.33	733996.53
AF-58	Shallow	2.7 - 12.7	22.32	979430.06	733926.75
AF-59	Shallow	2.3 - 12.3	22.33	979649.74	734201.62
AF-60	Deep	20.0 - 30.0	23.77	979434.59	734225.20
AF-61	Deep	20.0 - 30.0	23.47	979603.52	734331.10
AF-62	Shallow	3.0 - 13.0	22.11	979686.73	734233.99
AF-68	Deep	34.5 - 39.5	24.26	979386.54	734234.34
AF-69	Deep	40.2 - 45.2	23.83	979548.70	734337.72
AF-70	Shallow	15.0 - 20.0	24.00	979673.90	734417.05
AF-71	Shallow	15.3 - 20.3	23.06	979801.52	734418.81
AF-72	Shallow	2.5 - 12.5	17.72	979773.18	734017.71
Purge Facility Investigation - 2006					
AT-MW-1	Deep	40.30-45.30	31.61	978196.30	734082.48
AT-MW-2	Shallow	2.30-12.30	31.86	978194.26	734072.89
AT-MW-3	Shallow	2.20-12.20	32.09	978147.94	734120.33
AT-MW-4	Shallow	2.30-12.30	32.79	978272.61	734064.29
AT-MW-5	Shallow	2.30-12.30	33.03	978127.61	734063.42
Building 1290 Investigation - 2007					
1290-MW-01D	Deep	119.95 - 29.95	36.40	977100.64	735513.98
1290-MW-01S	Shallow	5.72 - 15.72	36.43	977102.38	735508.85
1290-MW-02D	Deep	19.90 - 29.90	36.05	977197.88	735420.20
1290-MW-02S	Shallow	4.3 - 14.3	36.05	977200.29	735423.99
1290-MW-03D	Deep	19.59 - 29.58	NS	977078.47	735289.03
1290-MW-03S	Shallow	6.70 - 11.70	NS	977069.76	735288.83
1290-MW-04D	Deep	19.91 - 29.91	36.25	977010.12	735425.92
1290-MW-04S	Shallow	5.66 - 15.66	36.23	977010.17	735420.53
1290-MW-05D	Deep	20.0 - 30.0	36.16	977154.14	735980.36
1290-MW-05S	Shallow	5.80 - 15.80	36.14	977150.92	735978.23
1290-MW-06S	Shallow	4.0 - 9.0	36.03	977477.86	736237.28
1290-MW-07D	Deep	24.6 - 34.6	36.53	975723.20	734742.41
1290-MW-07S	Shallow	7.89 - 17.89	36.92	975725.28	734738.23
1290-MW-08D	Deep	14.50 - 24.50	36.72	977800.64	735083.08
1290-MW-08S	Shallow	5.40 - 15.40	36.53	977799.65	735078.48
1290-MW-09D	Deep	20.39 - 30.39	37.35	978528.67	734986.65
1290-MW-09S	Shallow	5.55 - 15.55	37.39	978523.22	734989.07
1290-MW-12D	Deep	24.3 - 34.3	37.27	976441.26	735583.33
1290-MW-12S	Shallow	7.8 - 17.8	37.29	976441.86	735576.82
1290-MW-13D	Deep	20.01 - 30.01	36.81	977242.76	734833.49
1290-MW-13S	Shallow	5.59 - 15.59	36.63	977244.38	734827.63
Historical Wells - Unknown					
MW-15	--	--	31.30	978703.92	734550.89
MW-16	--	--	30.33	978718.65	734429.82
ARCADIS Investigation - 2010					
H17-MW-17S	Shallow	8.0 - 18.0	36.76	978488.98	735385.62
H17-MW-17D	Deep	32.0 - 42.0	36.79	978492.30	735385.29
H17-MW-18D	Deep	30.0 - 40.0	34.29	977987.29	733842.11
H17-MW-19S	Shallow	5.0 - 15.0	19.23	979153.11	733735.81
H17-MW-20D	Deep	18.0 - 28.0	19.75	979743.72	734165.47
H17-MW-21S	Shallow	7.0 - 17.0	19.33	980147.72	734340.37
H17-MW-21D	Deep	25.0 - 35.0	19.33	980145.74	734333.67
H17-MW-22S	Shallow	7.0 - 17.0	18.66	979881.09	733627.48
H17-MW-22D	Deep	25.0 - 35.0	18.36	979887.35	733626.02
H17-PZ-01	Shallow	6.0 - 7.0	15.97	979405.03	733946.97
H17-PZ-02	Shallow	6.0 - 7.0	16.08	979727.94	734198.46
ARCADIS Investigation - 2011					
H17-MW-23D	Deep	40.0-45.0	28.90	979219.11	734364.58
H17-MW-24	Deep	55.0-65.0	22.59	979827.25	734293.17
H17-MW-25D	Deep	25.0-35.0	18.64	979419.70	733926.66
H17-MW-26S	Shallow	7.0-17.0	17.93	979501.85	733642.69
H17-MW-26D	Deep	25.0-35.0	18.04	979501.00	733634.89
H17-MW-27S	Shallow	7.0-17.0	19.33	980038.52	734003.38
H17-MW-27D	Deep	25.0-35.0	19.58	980036.84	733998.61
H17-MW-28D	Deep	40.0-45.0	29.72	978986.00	734528.46

NS - Not Surveyed (unable to remove well cap).
ft BTOC - feet below top of casing
NAVD 88 - North American Vertical Datum (1988)
NOTE: Location of some deep wells have been offset for clarity.

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

LEGEND

- Monitor Well (shallow)
- Monitor Well (destroyed)
- Monitor Well (deep)
- Temporary Piezometer
- 1346 Building Number

ft bgs - feet below ground surface
ft amsl - feet above mean sea level

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.
4) AF-07 and AF-12 were destoyed as part of the UST removal; AF-07R and AF-12 have been installed to replace the afore mentioned wells.
5) In general, shallow wells intersect the water table and are <20 feet deep. Deep wells are >20 feet deep.

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Site Layout with Monitor Well Locations

ARCADIS

FIGURE 5-1

CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB&LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F5-1 H17_CSR1 MWs Dsize.mxd - 1/31/2012 @ 11:10:34 AM



LEGEND

- Storm Water Drainage Canal
- Monitor Well (shallow)
- Monitor Well (deep)
- Vertical Profile Boring
- Membrane Interface Probe
- Soil Boring

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

0 150 300 450 600
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

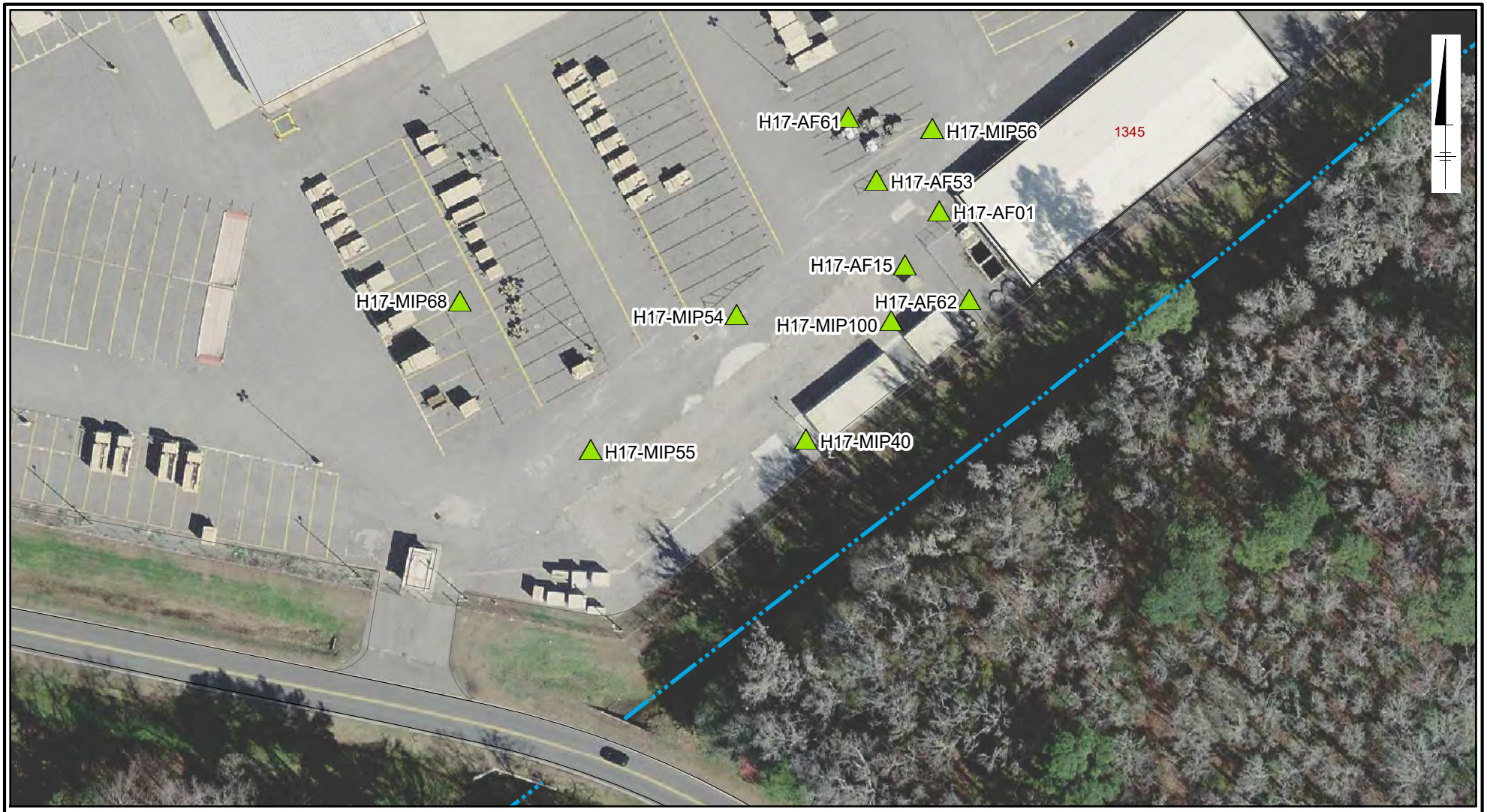
Site Map with Soil Sample Locations

ARCADIS

FIGURE
5-2

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
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PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

LEGEND

- Storm Water Drainage Canal
- MIP Boring/Soil Boring (December 2009)

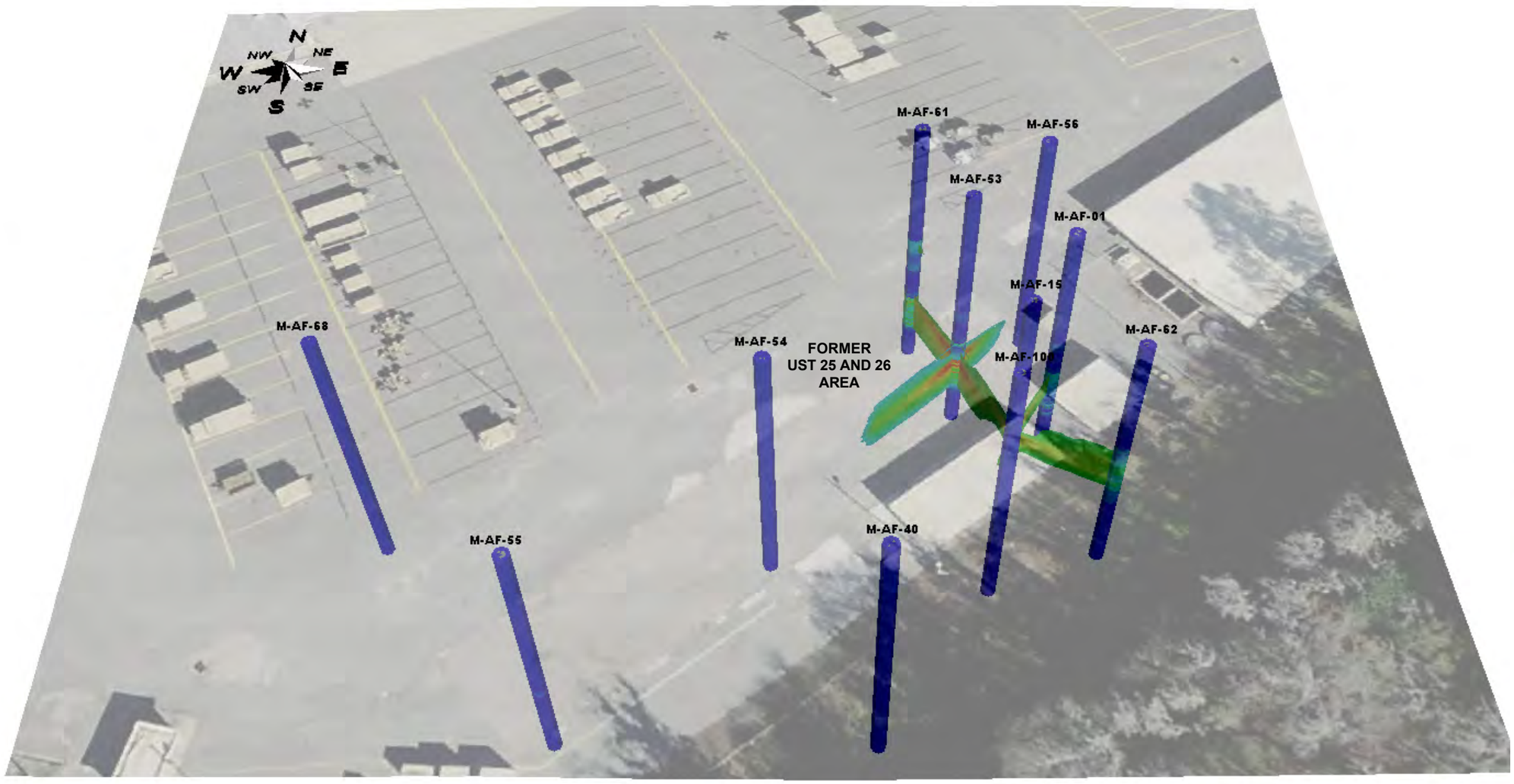
0 80 160
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Membrane Interface Probe Locations (December 2009)

ARCADIS

FIGURE
6-1



LEGEND

ECD Response

ECD Response
11,794,877 uV
10,000,000 uV
5,000,000 uV
2,000,000 uV
1,000,000 uV
500,000 uV
200,000 uV

NOTES:
1. Plume represents ECD > 1,000,000 uV
2. ECD = Electron Count Detector. General indicator CVOCs.
3. Scale varies in this view.

Vertical Exaggeration = 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

MIP ECD Response Overview

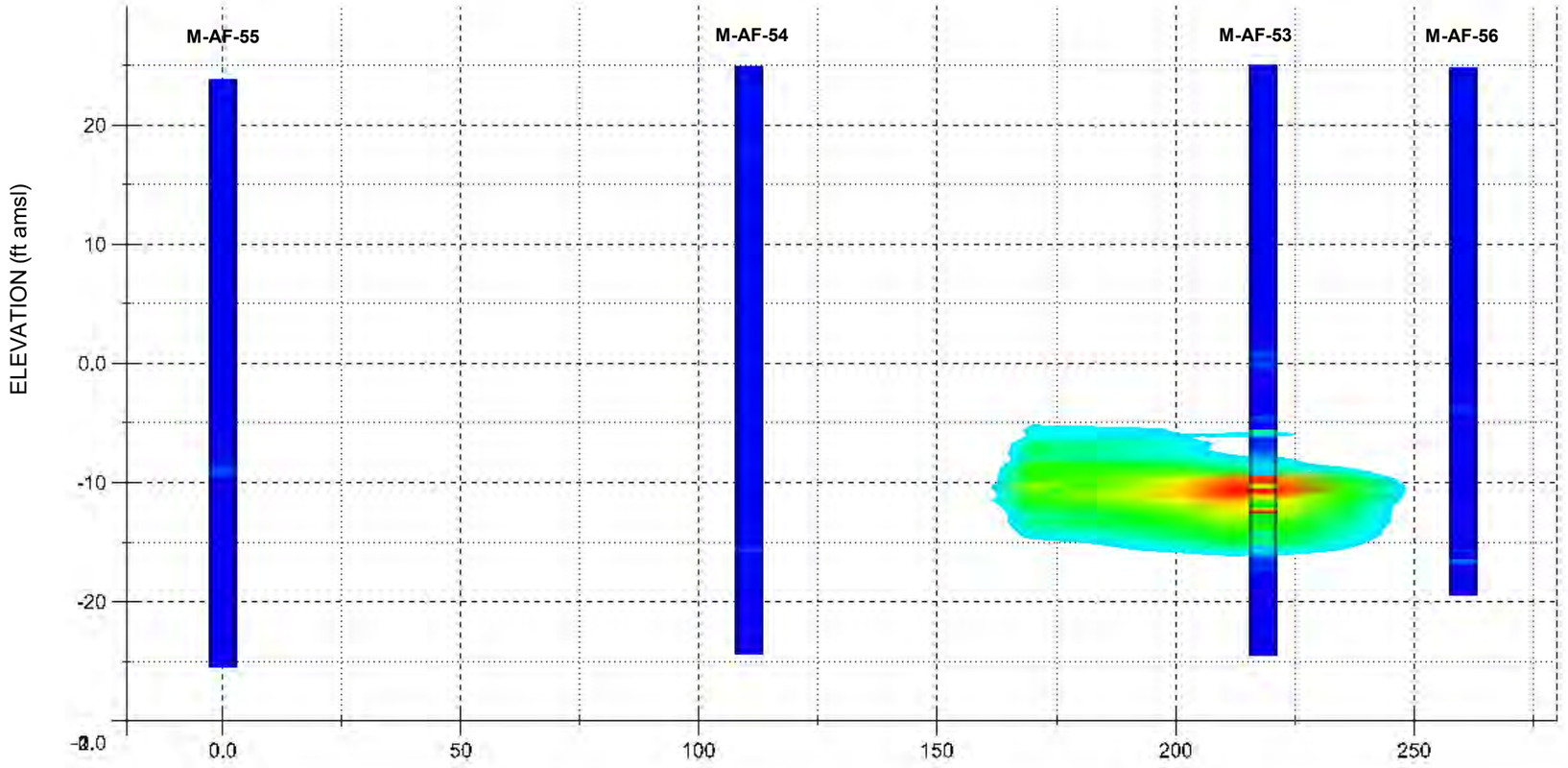
ARCADIS

FIGURE
6-2

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN) TM: (J.FRIZZELL/P.CURRY)
PROJECT: GP08HAFS.H15CEHCAP PATH: G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\ F6-2 H17_CSR1 MIP SECTIONS.ppt SAVED: 31JAN2012

A
SOUTHWEST

A’
NORTHEAST



LEGEND

ECD Response

ECD Response
11,794,877 uV
10,000,000 uV
5,000,000 uV
2,000,000 uV
1,000,000 uV
500,000 uV
200,000 uV

NOTES:
1. Plume represents ECD > 1,000,000 uV
2. ECD = Electron Count Detector. General indicator CVOCs.

Vertical Exaggeration = 2.5X

0 30 ft

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN) TM: (J.FRIZZELL/P.CURRY)
PROJECT: GP08HAFS.H15CEHCAP PATH: G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\ F6-2 H17_CSR1 MIP SECTIONS.ppt SAVED: 31JAN2012

HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

MIP ECD Response Transect A

ARCADIS

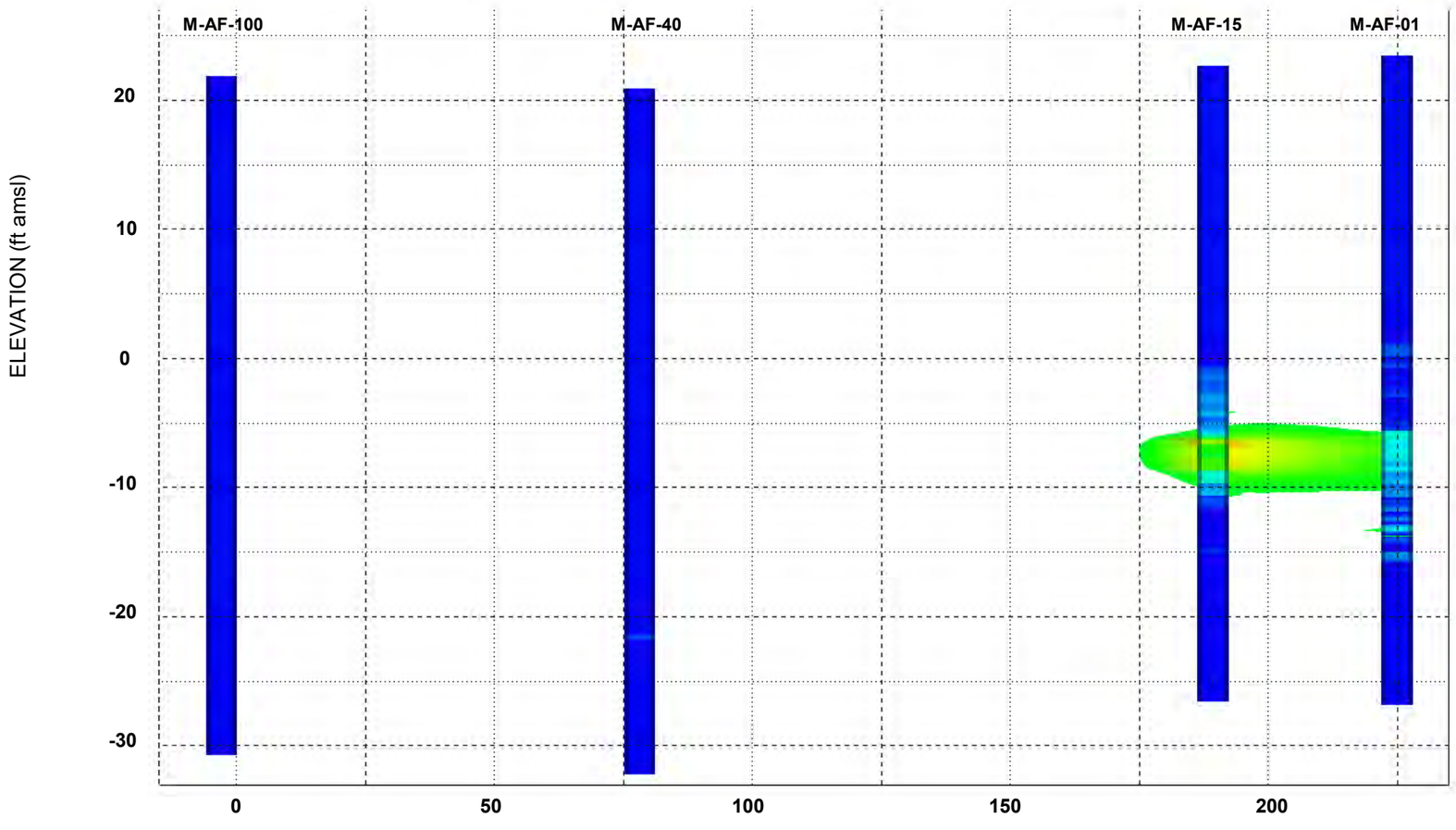
FIGURE
6-3

B

SOUTHWEST

B’

NORTHEAST



LEGEND

ECD Response

ECD Response
11,794,877 uV
10,000,000 uV
5,000,000 uV
2,000,000 uV
1,000,000 uV
500,000 uV
200,000 uV

NOTES:
1. Plume represents ECD > 1,000,000 uV
2. ECD = Electron Count Detector. General indicator CVOCs.

Vertical Exaggeration = 2.5X

0 30 ft

HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

MIP ECD Response
Transect B

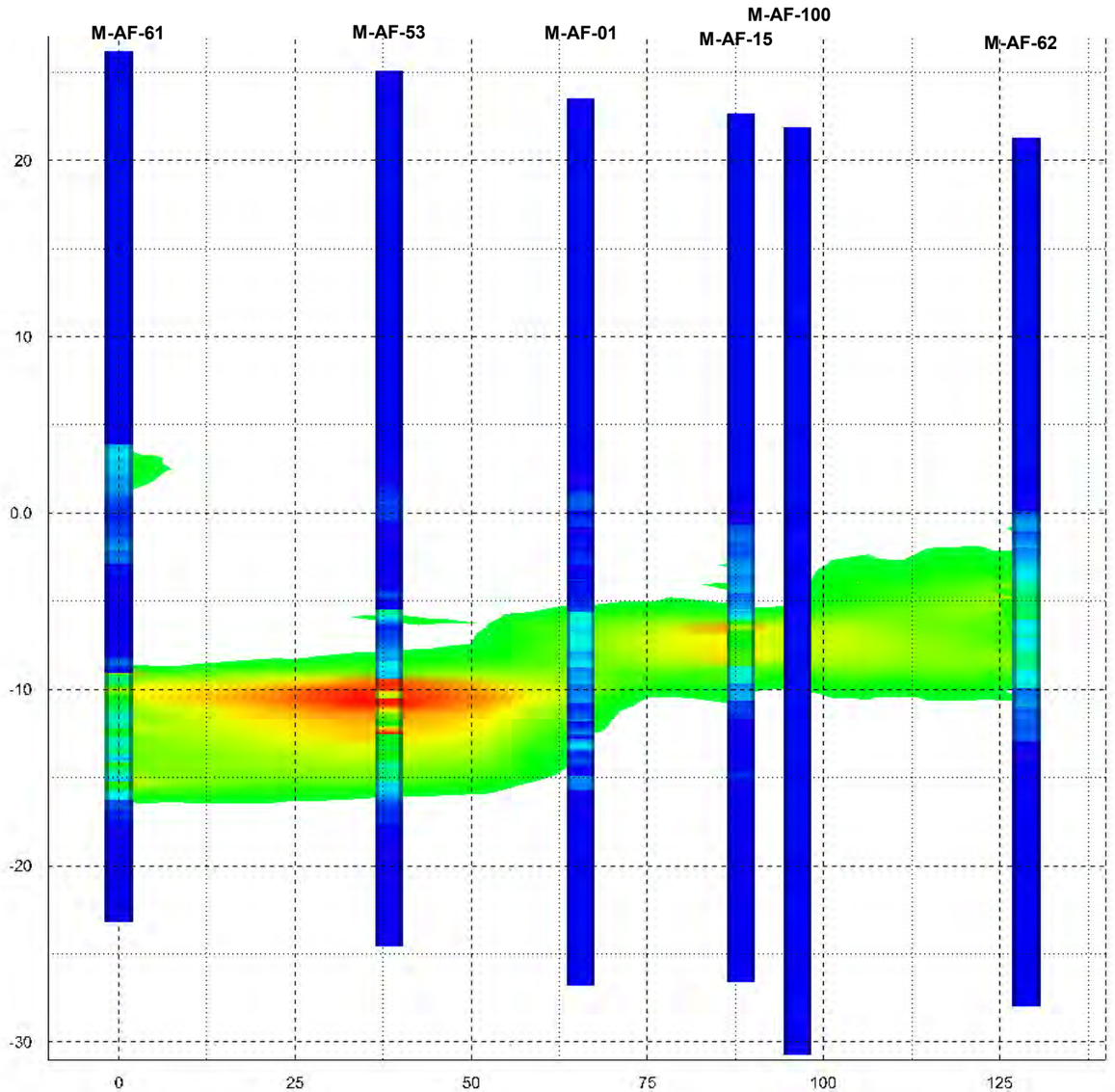
ARCADIS

FIGURE
6-4

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN) TM: (J.FRIZZELL/P.CURRY)
PROJECT: GP08HAFS.H15CEHCAP PATH: G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\ F6-2 H17_CSR1 MIP SECTIONS.ppt SAVED: 31JAN2012

C
NORTHWEST

C’
SOUTHEAST



LEGEND

ECD Response

ECD Response
11,794,877 uV
10,000,000 uV
5,000,000 uV
2,000,000 uV
1,000,000 uV
500,000 uV
200,000 uV

NOTES:
1. Plume represents ECD > 1,000,000 uV
2. ECD = Electron Count Detector. General indicator CVOCs.

Vertical Exaggeration = 2.5X

0 20ft

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

MIP ECD Response Transect C

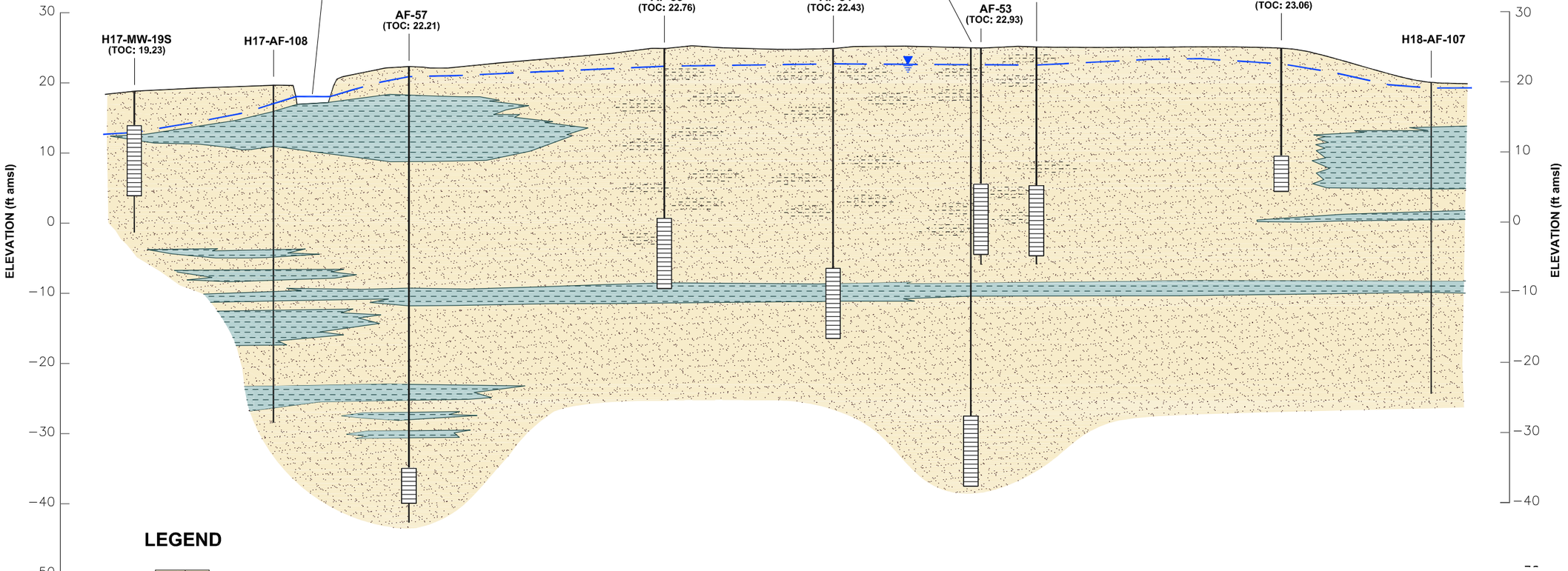
ARCADIS

FIGURE
6-5

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN) TM: (J.FRIZZELL/P.CURRY)
PROJECT: GP08HAFS.H15CEHCAP PATH: G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\ F6-2 H17_CSR1 MIP SECTIONS.ppt SAVED: 31JAN2012

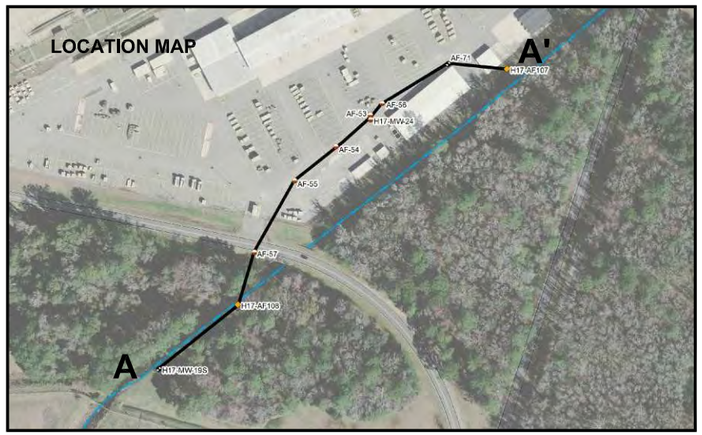
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XREFS: IMAGES: PROJECT: GP08HAFS_H17C.DBCSR
H17 XSEC AA.jpg

A SOUTHWEST — **A'** NORTHEAST



LEGEND

- SAND
- SILT
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Geologic Cross-Section A-A' along Topographic Strike

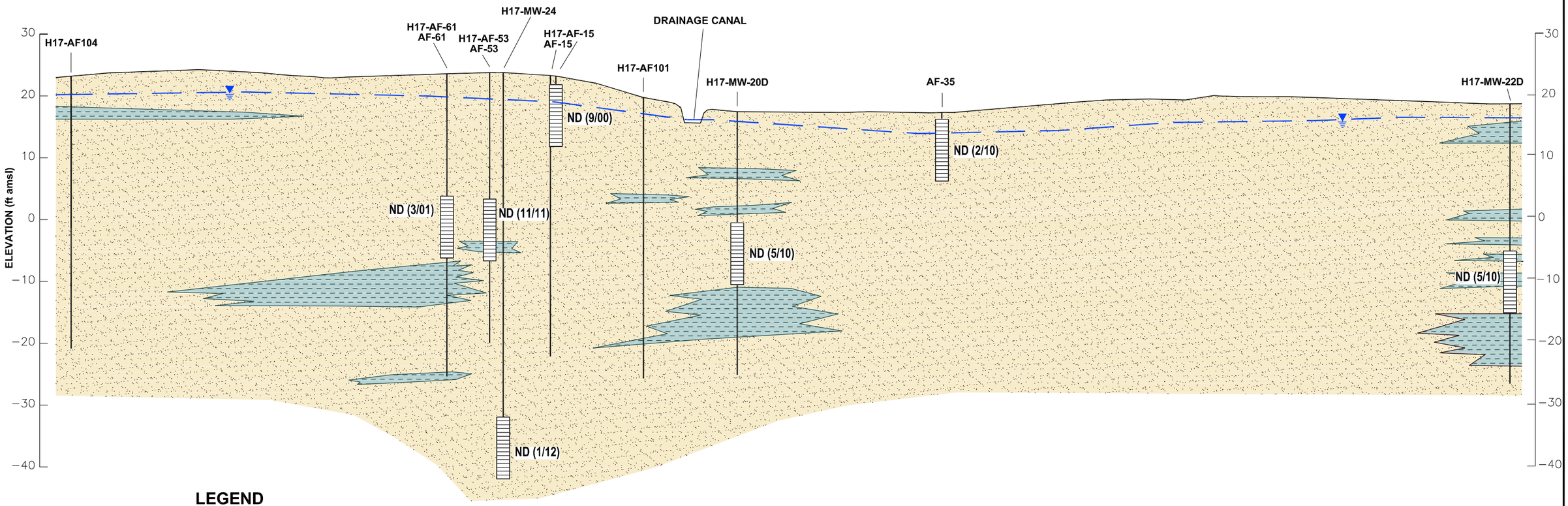
ARCADIS

FIGURE **7-1**

CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) DB: (B.ALTOM) LD: (B.ALTOM) PIC: (M. FENNER) PM: (C. BERTZ) APM: (S.BOSTIAN) TM: (J.FRIZZELL)
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XREFS: IMAGES: PROJECT: GP08HAFS,H17C,DBCSR
H17 XSEC BB.jpg

B
NORTHWEST

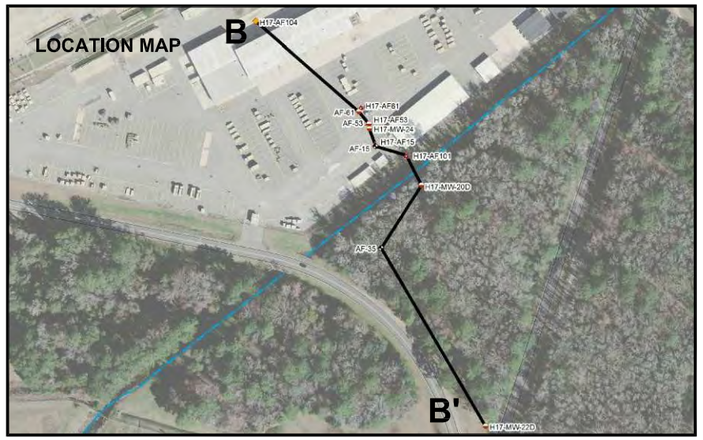
B'
SOUTHEAST



LEGEND

- SAND
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- **ND (5/10)** SAMPLE RESULT (DATE SAMPLED)

NOTES:
1) All concentrations reported in micrograms per liter (µg/L).
2) ND – Not Detected Above PQL.



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

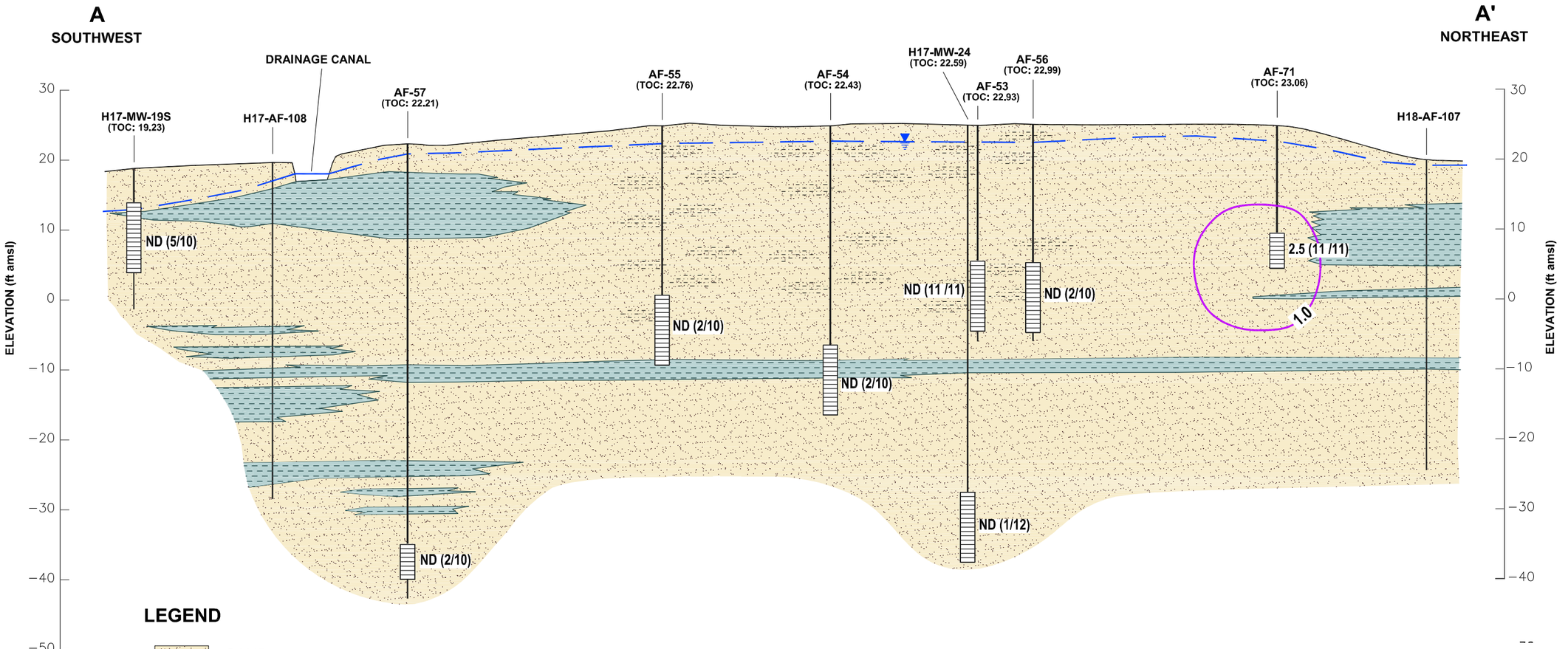
HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Tetrachloroethene Isoconcentrations along Geologic Cross-Section B-B'

ARCADIS

FIGURE
7-10

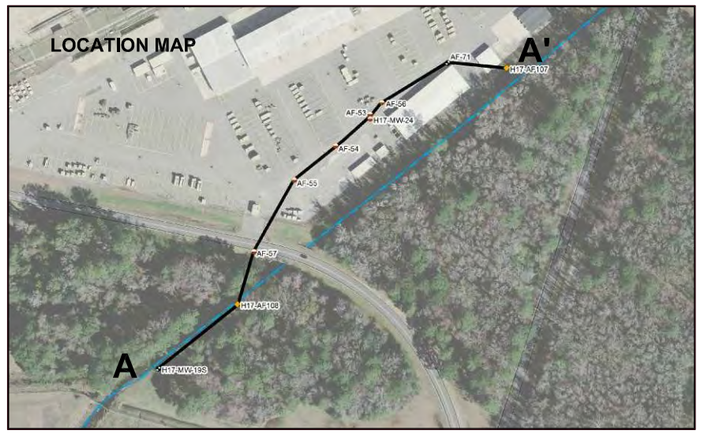
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G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7-1 H17_CSR1_XSECs_AA.dwg LAYOUT: A 7-11 SAVED: 1/31/2012 12:25 PM ACADVER: 18.0S (LMS TECH) PLOTSTYLETABLE: TN1_STANDARD.CTB PLOTTED: 1/31/2012 12:26 PM BY: ALTOM, BRENDA
XREFS: IMAGES: PROJECT: GP08HAFS_H17C.DBCSR
H17 XSEC AA.jpg



LEGEND

- SAND
- SILT
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- 2.5 (11/11) SAMPLE RESULT (DATE SAMPLED)
- —1.0— ISOCONCENTRATION CONTOUR

NOTES:
1) All concentrations reported in micrograms per liter (µg/L).
2) ND – Not Detected Above PQL.



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Vinyl Chloride Isoconcentrations along Geologic Cross-Section A-A'

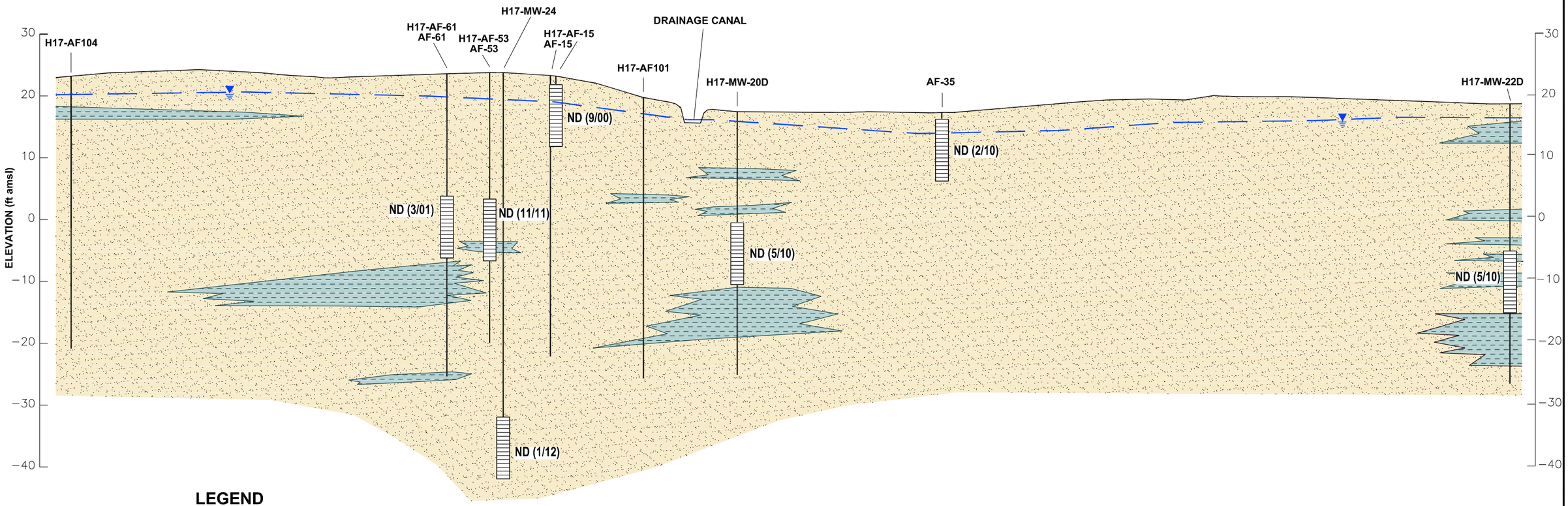
ARCADIS

FIGURE
7-11

CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) DB: (B.ALTOM) LD: (B.ALTOM) PIC: (M. FENNER) PM: (C. BERTZ) APM: (S.BOSTIAN) TM: (J.FRIZZELL)
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H17 XSEC BB.jpg

B
NORTHWEST

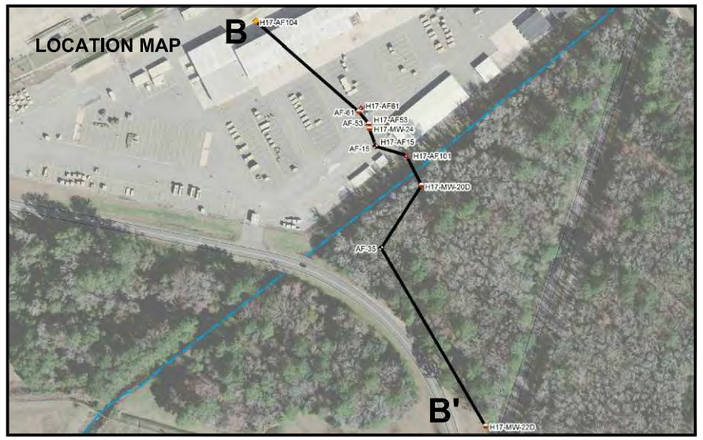
B'
SOUTHEAST



LEGEND

- SAND
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- **ND (5/10)** SAMPLE RESULT (DATE SAMPLED)

NOTES:
1) All concentrations reported in micrograms per liter (µg/L).
2) ND – Not Detected Above PQL.



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

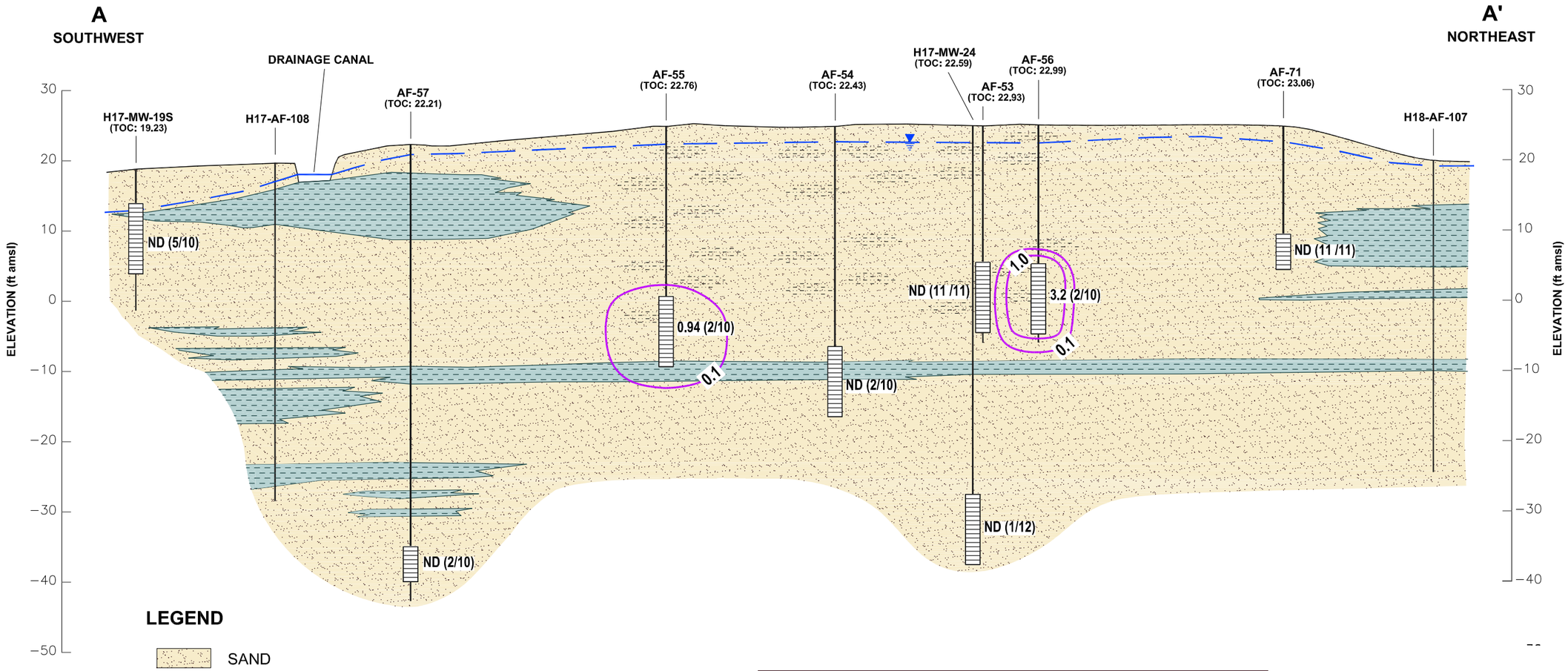
VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Vinyl Chloride Isoconcentrations along Geologic Cross-Section B-B'

ARCADIS

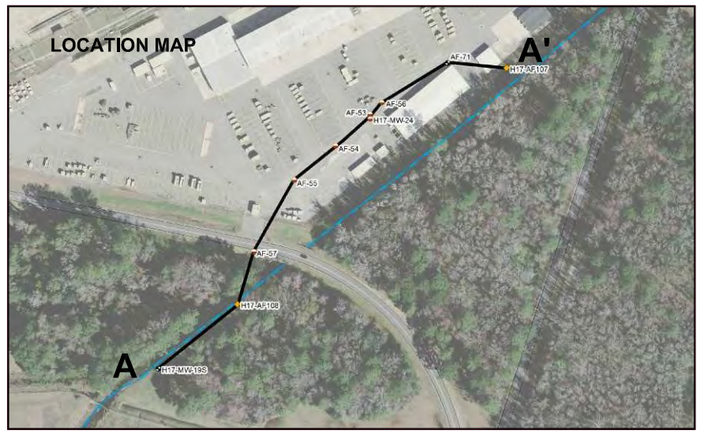
FIGURE
7-12



LEGEND

- SAND
- SILT
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- 3.2 (2/10) SAMPLE RESULT (DATE SAMPLED)
- 1.0 ISOCONCENTRATION CONTOUR

NOTES:
1) All concentrations reported in micrograms per liter (µg/L).
2) ND – Not Detected Above PQL.



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Benzene Isoconcentrations along Geologic Cross-Section A-A'

ARCADIS

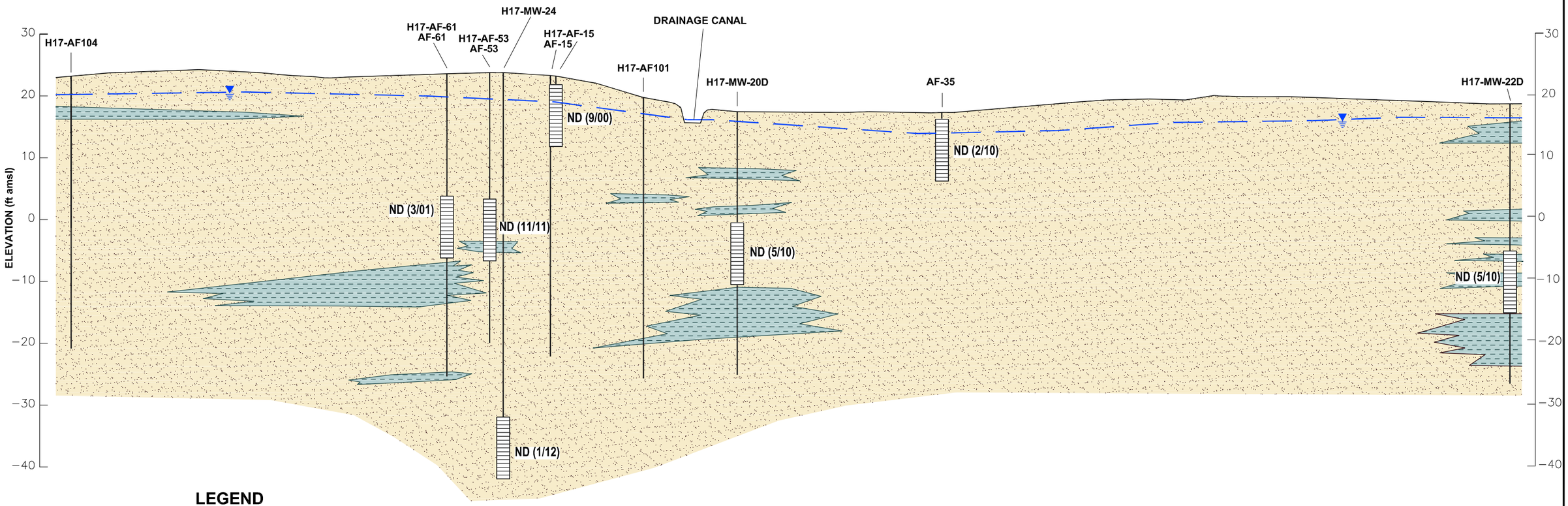
FIGURE
7-13

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H17 XSEC AA.jpg

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H17 XSEC BB.jpg

B
NORTHWEST

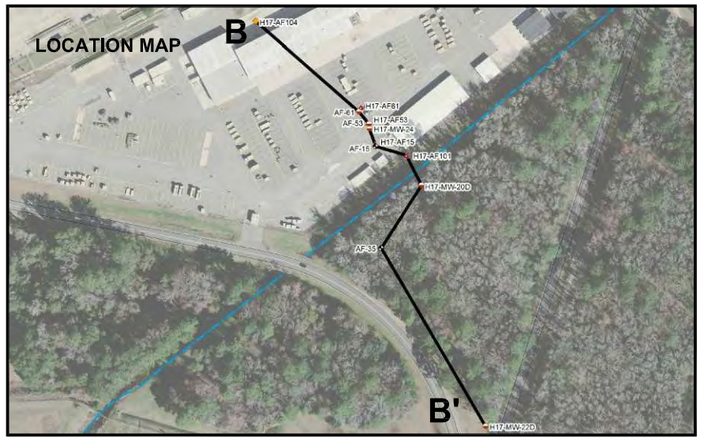
B'
SOUTHEAST



LEGEND

- SAND
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- **ND (5/10)** SAMPLE RESULT (DATE SAMPLED)

NOTES:
1) All concentrations reported in micrograms per liter (µg/L).
2) ND – Not Detected Above PQL.



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Benzene Isoconcentrations along Geologic Cross-Section B-B'

ARCADIS

FIGURE
7-14

CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB/LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7-15 H17_CSR1 201006 POT S Dsize.mxd - 1/31/2012 @ 11:14:25 AM

MW-06S (30.33)
MW-05S (30.91)
1290-MW-12S (30.84)
1290-MW-01S (31.38)
1290-MW-04S (30.90)
1290-MW-02S (31.01)
1290-MW-03S (N/A)
1290-MW-08S (31.04)
1290-MW-09S (29.88)
1290-MW-13S (31.27)
1290-MW-07S (30.90)
H17-MW-17S (30.06)
MW-15S (27.65)
MW-16S (27.16)
AT-MW-03 (29.09)
AT-MW-05 (29.00)
AT-MW-04 (28.53)
AT-MW-02 (28.62)
AF-70 (20.44)
AF-71 (18.89)
H17-MW-21S (14.48)
AF-08 (19.98)
AF-14 (20.63)
AF-15 (19.90)
AF-01 (19.44)
AF-13 (20.23)
AF-24 (20.67)
H17-PZ-02 (16.08)
AF-59 (19.02)
AF-11 (19.45)
AF-23 (19.39)
AF-07 (NM)
AF-33 (15.67)
AF-04 (19.93)
AF-02 (16.07)
AF-20 (19.44)
AF-18 (16.94)
AF-03 (16.56)
AF-25 (13.98)
AF-35 (13.78)
AF-29 (14.55)
H17-PZ-01 (15.97)
AF-58 (14.45)
H17-MW-19S (13.85)
H17-MW-22S (15.61)
1336
1345
31.0
29.0
27.0
25.0
23.0
21.0
19.0
17.0
15.0

LEGEND

- Storm Water Drainage Canal
- Monitor Well (shallow)
- Temporary Piezometer
- Groundwater Contour (ft amsl)
- (inferred where dashed)
- Direction of Groundwater Flow
- (30.90) Groundwater Elevation (ft amsl) Measured June 9, 2010
- (NM) Not Measured
- (N/A) Not Surveyed

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

0 160 320 480 640
SCALE IN FEET

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Shallow Potentiometric Surface Map (June 2010)

ARCADIS

FIGURE
7-15



CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB/LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7-16 H17_CSR1 201006 POT D Dsize.mxd - 1/31/2012 @ 11:15:24 AM

LEGEND

- Storm Water Drainage Canal
- Monitor Well (deep)
- Groundwater Contour (ft amsl)
- (inferred where dashed)
- Direction of Groundwater Flow
- (30.73) Groundwater Elevation (ft amsl) Measured June 9, 2010
- (NM) Not Measured
- (N/A) Not Surveyed

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

0 160 320 480 640
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

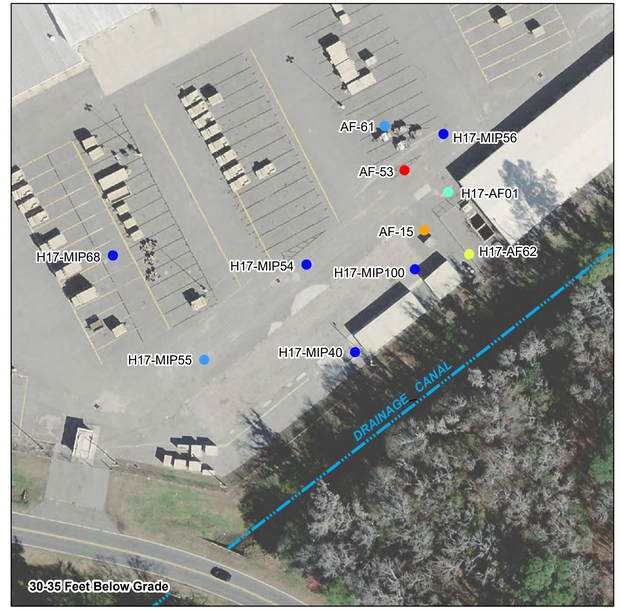
Deep Potentiometric Surface Map (June 2010)

ARCADIS

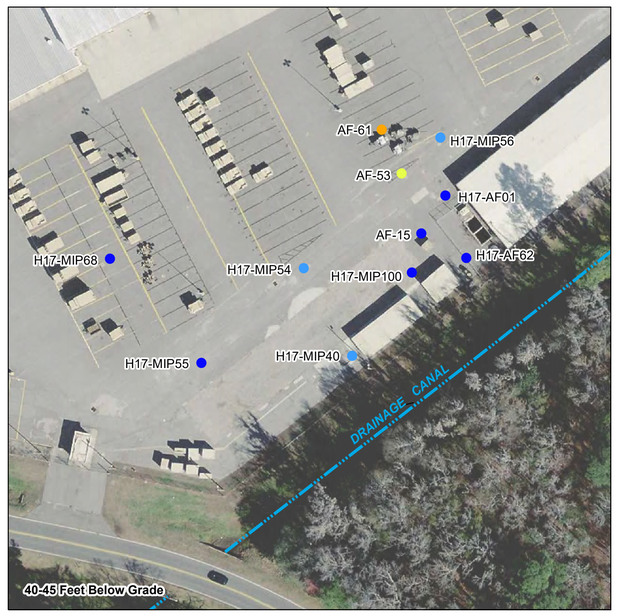
FIGURE
7-16

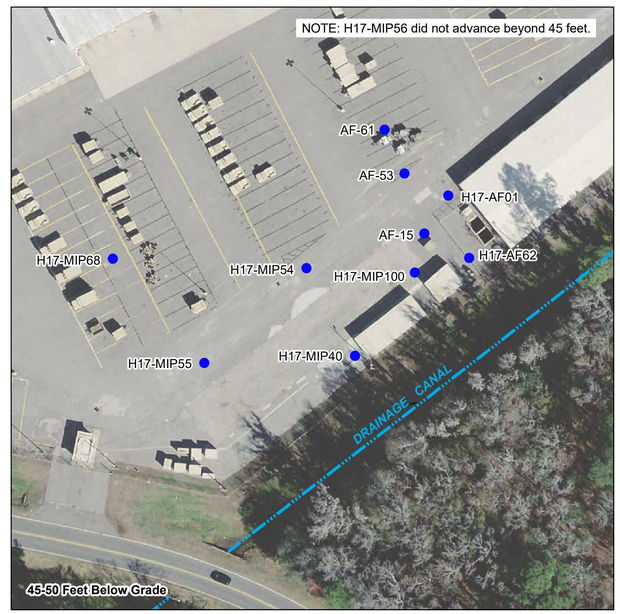












LEGEND

MAX ECD Response (uV)

- 158730.200000 - 750000.000000
- 750000.000001 - 1100000.000000
- 1100000.000001 - 1500000.000000
- 1500000.000001 - 2500000.000000
- 2500000.000001 - 5000000.000000
- 5000000.000001 - 12000000.000000

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

0 60 120 180 240

SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Membrane Interface Probe ECD Response

ARCADIS

FIGURE **7-17**

CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB/LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAFR\MapDocs\H17\2012\CSR R1\F7-17 H17_CSR1 MIP ECD Dsite.mxd SAVED: 1/31/2012 11:16:05 AM

H17-FD2	
(34-35)	ND
(44-45)	ND

H17-FD2

H17-FD3	
(34-35)	ND
(44-45)	ND

H17-FD3

H17-FD1	
(34-35)	ND
(44-45)	ND

H17-FD1

H17-PF4	
(34-35)	ND
(44-45)	ND

H17-PF4

H17-PF1	
(6-7)	ND
(34-35)	ND
(44-45)	15

H17-PF1

H17-PF3	
(2-3)	ND
(6-7)	ND

H17-PF3

H17-PF2	
(34-35)	9.2
(44-45)	95

H17-PF2

H17-AF103	
(34-35)	ND
(44-45)	ND

H17-AF103

H17-AF102

H17-AF102	
(34-35)	ND
(44-45)	ND

H17-AF104	
(24-25)	ND
(34-35)	ND
(44-45)	ND

H17-AF104

H17-AF105	
(34-35)	ND
(44-45)	ND

H17-AF105

1336

H17-AF061	MIP
(22-23)	530	1.4
(36-37)	750	6.8
(41-42)	2.1	3.3
(48-49)	ND	BG

H17-AF53	MIP
(25-26)	36	BG
(35-36)	8.8	11
(42-43)	5.3	0.75

H17-MIP56
ECD Max
1.06

H17-AF107	
(34-35)	1.5 J
(44-45)	ND

H17-AF107

H17-AF015	MIP
(21-22)	35	0.3
(29-30)	77	4.6
(37-38)	ND	0.7
(44-45)	ND	BG

H17-AF61
H17-AF53
H17-MIP56
H17-AF01
H17-AF15
H17-AF62
H17-AF101
H17-MIP68
H17-MIP54
H17-MIP100
H17-MIP55
H17-MIP40

H17-AF01	MIP
(21-22)	350	0.9
(31-32)	470	1.5
(37-38)	ND	2.4

H17-AF62	MIP
(21-22)	ND	1.1
(26-27)	200	2.3
(36-37)	ND	0.4

H17-MIP68
ECD Max
0.57

H17-MIP55
ECD Max
0.84

H17-MIP54
ECD Max
0.82

H17-MIP40
ECD Max
0.87

H17-MIP100
ECD Max
0.57

H17-AF101	
(24-25)	940
(34-35)	810 J

H17-AF108

H17-AF108	
(34-35)	ND
(44-45)	ND

LEGEND

- Storm Water Drainage Canal
- MIP Boring (December 2009)
- MIP Boring/Soil Boring (December 2009)
- Soil Boring (December 2009)

NOTES:
1) FD borings are associated with the Former Drycleaner investigation.
2) AF borings are associated with the UST 25/26 investigation.
3) PF borings are associated with the Purge Facility investigation.
4) MIP column referenced the maximum electron capture detector (ECD) reading for the sample interval.
5) BG = Background
6) All TCE concentrations are reported in micrograms per kilogram (; g/kg).

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

0 120 240 360 480
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

TCE Concentrations in Soil (December 2009)

ARCADIS

FIGURE
7-18

CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB/LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H172012\CSR R1\F7-18 H17_CSR1 SOIL TCE 200912 Dsize.mxd SAVED: 1/31/2012 11:17:01 AM

CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB/LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7-19 H17_CSR1 SOIL VOCs Dsize.mxd SAVED: 1/31/2012 11:17:43 AM

H17-FD1

Date	12/14/2009	12/14/2009
Depth Interval	34 - 35	44 - 45
No Detections		

H17-FD2

Date		12/14/2009
Depth Interval		44 - 45
Constituent	HSRA	
Acetone	2.74	0.049
Carbon disulfide	DL	0.095
Chloromethane	0.04	0.0029

H17-FD3

Date	12/14/2009	12/14/2009
Depth Interval	34 - 35	44 - 45
No Detections		

1290-DPT-08

Date		10/3/2007
Depth Interval		35 - 36
Constituent	HSRA	
Acetone	2.74	0.0201 J (0.0208 J)
Styrene	14	0.0022 J

H17-AF104

Date		12/16/2009
Depth Interval		44 - 45
Constituent	HSRA	
4-Methyl-2-pentanone	3.3	0.0072
Carbon disulfide	DL	0.003

H17-AF61

Date		12/9/2009	12/9/2009	12/9/2009
Depth Interval		22 - 23	36 - 37	41 - 42
Constituent	HSRA			
Acetone	2.74	0.038	ND	ND
Carbon disulfide	DL	0.0063 J	ND	ND
Carbon tetrachloride	0.17	0.0041	ND	ND
Trichloroethene	0.13	0.53	0.75	0.0021

1290-DPT-03

Date		10/2/2007	10/2/2007
Depth Interval		14.5 - 15.5	44 - 45
Constituent	HSRA		
1,2-Dichloroethane	0.02	ND	0.00141
Acetone	2.74	0.0052 J	0.0109 J
Styrene	14	0.00283	0.00435
Trichloroethene	0.13	ND	0.00332

1290-DPT-05

Date		10/2/2007	10/2/2007
Depth Interval		36 - 37	41 - 42
Constituent	HSRA		
Styrene	14	0.0028	0.00383
Trichloroethene	0.13	0.0191	0.00295

1290-DPT-06

Date		10/3/2007	10/3/2007
Depth Interval		10 - 11	34 - 35
Constituent	HSRA		
Acetone	2.74	0.0111 J	ND
Styrene	14	0.0023	0.00206

H17-AF53

Date		12/8/2009	12/8/2009	12/8/2009
Depth Interval		25 - 26	35 - 36	42 - 43
Constituent	HSRA			
Acetone	2.74	0.036 J	ND	ND
Carbon disulfide	DL	0.018 J	0.012 J	ND
Trichloroethene	0.13	0.036	0.0088	0.0053

1290-DPT-02

Date		10/2/2007	10/2/2007
Depth Interval		13.5 - 14.5	43.5 - 44.5
Constituent	HSRA		
Acetone	2.74	ND	0.0124 J
Styrene	14	0.00341	0.00366 J

1290-DPT-04

Date		10/2/2007	10/2/2007
Depth Interval		10 - 11	38.8 - 39.8
Constituent	HSRA		
Acetone	2.74	ND	0.00981 J
Styrene	14	0.00332	0.00249

1290-DPT-07

Date		10/3/2007	10/3/2007
Depth Interval		7.5 - 8.5	39 - 40
Constituent	HSRA		
Styrene	14	0.00199	0.00158

1290-DPT-15

Date		1/29/2008	1/29/2008
Depth Interval		15 - 17	24 - 26
Constituent	HSRA		
2-Butanone	0.79	0.0131 J	ND
Acetone	2.74	0.06 J	0.00953

1290-DPT-01

Date		10/2/2007
Depth Interval		43 - 44
Constituent	HSRA	
Styrene	14	0.00319
Trichloroethene	0.13	0.00114

1290-DPT-09

Date		10/3/2007	10/3/2007
Depth Interval		12 - 13	40 - 41
Constituent	HSRA		
Styrene	2.74	ND	0.0104 J
Acetone	14	0.00134	0.00201

H17-AF01

Date		12/7/2009	12/7/2009	12/7/2009
Depth Interval		21 - 22	31 - 32	37 - 38
Constituent	HSRA			
Trichloroethene	0.13	0.35	0.47	ND

SAC Special Weapons Facility

H17-AF103

Date		12/16/2009
Depth Interval		44 - 45
Constituent	HSRA	
Carbon disulfide	DL	0.0042

H17-PF4

Date		12/14/2009	12/14/2009
Depth Interval		34 - 35	44 - 45
Constituent	HSRA		
Acetone	2.74	ND	0.077
Carbon disulfide	DL	ND	0.2
Tetrachloroethene	0.13	0.0024	ND

H17-AF102

Date		12/15/2009
Depth Interval		44 - 45
Constituent	HSRA	
Carbon disulfide	DL	0.035 J

1290-DPT-16

Date	1/29/2008	1/29/2008
Depth Interval	10 - 14	28 - 32
No Detections		

AT-MW-03

Date		5/10/2006	5/10/2006
Depth Interval		0 - 1	4 - 6
Constituent	HSRA		
Acetone	2.74	0.0255	0.0132 (0.0181)
Toluene	14.4	0.00251 (0.0935)	0.00783

H17-PF1

Date		12/11/2009
Depth Interval		44 - 45
Constituent	HSRA	
Acetone	2.74	0.024
Trichloroethene	0.13	0.015

H17-AF15

Date		12/8/2009	12/8/2009	12/8/2009	12/8/2009
Depth Interval		21 - 22	29 - 30	37 - 38	44 - 45
Constituent	HSRA				
Acetone	2.74	0.2 J	0.28 J	0.13 J	0.18 J
Carbon disulfide	DL	0.011 J	0.03 J	ND	ND
Trichloroethene	0.13	0.035	0.077	ND	ND
Xylenes (total)	20	ND	0.041	ND	ND

AT-MW-01

Date		5/11/2006	5/11/2006
Depth Interval		0 - 1	4 - 6
Constituent	HSRA		
Acetone	2.74	0.013	0.0348 J
Carbon disulfide	DL	0.0071	ND
Toluene	14.4	0.00448	0.00822 J

H17-AF62

Date		12/8/2009
Depth Interval		26 - 27
Constituent	HSRA	
Trichloroethene	0.13	0.2

1290-DPT-14

Date		1/29/2008
Depth Interval		11 - 13
Constituent	HSRA	
Acetone	2.74	0.0161

H17-AF101

Date		12/10/2009	12/10/2009
Depth Interval		24 - 25	34 - 35
Constituent	HSRA		
1,1-Dichloroethene	0.36	0.0043	ND
Acetone	2.74	0.02	ND
Carbon disulfide	DL	0.0058 J	ND
cis-1,2-Dichloroethene	0.53	0.094	ND
Trichloroethene	0.13	0.94	0.81 J

H17-PF3

Date		12/11/2009	12/11/2009
Depth Interval		2 - 3	6 - 7
Constituent	HSRA		
Benzene, 1-methylethyl	21.88	3.7	0.62 J
Ethylbenzene	20	4.3	0.7 J
Methylcyclohexane	NE	11	6 J
Toluene	14.4	2.6	0.3 J
Xylenes (total)	20	55	5.2 J

AT-MW-04

Date		5/10/2006	5/10/2006
Depth Interval		0 - 1	4 - 6
Constituent	HSRA		
Acetone	2.74	0.0117	ND
Fluoranthene	500	0.0504	ND
Pyrene	500	0.0357	ND
Toluene	14.4	ND	0.00638

1290-DPT-12

Date		1/28/2008
Depth Interval		14 - 16
Constituent	HSRA	
2-Butanone	0.79	0.0122 J (0.0164 J)
Acetone	2.74	0.056 J (0.0688 J)
Styrene	14	0.00236 J (0.00278 J)
Xylenes (total)	20	0.00221 J

1290-DPT-10

Date		10/4/2007	10/4/2007
Depth Interval		10 - 11	14 - 15
Constituent	HSRA		
1,2-Dichloroethene	NE	0.00931	0.00874
Acetone	2.74	ND	0.0119 J
Styrene	14	0.00197	0.00248
Trichloroethene	0.13	0.072	0.12

1290-DPT-11

Date		1/28/2008	1/28/2008
Depth Interval		12.5 - 14.5	27.5 - 29.5
Constituent	HSRA		
Acetone	2.74	0.0146	0.00776
Chloromethane	0.04	0.00428	ND
Styrene	14	0.00187	ND
Trichloroethene	0.13	0.00211	ND
Xylenes (total)	20	0.00232	ND

1290-DPT-17

Date	1/30/2008	1/30/2008
Depth Interval	16 - 26	36 - 40
No Detections		

AT-MW-05

Date		5/11/2006
Depth Interval		4 - 6
Constituent	HSRA	
Acetone	2.74	0.0385 J

AT-SS-01

Date		5/12/2006
Depth Interval		.5 - 1
Constituent	HSRA	
Acetone	2.74	0.0988 J

AT-MW-02

Date		5/10/2006	5/10/2006
Depth Interval		0 - 1	4 - 6
Constituent	HSRA		
Acetone	2.74	0.0202 J	0.0292
Benzo(a)pyrene	1.64	ND	0.253
Benzo(b)fluoranthene	5	0.0474	ND
Carbon disulfide	DL	0.0211 J	ND
Toluene	14.4	ND	0.00195

H17-PF2

Date		12/10/2009	12/10/2009
Depth Interval		34 - 35	44 - 45
Constituent	HSRA		
Trichloroethene	0.13	0.0092	0.095

AT-SS-02

Date		5/12/2006
Depth Interval		.5 - 1
Constituent	HSRA	
Acetone	2.74	0.00759 J

1290-DPT-18

Date	1/30/2008	1/30/2008
Depth Interval	8 - 10	28 - 30
Constituent	HSRA	
Acetone	2.74	0.0177	0.00719 (0.00811 J)

1290-DPT-13

Date		1/29/2008
Depth Interval		16 - 18
Constituent	HSRA	
Acetone	2.74	0.0173 J

AT-SS-03

Date		5/12/2006
Depth Interval		2 - 4
Constituent	HSRA	
Acetone	2.74	0.00995

1290-DPT-20

Date		1/30/2008
Depth Interval		12 - 14
Constituent	HSRA	
Acetone	2.74	0.0092 J

1290-DPT-19

Date		1/30/2008
Depth Interval		31 - 33
Constituent	HSRA	
Acetone	2.74	0.0123 J

1336

1345

LEGEND

- Storm Water Drainage Canal
- Vertical Profile Boring
- Soil Boring

NOTES:
1) Samples associated with the UST 25 and 26 CAP Part B investigation (AF-01 - AF-72) are shown on Figure 4-8b.
2) All concentrations are reported in milligrams per kilogram (mg/kg).
3) Soil data compared against the Hazardous Site Reponse Act (HSRA) Notification concentrations.
4) Concentrations shown are those detected above the practical quantitation limit (PQL).
5) Gray results indicate a Type 1 RRS exceedance.
6) Sample intervals are feet below ground surface.
7) J values are estimated.
8) NE - Not established.
9) ND - Not detected above PQL.
10) DL - Detection limit.
11) (###) - Duplicate Data

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

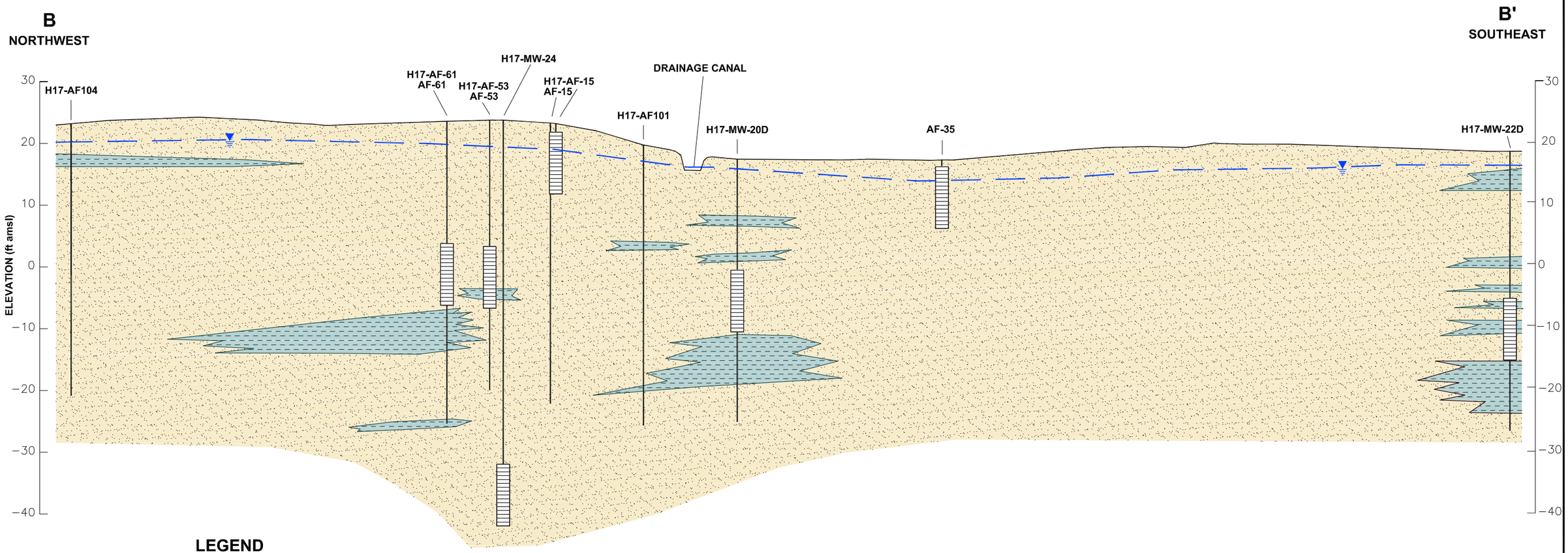
0 150 300 450 600
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Concentrations of VOCs Detected in Soil (2006-2009)

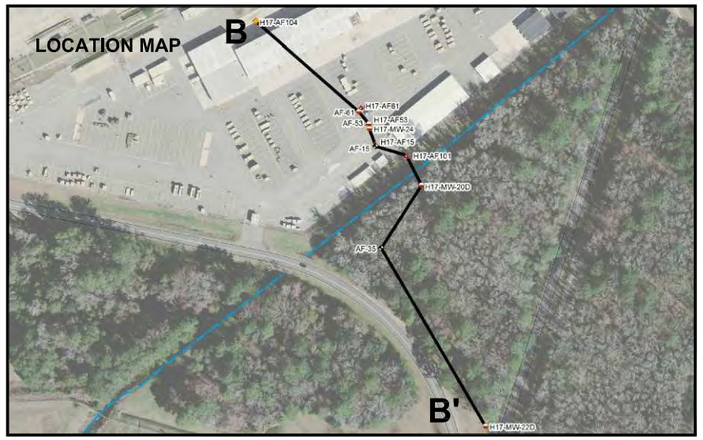
ARCADIS

FIGURE
7-19



LEGEND

- SAND
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Geologic Cross-Section B-B' along Topographic Strike

ARCADIS

FIGURE
7-2

CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) DB: (B.ALTOM) LD: (B.ALTOM) PIC: (M. FENNER) PM: (C. BERTZ) APM: (S.BOSTIAN) TM: (J.FRIZZELL)
G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7-2 H17_CSR1_XSECs_BB.dwg LAYOUT: B 7-2 SAVED: 1/31/2012 11:26 AM ACADVER: 18.0S (LMS TECH) PLOTSTYLETABLE: TN1_STANDARD.CTB PLOTTED: 1/31/2012 11:26 AM BY: ALTOM, BRENDA
XREFS: IMAGES: PROJECT: GP08HAFS_H17C.DBCSR
H17 XSEC BB.jpg

CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB/LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H172012\CSR R1\F73\0 H17_CSR1 GW VOCs S Dsize.mxd SAVED: 3/27/2012 10:32:42 AM

1290-MW-4S

Date			7/18/2007
Depth Interval			4.0 99.0
Constituent	MCL	RRS	
Acetone		4,000	14.9

1290-MW-5S

Date			7/18/2007	2/11/2010
Depth Interval			5.80 915.80	5.80 915.80
Constituent	MCL	RRS		
Acetone		4,000	ND	ND

1290-MW-12S

Date			7/18/2007	2/16/2010
Depth Interval			7.6 917.6	7.6 917.6
Constituent	MCL	RRS		
All Constituents			ND	ND

1290-MW-1S

Date			7/17/2007
Depth Interval			5.72 915.72
Constituent	MCL	RRS	
All Constituents			ND

1290-MW-4S

Date			7/17/2007
Depth Interval			5.66 915.66
Constituent	MCL	RRS	
All Constituents			ND

1290-MW-2S

Date			7/18/2007	2/11/2010
Depth Interval			4.3 914.3	4.3 914.3
Constituent	MCL	RRS		
All Constituents			ND	ND

BLDG. 1290

1290-MW-3S

Date			7/18/2007	2/11/2010
Depth Interval			6.70 911.70	6.70 911.70
Constituent	MCL	RRS		
Acetone		4,000	ND	17

H17-MW-17S

Date			5/25/2010
Depth Interval			8.0 918.0
Constituent	MCL	RRS	
Acetone		4,000	28
Chloroethane		NE	0.69

1290-MW-8S

Date			7/18/2007	2/11/2010
Depth Interval			5.40 915.40	5.40 915.40
Constituent	MCL	RRS		
Acetone		4,000	ND	18
1,1-Dichloroethene	7	7	6.01	ND

1290-MW-9S

Date			7/18/2007	2/16/2010
Depth Interval			5.55 915.55	5.55 915.55
Constituent	MCL	RRS		
1,1-Dichloroethene	7	7	4.29	1.8
Acetone		4,000	5.52	ND

1290-MW-7S

Date			7/16/2007	2/11/2010
Depth Interval			7.89 917.89	7.89 917.89
Constituent	MCL	RRS		
Acetone		4,000	ND	17

1290-MW-13S

Date			7/18/2007	2/16/2010
Depth Interval			5.59 915.59	5.59 915.59
Constituent	MCL	RRS		
All Constituents			ND	ND

MW-15S

Date			7/19/2007	2/19/2010
Depth Interval			UNKNOWN	UNKNOWN
Constituent	MCL	RRS		
1,1-Dichloroethene	7	7	***9.35***	ND

MW-16S

Date			7/19/2007	2/17/2010
Depth Interval			UNKNOWN	UNKNOWN
Constituent	MCL	RRS		
1,1-Dichloroethene	7	7	***54.7***	ND
Vinyl chloride	2	2	***27.3***	1.3

AT-MW-03

Date			7/24/2006	2/17/2010
Depth Interval			2.20 912.20	2.20 912.20
Constituent	MCL	RRS		
Acetone		4,000	ND	ND (18)

AT-MW-02

Date			7/23/2006	2/17/2010
Depth Interval			2.30 912.30	2.30 912.30
Constituent	MCL	RRS		
Xylenes (total)	10,000	10,000	1.07	ND

AT-MW-05

Date			7/24/2006	2/17/2010
Depth Interval			2.30 912.30	2.30 912.30
Constituent	MCL	RRS		
2-Methylnaphthalene		NE	3.46	ND
Benzene, 1-methylethyl		NE	ND	0.56
Ethylbenzene	700	700	1.25	ND
Naphthalene		20	2.15	ND
Toluene	1,000	1,000	1.28	ND
Xylenes (total)	10,000	10,000	5.32	ND

AT-MW-04

Date			7/24/2006	2/17/2010
Depth Interval			2.30 912.30	2.30 912.30
Constituent	MCL	RRS		
Acetone		4,000	10.5 (13)	ND
Benzene	5	5	1.09 (1.11)	ND
Ethylbenzene	700	700	2.88 (3.1)	ND
Toluene	1,000	1,000	5.11 (5.11)	ND
Xylenes (total)	10,000	10,000	14.6 (14.6)	ND

PURGE FACILITY

SEE FIGURE 7-22

FORMER UST 25 AND 26

1.0 10 100 1,000

AF-71 AF-38 AF-58

H17-MW-21S H17-MW-27S

H17-MW-19S

Date			5/25/2010
Depth Interval			5.0 915.0
Constituent	MCL	RRS	
All Constituents			ND (ND)

H17-MW-26S

Date			12/14/2011
Depth Interval			7 917
Constituent	MCL	RRS	
All VOCs			ND

H17-MW-22S

Date			5/25/2010
Depth Interval			7.0 917.0
Constituent	MCL	RRS	
All Constituents			ND (ND)

LEGEND

- Storm Water Drainage Canal
- Monitor Well (shallow)
- Extent of TCE Impact

NOTES:
1) All concentrations are reported in micrograms per liter (, g/L).
2) Shaded results exceed the Type 1 RRS.
3) Concentrations shown are those detected above the practical quantitation limit (PQL).
4) J values are estimated.
5) NE 9Not established.
6) RSS 9Type 1 RSS.
7) ND 9Not detected above PQL.
8) 99 Not Sampled.
9) (####) 9Duplicate Data.
10) Wells with screened intervals predominantly below 25 feet below ground surface are included in the deep zone for isoconcentration contour purposes. Other wells are included in the shallow zone.
11) Screened intervals for Wells MW9f5S and MW9f6S are unknown.

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

0 160 320 480 640
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Shallow Zone TCE Isoconcentration Contours and Concentrations of VOCs Detected in Sitewide Groundwater

ARCADIS

FIGURE **7-20**

CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB/LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAFMapDocs\H172012\CSR R1\F7-21 H17_CSR1 GW VOCs D Dsize.mxd SAVED: 3/27/2012 10:42:41 AM

1290-MW-5D

Date			7/18/2007	2/11/2010
Depth Interval			20.0 - 30.0	20.0 - 30.0
Constituent	MCL	RRS		
All Constituents			ND	ND

1290-MW-5D

1290-MW-12D

Date			7/18/2007	2/16/2010
Depth Interval			24.3 - 34.3	24.3 - 34.3
Constituent	MCL	RRS		
All Constituents			ND	ND

1290-MW-12D

1290-MW-1D

Date			7/17/2007
Depth Interval			19.95 - 29.95
Constituent	MCL	RRS	
All Constituents			ND

1290-MW-1D

1290-MW-4D

Date			7/17/2007
Depth Interval			19.91 - 29.91
Constituent	MCL	RRS	
All Constituents			ND

1290-MW-4D

1290-MW-2D

Date			7/17/2007	2/11/2010
Depth Interval			19.90 - 29.90	19.90 - 29.90
Constituent	MCL	RRS		
Acetone			ND	17

1290-MW-2D

BLDG. 1290

1290-MW-3D

1290-MW-3D

Date			7/18/2007	2/11/2010
Depth Interval			19.59 - 29.58	19.59 - 29.58
Constituent	MCL	RRS		
Acetone			ND	18

H17-FD2

Date			12/15/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
1,1-Dichloroethane		4,000	7.1
1,1-Dichloroethene	7	7	2.4
1,2-Dichloropropane	5	5	0.99
Carbon disulfide		4,000	0.72
Ethylbenzene	700	700	1.9
Xylenes (total)	10,000	10,000	3.4

H17-FD2

1290-MW-8D

Date			7/18/2007	2/16/2010
Depth Interval			14.50 - 24.50	14.50 - 24.50
Constituent	MCL	RRS		
1,1-Dichloroethene	7	7	**7.77**	5.1
Trichloroethene	5	5	1.08	ND

1290-MW-8D

H17-FD3

H17-FD3

Date			12/15/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
1,2-Dichlorobenzene	600	600	2.2
Carbon disulfide		4,000	1.3
cis-1,2-Dichloroethene	70	NE	6.2
Trichloroethene	5	5	1.1

H17-FD1

H17-FD1

Date			12/15/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
1,2-Dichlorobenzene	600	600	0.73
Carbon disulfide		4,000	0.61
cis-1,2-Dichloroethene	70	NE	0.87

1.0

1290-DPT-03

1290-DPT-03

Date			10/2/2007
Depth Interval			44 - 46
Constituent	MCL	RRS	
1,2-Dichloroethene	5	5	1.1
Trichloroethene	5	5	2.5

1290-MW-9D

Date			7/18/2007	2/16/2010
Depth Interval			20.39 - 30.39	20.39 - 30.39
Constituent	MCL	RRS		
Acetone	4,000		12	18

1290-MW-9D

H17-MW-17D

Date			5/25/2010
Depth Interval			32.0 - 42.0
Constituent	MCL	RRS	
Carbon disulfide	4,000		1.9

H17-MW-17D

1290-MW-7D

Date			7/17/2007	2/11/2010
Depth Interval			24.6 - 34.6	24.6 - 34.6
Constituent	MCL	RRS		
All Constituents			ND	ND

1290-MW-7D

1290-MW-13D

Date			7/18/2007	2/16/2010
Depth Interval			20.01 - 30.01	20.01 - 30.01
Constituent	MCL	RRS		
All Constituents			ND	ND

1290-MW-13D

H17-PF4

Date			12/15/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
Carbon disulfide		4,000	0.53
Trichloroethene	5	5	1.7

H17-PF4

1.0

1290-DPT-01

Date			10/2/2007
Depth Interval			41 - 45
Constituent	MCL	RRS	
1,2-Dichloroethene		NE	3.65
Trichloroethene	5	5	**72.4**

1290-DPT-01

10

H17-PF1

H17-PF1

Date			12/15/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
Trichloroethene	5	5	2.2

AT-MW-01

Date			7/23/2006	2/17/2010
Depth Interval			40.30 - 45.30	40.30 - 45.30
Constituent	MCL	RRS		
1,2-Dichloroethene		NE	1.13	ND
cis-1,2-Dichloroethene	70	NE	ND	0.63
Trichloroethene	5	5	**24.9**	**14**

AT-MW-01

AT-MW-02

H17-PF3

B159-5

B159-5

Date			12/3/2002
Depth Interval			20
Constituent	MCL	RRS	
Naphthalene		20	6.17

H17-PF2

H17-PF2

Date			12/17/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
cis-1,2-Dichloroethene	70	NE	7.5

PURGE FACILITY

H17-MW-18D

Date			5/25/2010
Depth Interval			30.0 - 40.0
Constituent	MCL	RRS	
Benzene	5	5	**5.2**
cis-1,2-Dichloroethene	70	NE	1.1
tert-Butyl methyl ether		NE	3.6
Trichloroethene	5	5	2.6

H17-MW-18D

1336

1345

H17-AF105

H17-MW-29D

H17-AF104

H17-AF103

H17-MW-23D

1290-DPT-05

H17-AF107

H17-MW-21D

H17-AF102

B159-1

FORMER UST 25 AND 26

H17-MW-20D

1290-DPT-10

1290-DPT-11

B159-3

AF-57

AF-42

H17-MW-27D

H17-MW-25D

H17-AF108

SEE FIGURE 7-23A

H17-MW-26D

Date			12/14/2011
Depth Interval			25 - 35
Constituent	MCL	RRS	
All VOCs			ND

H17-MW-26D

H17-MW-22D

Date			5/25/2010
Depth Interval			25.0 - 35.0
Constituent	MCL	RRS	
All Constituents			ND (ND)

H17-MW-22D

LEGEND

- Storm Water Drainage Canal
- Monitor Well (deep)
- Vertical Profile Boring
- Soil Boring
- Extent of TCE Impact

NOTES:
1) All concentrations are reported in micrograms per liter (3g/L).
2) Shaded results exceed the Type 1 RRS.
3) Concentrations shown are those detected above the practical quantitation limit (PQL).
4) J values are estimated.
5) NE - Not established.
6) RSS - Type 1 RSS.
7) ND - Not detected above PQL.
8) - - Not Sampled.
9) (####) - Duplicate Data.
10) Wells with screened intervals predominantly below 25 feet below ground surface are included in the deep zone for isoconcentration contour purposes. Other wells are included in the shallow zone.
11) Screened intervals for Wells MW-15S and MW-16S are unknown.

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

0 160 320 480 640
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Deep Zone TCE Isoconcentration Contours and Concentrations of VOCs Detected in Sitewide Groundwater

ARCADIS

FIGURE **7-21**

AF-70			
Date			11/18/2011
Depth Interval			15´ 20
Constituent	MCL	RRS	
Trichloroethene	5	5	3.9 J

AF-12					
Date			1/11/2006	7/25/2006	1/23/2007
Depth Interval			2.5´ 12.5	2.5´ 12.5	2.5´ 12.5
Constituent	MCL	RRS			
Benzene	5	5	***23.9***	***43.3***	***34.7***
Ethylbenzene	700	700	99.5	28.2	49.2
Toluene	1,000	1,000	1.31	ND	ND

PARKING

AF-13			
Date			2/10/2010
Depth Interval			2.5 . 12.5
Constituent	MCL	RRS	
cis´1,2 Dichloroethene	70	70	0.65

AF-71			
Date			11/18/2011
Depth Interval			15.3´ 20.3
Constituent	MCL	RRS	
cis´1,2 Dichloroethene	70	70	20
trans´1,2 Dichloroethene	100	100	1.2
Trichloroethene	5	5	4.8
Vinyl Chloride	2	2	***2.5***

H17-MW-21S			
Date			5/25/2010
Depth Interval			7.0´ 17.0
Constituent	MCL	RRS	
All Constituents			ND

AF-07					
Date			1/11/2006	7/25/2006	1/23/2007
Depth Interval			2.5´ 12.5	2.5´ 12.5	2.5´ 12.5
Constituent	MCL	RRS			
Benzene	5	5	***1,890***	***1,730***	***1,540***
Ethylbenzene	700	700	526	***760***	***887***
Toluene	1,000	1,000	10.6	11.4 J	ND
Xylenes (total)	10,000	10,000	1.27	11.2 J	ND

AF-05					
Date			1/11/2006	7/25/2006	1/23/2007
Depth Interval			2.0´ 12.0	2.0´ 12.0	2.0´ 12.0
Constituent	MCL	RRS			
Ethylbenzene	700	700	ND	3.97	1.74
Xylenes (total)	10,000	10,000	2.81	3.55	ND

AF-35			
Date			2/11/2010
Depth Interval			1.2´ 10.7
Constituent	MCL	RRS	
cis´1,2 Dichloroethene	70	70	14
trans´1,2 Dichloroethene	100	100	0.84
Trichloroethene	5	5	2.1

AF-25			
Date			2/11/2010
Depth Interval			0.5´ 10.5
Constituent	MCL	RRS	
cis´1,2 Dichloroethene	70	70	24
tert Butyl methyl ether		NE	1.2
trans´1,2 Dichloroethene	100	100	0.56
Trichloroethene	5	5	***77***

AF-26			
Date			2/11/2010
Depth Interval			2.0´ 12.0
Constituent	MCL	RRS	
All Constituents			ND

AF-72			
Date			12/20/2011
Depth Interval			2.5´ 12.5
Constituent	MCL	RRS	
1,1´Dichloroethene	7	7	3.6
cis´1,2´Dichloroethene	70	70	***290***
trans´1,2´Dichloroethene	100	100	1.6
Trichloroethene	5	5	***390***

H17-MW-27S			
Date			1/5/2012
Depth Interval			7´17
Constituent	MCL	RRS	
All Constituents			ND

AF-58			
Date			2/11/2010
Depth Interval			2.7´ 12.7
Constituent	MCL	RRS	
1,1´Dichloroethene	7	7	1.4
cis´1,2´Dichloroethene	70	70	*110*
trans´1,2´Dichloroethene	100	100	0.93
Trichloroethene	5	5	***270***

H17-MW-19S			
Date			7/17/2007
Depth Interval			5.0´ 15.0
Constituent	MCL	RRS	
All Constituents			ND

H17-MW-22S			
Date			5/25/2010
Depth Interval			7.0´ 17.0
Constituent	MCL	RRS	
All Constituents			ND

H17-MW-26S			
Date			12/14/2011
Depth Interval			7´ 17
Constituent	MCL	RRS	
All Constituents			ND

1.0
100
1,000
10
1.0
100

AF 70 AF 71 H17 MW 21S AF 14 AF 13 AF 08 AF 15 AF 62 AF 01 AF 16 AF 09 AF 24 AF 59 AF 12R AF 12 AF 04 AF 11 AF 10 AF 07 AF 07R AF 05 AF 33 AF 02 AF 23 AF 20 AF 06 AF 03 AF 28 AF 39 AF 18 AF 19 AF 25 AF 17 AF 35 AF 72 H17 MW 27S AF 27 AF 29 AF 34 AF 38 AF 26 AF 37 AF 36 AF 58 H17 MW 19S H17 MW 26S H17 MW 22S

PARKING

LEGEND

- Monitor Well (shallow)
- Storm Water Drainage Canal
- Extent of TCE Impact

NOTES:
1) All concentrations are reported in micrograms per liter (5g/L).
2) Shaded results exceed the Type 1 RRS.
3) Concentrations shown are those detected above the practical quantitation limit (PQL).
4) J values are estimated.
5) NE ¨ Not established.
6) RSS ¨ Type 1 RSS.
7) ND ¨ Not detected above PQL.
8) Wells with screened intervals predominantly below 25 feet below ground surface are included in the deep zone for isoconcentration contour purposes. Other wells are included in the shallow zone.

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

0 60 120 180 240
SCALE IN FEET

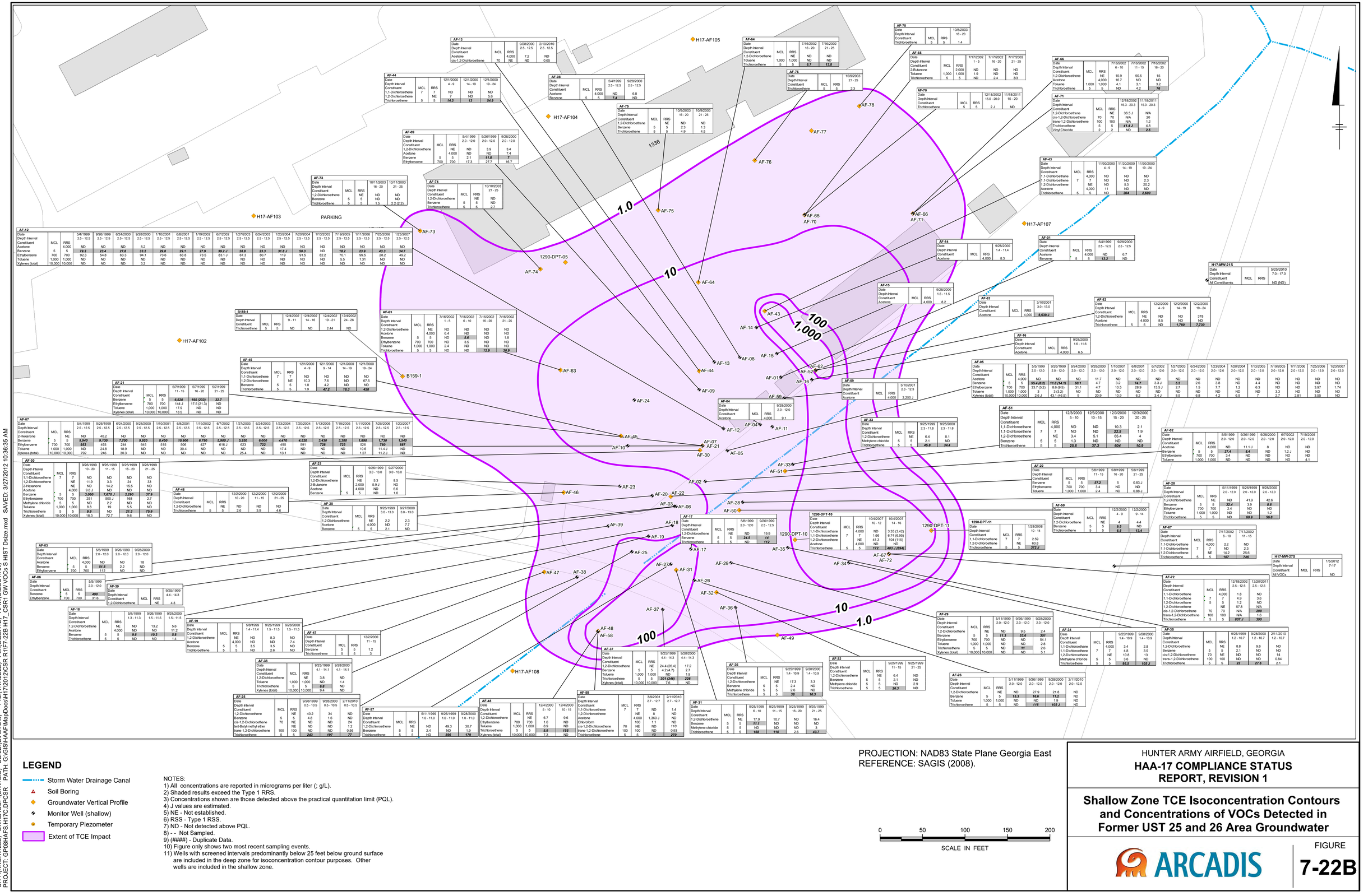
HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Shallow Zone TCE Isoconcentration Contours and Concentrations of VOCs Detected in Former UST 25 and 26 Area Groundwater Monitoring Wells from 2006 to Present

ARCADIS

FIGURE
7-22A

CITY:(KNOX/LLE) DIV/GROUP:(ENV/GIS) DB/LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7 22A H17_CSR1 GW VOCs S HIST Dsize.mxd SAVED: 3/27/2012 10:34:28 AM



LEGEND

- Storm Water Drainage Canal
- Soil Boring
- Groundwater Vertical Profile
- Monitor Well (shallow)
- Temporary Piezometer
- Extent of TCE Impact

NOTES:
1) All concentrations are reported in micrograms per liter (; g/L).
2) Shaded results exceed the Type 1 RRS.
3) Concentrations shown are those detected above the practical quantitation limit (PQL).
4) J values are estimated.
5) NE - Not established.
6) RSS - Type 1 RSS.
7) ND - Not detected above PQL.
8) - - Not Sampled.
9) (#####) - Duplicate Data.
10) Figure only shows two most recent sampling events.
11) Wells with screened intervals predominantly below 25 feet below ground surface are included in the deep zone for isoconcentration contour purposes. Other wells are included in the shallow zone.

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

0 50 100 150 200
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Shallow Zone TCE Isoconcentration Contours and Concentrations of VOCs Detected in Former UST 25 and 26 Area Groundwater

ARCADIS

FIGURE
7-22B

CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB/LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H172012CSR R1\F7-22B H17_CSR1 GW VOCs S HIST Dsize.mxd SAVED: 3/27/2012 10:38:35 AM

H17-MW-29D			
Date			1/5/2012
Depth Interval			40-45
Constituent	MCL	RRS	
Toluene	1,000	1,000	2.0

H17-MW-29D

H17-MW-23D			
Date			12/12/2011
Depth Interval			40 - 45
Constituent	MCL	RRS	
1,1-Dichloroethene	7	7	1.3
Chloroform	NE	100	1.7
cis-1,2-Dichloroethene	70	70	60
Trichloroethene	5	5	***460***

H17-MW-23D

AF-68					
Date			7/25/2006	1/23/2007	2/10/2010
Depth Interval			34.5 - 39.5	34.5 - 39.5	34.5 - 39.5
Constituent	MCL	RRS			
1,1-Dichloroethene	7	7	1.71	1.47	1.5
1,2-Dichloroethene		NE	84.9	67.7	ND
Benzene	5	5	1.18	ND	1.7
cis-1,2-Dichloroethene	70	70	ND	ND	79
trans-1,2-Dichloroethene	100	100	ND	ND	1.4
Trichloroethene	5	5	***540***	***373 J***	***410***

AF-68

AF-55			
Date			2/10/2010
Depth Interval			24.0 - 34.0
Constituent	MCL	RRS	
1,1-Dichloroethene	7	7	0.86 (0.9)
Benzene	5	5	0.93 (0.94)
cis-1,2-Dichloroethene	70	70	*110 (110)*
trans-1,2-Dichloroethene	100	100	2.3 (2.3)
Trichloroethene	5	5	***170 (170)***

AF-55

AF-40				
Date			7/25/2006	1/23/2007
Depth Interval			28.5 - 33.0	28.5 - 33.0
Constituent	MCL	RRS		
1,1-Dichloroethene	7	7	ND	1.05
1,2-Dichloroethene		NE	14.9	54.4
Benzene	5	5	***16.4***	ND
Ethylbenzene	700	700	12.4	ND
Toluene	1,000	1,000	17.5	ND
Trichloroethene	5	5	***49.4***	***201***
Xylenes (total)	10,000	10,000	53.8	ND

AF-40

AF-41					
Date			7/25/2006	1/23/2007	2/10/2010
Depth Interval			28.5 - 33.0	28.5 - 33.0	28.5 - 33.0
Constituent	MCL	RRS			
1,1-Dichloroethene	7	7	1.32	1.2	0.89
1,2-Dichloroethene		NE	81	61.3	ND
cis-1,2-Dichloroethene	70	NE	ND	ND	48
Benzene	5	5	1.31	ND	ND
Ethylbenzene	700	700	2.14	ND	ND
Toluene	1,000	1,000	2.67	ND	ND
Trichloroethene	5	5	***252***	***168***	***46***
Xylenes (total)	10,000	10,000	9.56	ND	ND

AF-41

AF-69			
Date			2/10/2010
Depth Interval			40.2 - 45.2
Constituent	MCL	RRS	
cis-1,2-Dichloroethene	70	70	3.4
Trichloroethene	5	5	***66***

AF-69

AF-56			
Date			2/10/2010
Depth Interval			19.9 - 29.9
Constituent	MCL	RRS	
Benzene	5	5	3.2
cis-1,2-Dichloroethene	70	70	15
Trichloroethene	5	5	***1,100***

AF-56

AF-53			
Date			11/18/2011
Depth Interval			20.0 - 30.0
Constituent	MCL	RRS	
cis-1,2-Dichloroethene	70	70	33
Trichloroethene	5	5	***1,200***

AF-53

H17-MW-24			
Date			1/5/2012
Depth Interval			55-65
Constituent	MCL	RRS	
All Constituents			ND

H17-MW-24

H17-MW-21D			
Date			5/25/2010
Depth Interval			25.0 - 35.0
Constituent	MCL	RRS	
All Constituents			ND

H17-MW-21D

AF-54			
Date			2/10/2010
Depth Interval			32.4 - 42.4
Constituent	MCL	RRS	
1,1-Dichloroethene	7	7	1.1
cis-1,2-Dichloroethene	70	70	52
Trichloroethene	5	5	***270***

AF-54

H17-MW-20D			
Date			5/25/2010
Depth Interval			18.0 - 28.0
Constituent	MCL	RRS	
1,1-Dichloroethene	7	7	0.94
cis-1,2-Dichloroethene	70	70	59
trans-1,2-Dichloroethene	100	100	0.7
Trichloroethene	5	5	***280***

H17-MW-20D

H17-MW-27D			
Date			1/5/2012
Depth Interval			25-35
Constituent	MCL	RRS	
All Constituents			ND

H17-MW-27D

H17-MW-25D			
Date			12/14/2011
Depth Interval			25 - 35
Constituent	MCL	RRS	
All Constituents			ND

H17-MW-25D

H17-MW-26D			
Date			12/14/2011
Depth Interval			25 - 35
Constituent	MCL	RRS	
All Constituents			ND

H17-MW-26D

H17-MW-22D			
Date			5/25/2010
Depth Interval			25.0 - 35.0
Constituent	MCL	RRS	
All Constituents			ND

H17-MW-22D

1336

AF-61 AF-60 AF-54 AF-55 AF-40 AF-41 AF-57 AF-42 AF-68 AF-69 AF-56 AF-53 H17-MW-24 H17-MW-20D H17-MW-21D H17-MW-27D H17-MW-25D H17-MW-26D H17-MW-22D

1,000 100 10 1.0

LEGEND

- Storm Water Drainage Canal
- Monitor Well (deep)
- Extent of TCE Impact

NOTES:
1) All concentrations are reported in micrograms per liter (Dg/L).
2) Shaded results exceed the Type 1 RRS.
3) Concentrations shown are those detected above the practical quantitation limit (PQL).
4) J values are estimated.
5) NE - Not established.
6) RSS - Type 1 RSS.
7) ND - Not detected above PQL.
8) Wells with screened intervals predominantly below 25 feet below ground surface are included in the deep zone for isoconcentration contour purposes. Other wells are included in the shallow zone.

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

0 60 120 180 240
SCALE IN FEET

HUNTER ARMY AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Deep Zone TCE Isoconcentration Contours and Concentrations of VOCs Detected in Former UST 25 and 26 Area Groundwater Monitoring Wells from 2006 to Present

ARCADIS

FIGURE
7-23A

CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB/LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS H17CDPC.SR PATH: G:\GIS\HAAF\Mapdocs\H17\2012\CSR R1\FF-23A H17_CSR1 GW VOCs D H1ST Dsize.mxd SAVED: 3/27/2012 10:20:59 AM

CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB:LD(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2012\CSR H17F-23B H17_CSR1 GW VOCs D HIST Deize.mxd SAVED: 3/27/2012 10:26:29 AM

H17-MW-29D

Date			1/5/2012
Depth Interval			40-45
Constituent	MCL	RRS	
Toluene	1,000	1,000	2.0

AF-44

Date			12/1/2000	12/1/2000	12/1/2000	12/1/2000	12/1/2000
Depth Interval			24 - 29	34 - 39	39 - 44	44 - 49	9 - 14
Constituent	MCL	RRS					
1,1-Dichloroethene	7	7	ND	3.2	ND	ND	2.8
1,2-Dichloroethene		NE	7	104	58.6	9.2	ND
Trichloroethene	5	5	***33.5***	***790***	***346***	***60.8***	***85.1***

AF-54

Date			3/12/2001	2/10/2010
Depth Interval			32.4 - 42.4	32.4 - 42.4
Constituent	MCL	RRS		
1,1-Dichloroethene	7	7	ND	1.1
1,2-Dichloroethene		NE	53.2 (57.8)	ND
Acetone		4,000	554 J (613 J)	ND
Chloroform	70	100	2.3 (2.5)	ND
Trichloroethene	5	5	***352 (394)***	***270***

H17-AF104

Date			12/17/2009
Depth			41-45
Constituent	MCL	RRS	
Acetone	70	4,000	4.5 B
cis-1,2-Dichloroethene		5	0.45 J

H17-AF105

Date			12/16/2009
Depth			41-45
Constituent	MCL	RRS	
Acetone		4,000	3.0 B

AF-75

Date			10/9/2003	10/9/2003	10/9/2003	10/9/2003	10/10/2003
Depth Interval			16 - 20	21 - 25	26 - 30	31 - 35	41 - 45
Constituent	MCL	RRS					
1,2-Dichloroethene		NE	ND	ND	ND	1.2	ND
Benzene	5	5	2.3	1.3	ND	ND	ND
Trichloroethene	5	5	4.9	4.5	***15.6 (18)***	***9.7***	3.9

AF-69

Date			12/18/2002	2/10/2010
Depth Interval			40.2 - 45.2	40.2 - 45.2
Constituent	MCL	RRS		
1,2-Dichloroethene		NE	6.5 (6.9)	ND
cis-1,2-Dichloroethene	70	NE	ND	3.4
Trichloroethene	5	5	***139 J (141 J)***	***66***

AF-64

Date			7/16/2002	7/16/2002	7/16/2002	7/16/2002
Depth Interval			26 - 30	31 - 35	36 - 40	41 - 45
Constituent	MCL	RRS				
1,2-Dichloroethene		NE	ND	ND	ND	4.4
Toluene	1,000	1,000	ND	ND	7	ND
Trichloroethene	5	5	***31.2***	2.8	1.1	***79.1***

AF-77

Date			10/9/2003
Depth Interval			46 - 50
Constituent	MCL	RRS	
2-Butanone		2,000	7.8

AF-65

Date			7/17/2002
Depth Interval			41 - 45
Constituent	MCL	RRS	
2-Butanone		2,000	5.3 J
Toluene	1,000	1,000	1.2 J
Trichloroethene	5	5	ND

AF-74

Date			10/10/2003	10/11/2003	10/11/2003	10/11/2003
Depth Interval			26 - 30	31 - 35	36 - 40	41 - 45
Constituent	MCL	RRS				
1,2-Dichloroethene		NE	ND	3.2	8.7	4.7
Benzene	5	5	ND	2.5	1.7	ND
Trichloroethene	5	5	1.7	***53.9***	***57.1***	***47.4***

AF-73

Date			10/11/2003	10/11/2003	10/11/2003	10/11/2003
Depth Interval			26 - 30	31 - 35	36 - 40	41 - 45
Constituent	MCL	RRS				
1,2-Dichloroethene		NE	ND	ND	34.2	27.8
Benzene	5	5	ND	ND	1.6	ND
Trichloroethene	5	5	1.9	4.4	***97.7***	***417***

1290-DPT-05

Date			10/2/2007	10/2/2007
Depth Interval			36 - 38	46 - 48
Constituent	MCL	RRS		
1,2-Dichloroethene		NE	2.99	3.42
Benzene	5	5	1.05	ND
Trichloroethene	5	5	***39.7***	***74.8***

AF-61

Date			3/10/2001
Depth Interval			20.0 - 30.0
Constituent	MCL	RRS	
Acetone		4,000	356
Trichloroethene	5	5	***267***

AF-66

Date			7/17/2002	7/17/2002	7/17/2002
Depth Interval			31 - 35	36 - 40	41 - 45
Constituent	MCL	RRS			
1,2-Dichloroethene		NE	ND	ND	ND
Acetone		4,000	ND	ND	ND
Toluene	1,000	1,000	1.8 (2.2)	1.9	1.1
Trichloroethene	5	5	ND	***6***	4.2

H17-AF107

Date			12/17/2009
Depth Interval			41-45
Constituent	MCL	RRS	
Acetone		4,000	1.9 B

H17-AF103

Date			12/15/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
cis-1,3-Dichloropropene		NE	2
trans-1,3-Dichloropropene		NE	2.6

H17-MW-23D

Date			12/12/2011
Depth Interval			40 - 45
Constituent	MCL	RRS	
1,1-Dichloroethene	7	7	1.3
Chloroform	NE	100	1.7
cis-1,2-Dichloroethene	70	70	60
Trichloroethene	5	5	***460***

AF-56

Date			3/10/2001	2/10/2010
Depth Interval			19.9 - 29.9	19.9 - 29.9
Constituent	MCL	RRS		
Benzene	5	5	ND	3.2
cis-1,2-Dichloroethene	70	NE	ND	16
Trichloroethene	5	5	***303***	***1,100***

AF-53

Date			3/10/2001	11/18/2011
Depth Interval			20.0 - 30.0	20.0 - 30.0
Constituent	MCL	RRS		
1,1-Dichloroethene	7	7	4.6	ND
1,1-Dichloroethene		NE	88.8	N/A
cis-1,2-Dichloroethene	70	N/A		33
Acetone	4,000	97.3		N/A
Trichloroethene	5	5	***2,410 J***	***1,200***

AF-63

Date			7/16/2002	7/16/2002	7/16/2002	7/16/2002
Depth Interval			26 - 30	31 - 35	36 - 40	41 - 45
Constituent	MCL	RRS				
1,2-Dichloroethene		NE	4.2 (4.5)	ND	116	38.7
Acetone		4,000	ND	ND	ND	ND
Benzene	5	5	3.3	1.4	ND	ND
Ethylbenzene	700	700	ND	ND	ND	ND
Toluene	1,000	1,000	ND	ND	ND	ND
Trichloroethene	5	5	***68.7 (71.7)***	ND	***1,250***	***344***

AF-60

Date			3/10/2001
Depth Interval			20.0 - 30.0
Constituent	MCL	RRS	
Trichloroethene	5	5	3.4 (3.5)
			24.9 (26.1)

AF-43

Date			11/30/2000	11/30/2000	11/30/2000	11/30/2000
Depth Interval			29 - 34	34 - 39	39 - 44	44 - 49
Constituent	MCL	RRS				
1,1-Dichloroethene		4,000	1.3	ND	ND	ND
1,1-Dichloroethene	7	7	***12.8***	7.2	ND	ND
1,2-Dichloroethene		NE	116	68.2	9.8	3.2 (5.4)
Acetone		4,000	ND	ND	ND	ND
Trichloroethene	5	5	***2,030***	***883***	***213 J***	***40.4 (71.2)***

H17-AF102

Date			12/15/2009
Depth			41-45
Constituent	MCL	RRS	
Acetone		4,000	6.9 J
Carbon disulfide		4,000	0.37 J

AF-68

Date			12/18/2002	7/25/2006	1/23/2007	2/10/2010
Depth Interval			34.5 - 39.5	34.5 - 39.5	34.5 - 39.5	34.5 - 39.5
Constituent	MCL	RRS				
1,1-Dichloroethene	7	7	1.6	1.71	1.47	1.5
1,2-Dichloroethene		NE	64.8	84.9	67.7	ND
Benzene	5	5	ND	1.18	ND	1.7
cis-1,2-Dichloroethene	70	NE	ND	ND	ND	79
trans-1,2-Dichloroethene	100	100	ND	ND	ND	1.4
Trichloroethene	5	5	***380 J***	***540***	***373 J***	***410***

AF-52

Date			12/2/2000	12/2/2000	12/2/2000	12/2/2000	12/2/2000
Depth Interval			24 - 29	29 - 34	34 - 39	39 - 44	44 - 49
Constituent	MCL	RRS					
1,2-Dichloroethene		NE	174	6	65.2	42.7	ND
Acetone		4,000	ND	ND	ND	ND	ND
Trichloroethene	5	5	***2,120***	***34.1***	***631***	***516***	2.8 (2.9)

B159-1

Date			12/4/2002	12/4/2002	12/4/2002	12/4/2002
Depth Interval			29 - 31	34 - 36	39 - 41	44 - 46
Constituent	MCL	RRS				
Trichloroethene	5	5	ND	ND	***116***	***12.7***

AF-45

Date			12/1/2000	12/1/2000	12/2/2000	12/2/2000
Depth Interval			24 - 29	29 - 34	34 - 39	39 - 44
Constituent	MCL	RRS				
1,1-Dichloroethene	7	7	3.8 (4.4)	4.7	ND	ND
1,2-Dichloroethene		NE	270 (279)	206	15.2	5.9
Benzene	5	5	ND	ND	ND	ND
Trichloroethene	5	5	***1,230 (1,510)***	***1,490***	***101***	***48.4***

H17-MW-24

Date			1/5/2012
Depth Interval			55-65
Constituent	MCL	RRS	
All VOCs			ND

H17-MW-20D

Date			5/25/2010
Constituent	MCL	RRS	
1,1-Dichloroethene	7	7	0.94
cis-1,2-Dichloroethene	70	NE	59
trans-1,2-Dichloroethene	100	100	0.7
Trichloroethene	5	5	***280***

AF-55

Date			3/10/2001	2/10/2010
Depth Interval			24 - 34	24 - 34
Constituent	MCL	RRS		
1,1-Dichloroethene	7	7	ND	0.86 (0.9)
1,2-Dichloroethene		NE	154	ND
Acetone		4,000	3,100 J	ND
Benzene	5	5	ND	0.93 (0.94)
cis-1,2-Dichloroethene	70	NE	ND	110 (110)
trans-1,2-Dichloroethene	100	100	ND	2.3 (2.3)
Trichloroethene	5	5	***1,020***	***170 (170)***

AF-21

Date			5/7/1999	5/7/1999	5/7/1999	5/7/1999
Depth Interval			26 - 30	31 - 35	36 - 40	41 - 45
Constituent	MCL	RRS				
Benzene	5	5	***15.6***	***10.8***	***22.1***	***7***
Ethylbenzene	700	700	ND	ND	3	7.1
Toluene	1,000	1,000	ND	ND	ND	ND
Xylenes (total)	10,000	10,000	ND	ND	ND	6.2

AF-30

Date			9/26/1999	9/26/1999	9/26/1999	9/26/1999	9/26/1999
Depth Interval			26 - 30	31 - 35	36 - 40	41 - 45	46 - 50
Constituent	MCL	RRS					
1,1-Dichloroethene	7	7	2.2	ND	ND	ND	ND
1,2-Dichloroethene		NE	90.3	24.3	11.3	8.7	ND
2-Hexanone		NE	ND	ND	ND	ND	ND
Acetone		4,000	ND	ND	ND	ND	ND
Benzene	5	5	***16.2***	***11***	***6.4***	***5.5***	***6.8***
Ethylbenzene	700	700	ND	ND	ND	5.5	ND
Methylene chloride	5	5	ND	ND	ND	ND	ND
Toluene	1,000	1,000	ND	ND	ND	ND	ND
Trichloroethene	5	5	***202***	***116***	***66.5***	***64.2***	ND
Xylenes (total)	10,000	10,000	ND	ND	ND	9.3	ND

AF-40

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
Depth Interval			28.5 - 33.0	28.5 - 33.0	28.5 - 33.0	28.5 - 33.0	28.5 - 33.0	28.5 - 33.0	28.5 - 33.0	28.5 - 33.0
Constituent	MCL	RRS								
1,1-Dichloroethene	7	7	ND	1.6	ND	ND	0.89 J	1.6	ND	1.05
1,2-Dichloroethene		NE	15.4	63.3	14.6	26	ND	58.7	14.9	54.4
Acetone		4,000	ND	ND	ND	ND	1.3 J	ND	ND	ND
Benzene	5	5	***21.3***	1.3	1.8	ND	0.45 J	ND	***16.4***	ND
Ethylbenzene	700	700	3.2	ND	ND	ND	ND	ND	12.4	ND
Methylene chloride	5	5	ND	ND	ND	ND	***12.7 J***	ND	ND	ND
Toluene	1,000	1,000	ND	ND	ND	ND	ND	ND	17.5	ND
Trichloroethene	5	5	***53.3***	***33***	***43.9***	***108 J***	***205 J***	***373***	***49.4***	***207***
Xylenes (total)	10,000	10,000	8.8	ND	ND	ND	ND	ND	53.8	ND

AF-46

Date			12/2/2000
Depth Interval			28 - 30
Constituent	MCL	RRS	
1,2-Dichloroethene		NE	2.3
Trichloroethene	5	5	1.2

AF-22

Date			5/8/1999	5/8/1999
Depth Interval			26 - 30	41 - 45
Constituent	MCL	RRS		
Benzene	5	5	ND	***6.2***
Ethylbenzene	700	700	ND	ND
Toluene	1,000	1,000	0.76 J	ND

AF-41

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	2/10/2010
Depth Interval			28.5 - 33	28.5 - 33	28.5 - 33	28.5 - 33	28.5 - 33	28.5 - 33	28.5 - 33	28.5 - 33	28.5 - 33
Constituent	MCL	RRS									
1,1-Dichloroethene	7	7	ND	3	ND	ND	0.81 J	2.3	1.32	1.2	0.89
1,2-Dichloroethene		NE	35.6	110	ND	32.7	ND	76.4	81	61.3	ND
Benzene	5	5	ND	ND	ND	ND	0.15 J	ND	1.31	ND	ND
cis-1,2-Dichloroethene	70	NE	ND	ND	ND	ND	ND	ND	ND	ND	46
Ethylbenzene	700	700	ND	ND	ND	ND	ND	ND	2.14	ND	ND
Methylene chloride	5	5	ND	ND	ND	ND	***16.7***	ND	ND	ND	ND
Toluene	1,000	1,000	ND	ND	ND	ND	ND	ND	2.67	ND	ND
Trichloroethene	5	5	***130***	***636***	ND	1.2	***176***	***190 J***	***455***	***252***	***166***	***46***
Xylenes (total)	10,000	10,000	ND	ND	ND	ND	ND	ND	9.56	ND	ND

AF-51

Date			12/4/2000	12/4/2000
Depth Interval			25 - 30	40 - 45
Constituent	MCL	RRS		
1,1-Dichloroethene		4,000	ND	ND
1,1-Dichloroethene	7	7	2.3	ND
1,2-Dichloroethene		NE	11.9	ND
Benzene	5	5	ND	ND
Trichloroethene	5	5	***90.2***	2.4

AF-57

Date			3/9/2001
Depth Interval			57.8 - 62.8
Constituent	MCL	RRS	
Acetone		4,000	200 (220)
Chloroform		100	4.7 (4.7)

AF-42

Date			6/8/2001
Depth Interval			26.5 - 33.0
Constituent	MCL	RRS	
Methylene chloride	5	5	***16.6***
Trichloroethene	5	5	0.36 J

H17-MW-25D

Date			12/14/2011
Depth Interval			25 - 35
Constituent	MCL	RRS	
All VOCs			ND

H17-AF108

Date			12/17/2009
Depth Interval			41 - 45
Constituent	MCL	RRS	
Acetone		4,000	2.7 B
Carbon Disulfide		4,000	0.73 LB

AF-49

Date			12/3/2000	12/3/2000
Depth Interval			41 - 45	46 - 50
Constituent	MCL	RRS		
Toluene	1,000	1,000	3.9	3.7

1290-DPT-10

Date			10/4/2007
Depth Interval			26 - 28
Constituent	MCL	RRS	
1,1-Dichloroethene		4,000	ND
1,1-Dichloroethene	7	7	ND
1,2-Dichloroethene		NE	22.2
Acetone		4,000	7.96 J
Trichloroethene	5	5	***99.4***

1290-DPT-11

Date			1/28/2008
Depth Interval			24.0 - 26.0
Constituent	MCL	RRS	
All Constituents			ND

H17-MW-21D

Date			5/25/2010
Depth Interval			25.0 - 35.0
Constituent	MCL	RRS	
All Constituents			ND (ND)

H17-MW-27D

Date			1/5/2012
Depth Interval			25-35
Constituent	MCL	RRS	
All VOCs			ND

LEGEND

- Storm Water Drainage Canal
- Soil Boring
- Vertical Profile Boring
- Monitor Well (deep)
- Extent of TCE Impact

NOTES:
1) All concentrations are reported in micrograms per liter (5g/L).
2) Shaded results exceed the Type 1 RRS.
3) Concentrations shown are those detected above the practical quantitation limit (PQL).
4) J values are estimated.
5) NE - Not established.
6) RSS - Type 1 RSS.
7) ND - Not detected above PQL.
8) - - Not Sampled.
9) (####) - Duplicate Data.
10) Figure only shows two most recent sampling events.
11) Wells with screened intervals predominantly below 25 feet below ground surface are included in the deep zone for isoconcentration contour purposes. Other wells are included in the shallow zone.

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

0 50 100 150 200
SCALE IN FEET

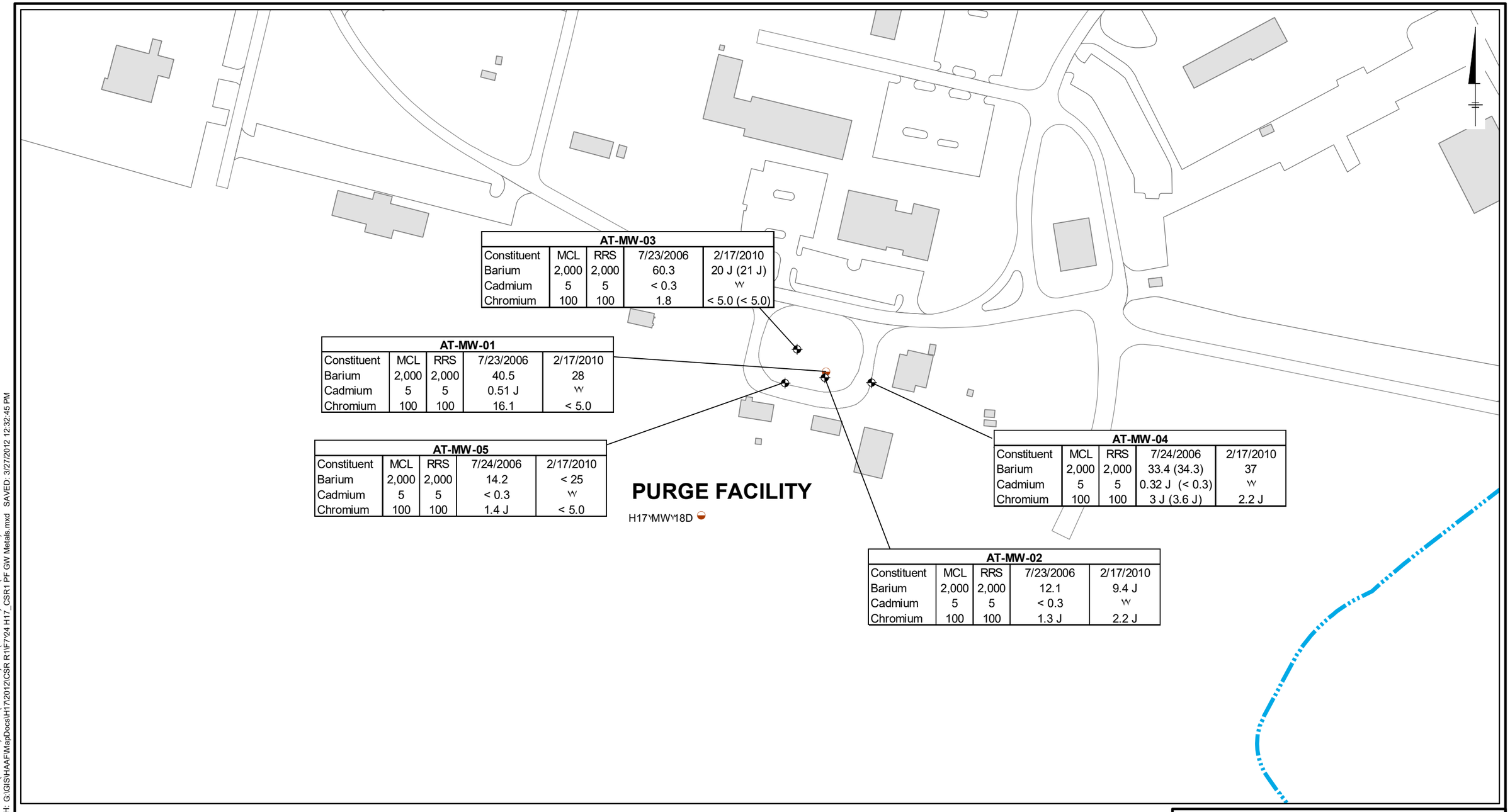
HUNTER ARMY AIRFIELD, GEORGIA

HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Deep Zone TCE Isoconcentration Contours and Concentrations of VOCs Detected in Former UST 25 and 26 Area Groundwater

ARCADIS

FIGURE **7-23B**



CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) DB/LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.BOSTIAN)
PROJECT: GP08HAFS.H17C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7\24 H17_CSR1 PF GW Metals.mxd SAVED: 3/27/2012 12:32:45 PM

LEGEND

- Monitor Well (shallow)
- Monitor Well (deep)

NOTES:
1) All concentrations are reported in micrograms per liter (. g/L).
2) Italic results indicate a maximum contaminant level (MCL Y USEPA Maximum Contaminant Level Y National Primary Drinking Water Regulations (5/2009)) exceedance.
3) Concentrations shown are those detected above the practical quantitation limit (PQL).
4) J values are estimated.
5) RSS YType 1 RSS.
6) YY Not Sampled.
7) (####) YDuplicate Data.

PROJECTION: NAD83 State Plane Georgia East
REFERENCE: SAGIS (2008).

0 160 320
SCALE IN FEET

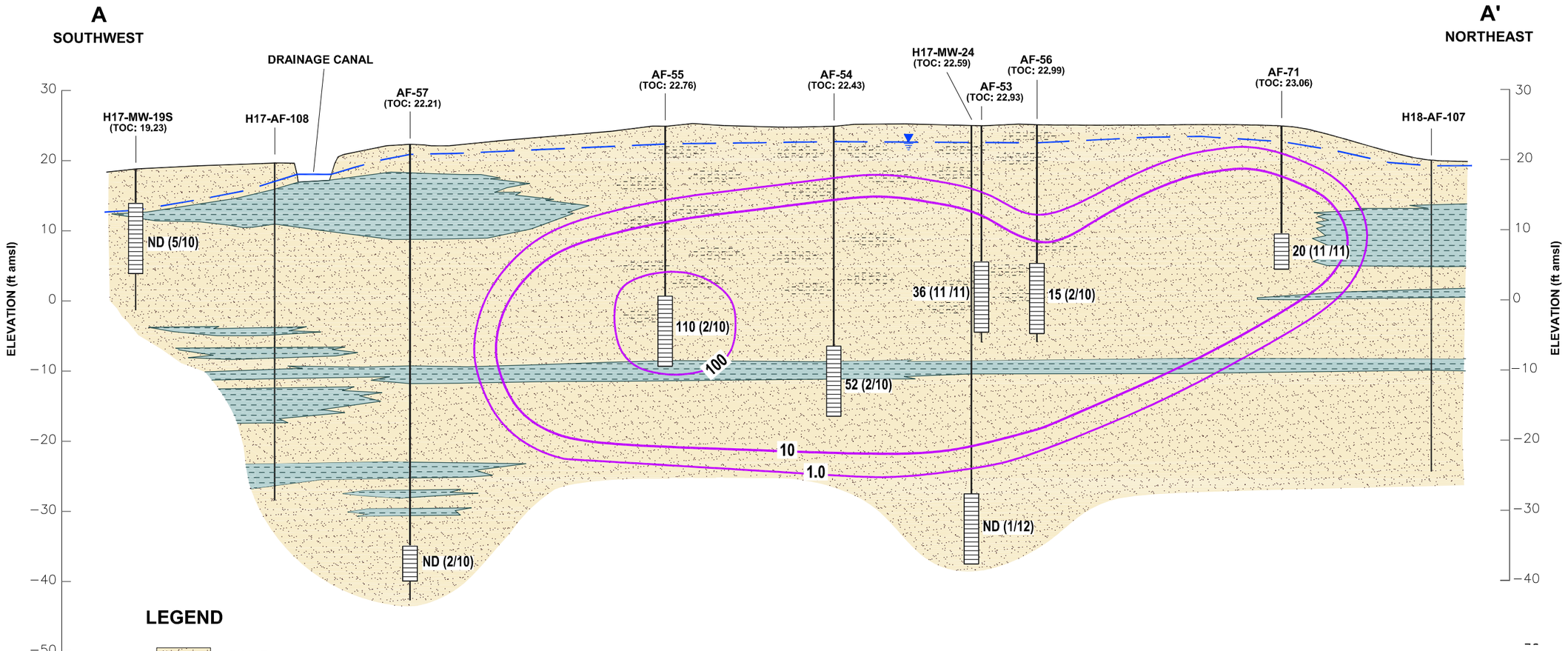
HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Concentrations of Metals Detected in Groundwater

ARCADIS

FIGURE
7-24

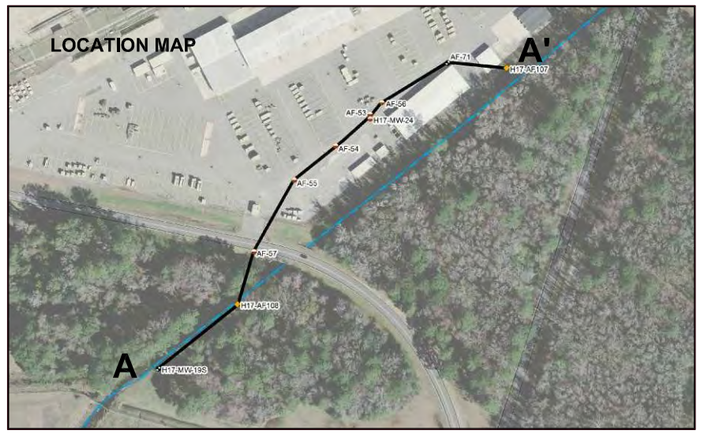
CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) DB: (B.ALTOM) LD: (B.ALTOM) PIC: (M. FENNER) PM: (C. BERTZ) APM: (S.BOSTIAN) TM: (D.WILLIS/J.FRITZELL)
G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7-1 H17_CSR1_XSECs_AA.dwg LAYOUT: A 7-3 SAVED: 1/31/2012 12:23 PM ACADVER: 18.0S (LMS TECH) PLOTSTYLETABLE: TN1_STANDARD.CTB PLOTTED: 1/31/2012 12:24 PM BY: ALTOM, BRENDA
XREFS: IMAGES: PROJECT: GP08HAFS_H17C.DBCSR
H17 XSEC AA.jpg



LEGEND

- SAND
- SILT
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- 110 (2/10) SAMPLE RESULT (DATE SAMPLED)
- −1.0− ISOCONCENTRATION CONTOUR

NOTES:
1) All concentrations reported in micrograms per liter (µg/L).
2) ND – Not Detected Above PQL.



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

cis-1,2- Dichloroethene Isoconcentrations along Geologic Cross-Section A-A'

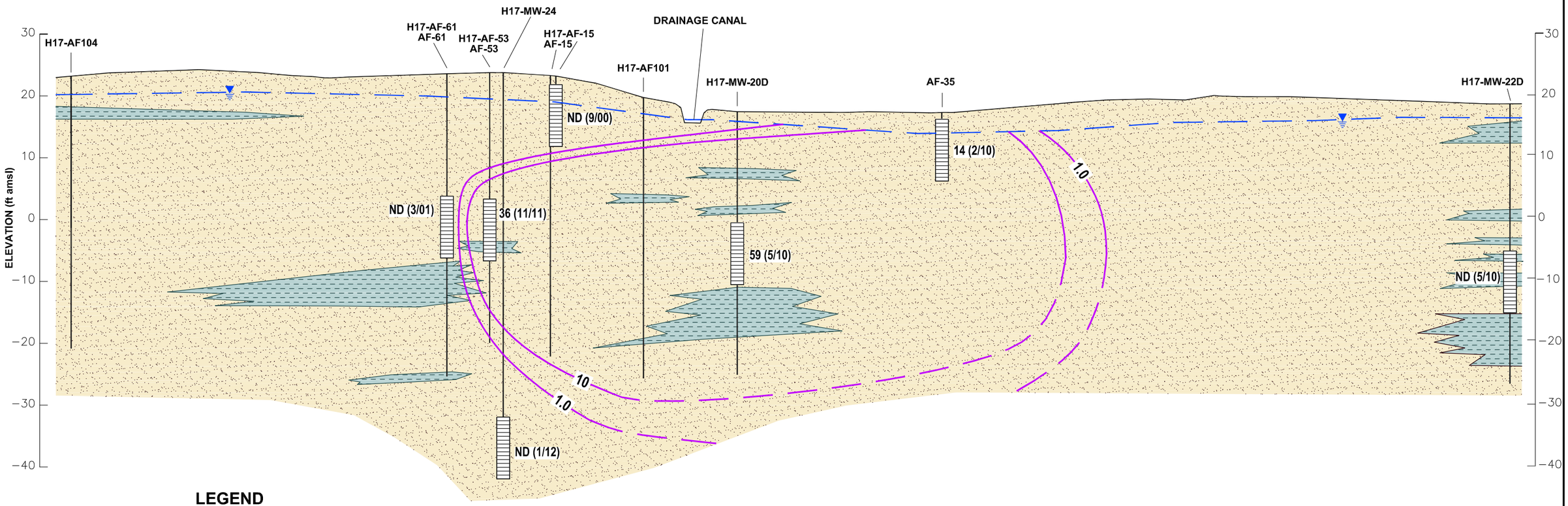
ARCADIS

FIGURE
7-3

CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) DB: (B.ALTOM) LD: (B.ALTOM) PIC: (M. FENNER) PM: (C. BERTZ) APM: (S.BOSTIAN) TM: (J.FRIZZELL)
G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7-2 H17_CSR1_XSECs_BB.dwg LAYOUT: B 7-4 SAVED: 1/31/2012 11:39 AM ACADVER: 18.0S (LMS TECH) PLOTSTYLETABLE: TN1_STANDARD.CTB PLOTTED: 1/31/2012 11:39 AM BY: ALTOM, BRENDA
XREFS: IMAGES: PROJECT: GP08HAFS_H17C.DBCSR
H17 XSEC BB.jpg

B
NORTHWEST

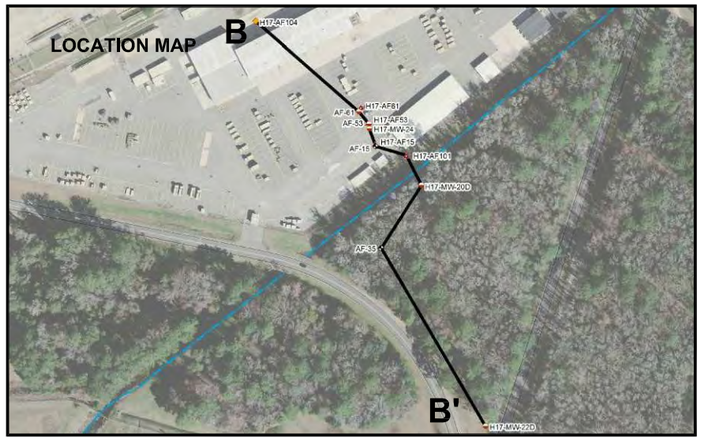
B'
SOUTHEAST



LEGEND

- SAND
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- 59 (5/10) SAMPLE RESULT (DATE SAMPLED)
- 1.0 ISOCONCENTRATION CONTOUR (INFERRED WHERE DASHED)

NOTES:
1) All concentrations reported in micrograms per liter (µg/L).
2) ND – Not Detected Above PQL.



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

cis-1,2- Dichloroethene Isoconcentrations along Geologic Cross-Section B-B'

ARCADIS

FIGURE
7-4

CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) DB: (B.ALTOM) LD: (B.ALTOM) PIC: (M. FENNER) PM: (C. BERTZ) APM: (S.BOSTIAN) TM: (D.WILLIS/J.FRITZELL)
G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7-1 H17_CSR1_XSECs_AA.dwg LAYOUT: A 7-5 SAVED: 1/31/2012 12:23 PM ACADVER: 18.0S (LMS TECH) PLOTSTYLETABLE: TN1_STANDARD.CTB PLOTTED: 1/31/2012 12:25 PM BY: ALTOM, BRENDA
XREFS: IMAGES: PROJECT: GP08HAFS_H17C.DBCSR
H17 XSEC AA.jpg

A SOUTHWEST — **A'** NORTHEAST

ELEVATION (ft amsl)

30 20 10 0 −10 −20 −30 −40 −50

DRAINAGE CANAL

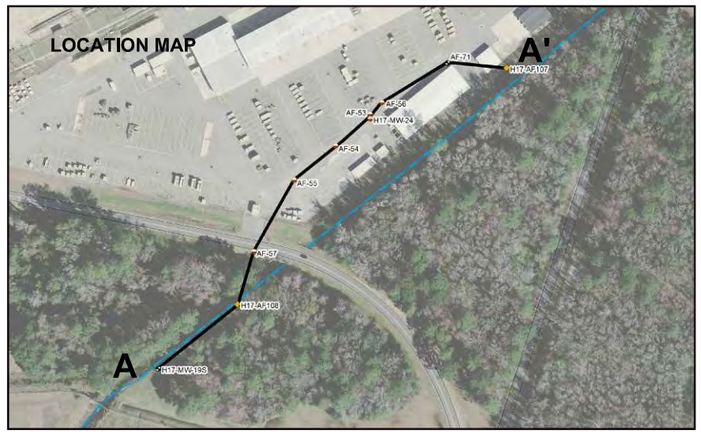
H17-MW-19S (TOC: 19.23)
H17-AF-108
AF-57 (TOC: 22.21)
AF-55 (TOC: 22.76)
AF-54 (TOC: 22.43)
H17-MW-24 (TOC: 22.59)
AF-53 (TOC: 22.93)
AF-56 (TOC: 22.99)
AF-71 (TOC: 23.06)
H18-AF-107

ND (5/10)
2.3 (2/10)
1.0
0.1
ND (2/10)
ND (11 /11)
ND (2/10)
ND (1/12)
1.2 (11 /11)
1.0
0.1
ND (2/10)

LEGEND

- SAND
- SILT
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- 2.3 (2/10) SAMPLE RESULT (DATE SAMPLED)
- 1.0 ISOCONCENTRATION CONTOUR

NOTES:
1) All concentrations reported in micrograms per liter (µg/L).
2) ND – Not Detected Above PQL.



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

trans-1,2- Dichloroethene Isoconcentrations along Geologic Cross-Section A-A'

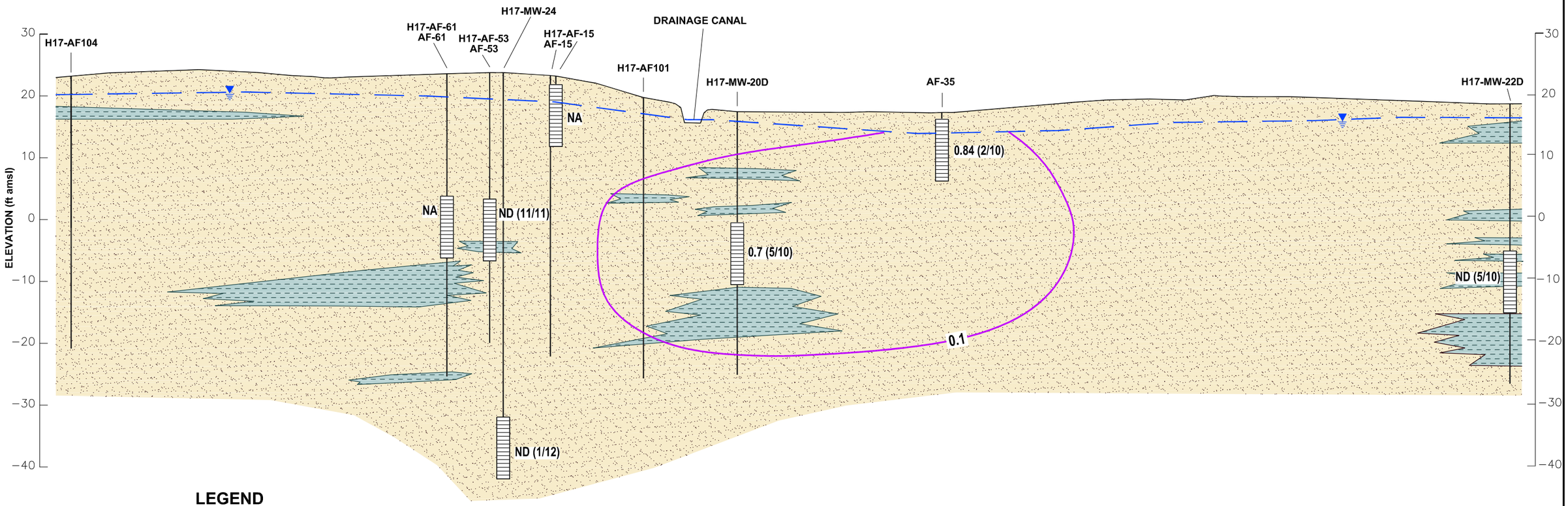
ARCADIS

FIGURE **7-5**

CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) DB: (B.ALTOM) LD: (B.ALTOM) PIC: (M. FENNER) PM: (C. BERTZ) APM: (S.BOSTIAN) TM: (J.FRIZZELL)
G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7-2 H17_CSR1_XSECs_BB.dwg LAYOUT: B 7-6 SAVED: 1/31/2012 11:26 AM ACADVER: 18.0S (LMS TECH) PLOTSTYLETABLE: TN1_STANDARD.CTB PLOTTED: 1/31/2012 11:29 AM BY: ALTOM, BRENDA
XREFS: IMAGES: PROJECT: GP08HAFS_H17C.DBCSR
H17 XSEC BB.jpg

B
NORTHWEST

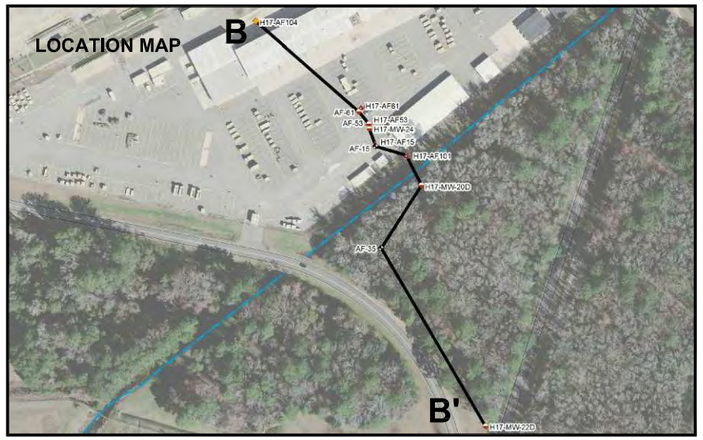
B'
SOUTHEAST



LEGEND

- SAND
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- 0.7 (5/10) SAMPLE RESULT (DATE SAMPLED)
- 0.1 ISOCONCENTRATION CONTOUR

NOTES:
1) All concentrations reported in micrograms per liter (µg/L).
2) ND – Not Detected Above PQL.
3) NA – Not Analyzed.



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

trans-1,2- Dichloroethene Isoconcentrations along Geologic Cross-Section B-B'

ARCADIS

FIGURE
7-6

CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) DB: (B.ALTOM) LD: (B.ALTOM) PIC: (M. FENNER) PM: (C. BERTZ) APM: (S.BOSTIAN) TM: (D.WILLIS/J.FRITZELL)
G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7-1 H17_CSR1_XSECs_AA.dwg LAYOUT: A 7-7 SAVED: 1/31/2012 12:25 PM ACADVER: 18.0S (LMS TECH) PLOTSTYLETABLE: TN1_STANDARD.CTB PLOTTED: 1/31/2012 12:25 PM BY: ALTOM, BRENDA
XREFS: IMAGES: PROJECT: GP08HAFS,H17C,DBCSR
H17 XSEC AA.jpg

A SOUTHWEST — **A'** NORTHEAST

ELEVATION (ft amsl)

DRAINAGE CANAL

H17-MW-19S (TOC: 19.23)
H17-AF-108
AF-57 (TOC: 22.21)
AF-55 (TOC: 22.76)
AF-54 (TOC: 22.43)
H17-MW-24 (TOC: 22.59)
AF-53 (TOC: 22.93)
AF-56 (TOC: 22.99)
AF-71 (TOC: 23.06)
H18-AF-107

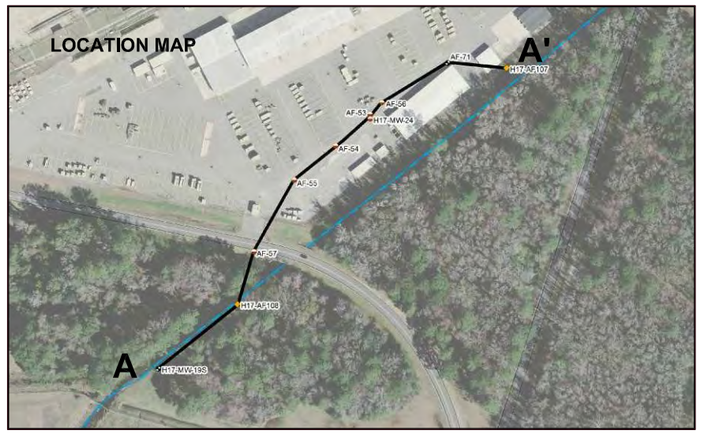
ND (5/10)
170 (2/10)
270 (2/10)
1,300 (11 /11)
1,100 (2/10)
4.8 (11 /11)
ND (1/12)
ND (2/10)

1,000
100
10
1.0

LEGEND

- SAND
- SILT
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- 170 (2/10) SAMPLE RESULT
- 1.0 ISOCONCENTRATION CONTOUR

NOTES:
1) All concentrations reported in micrograms per liter (µg/L).
2) ND – Not Detected Above PQL.



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

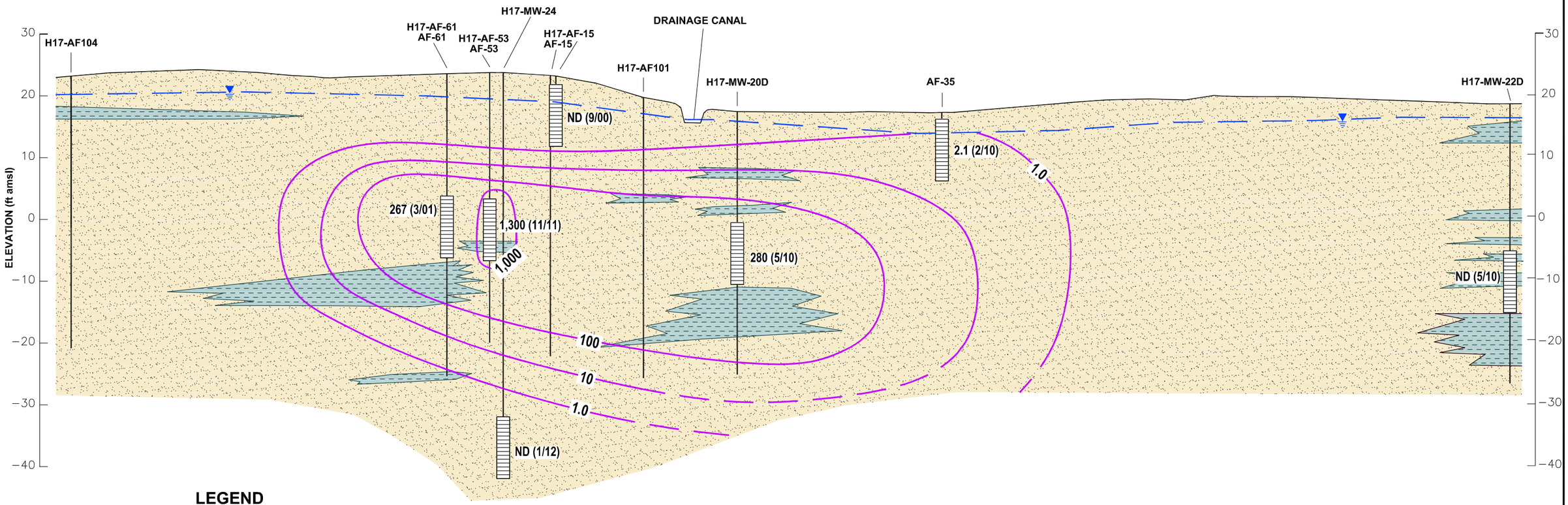
Trichloroethene Isoconcentrations along Geologic Cross-Section A-A'

ARCADIS

FIGURE
7-7

B
NORTHWEST

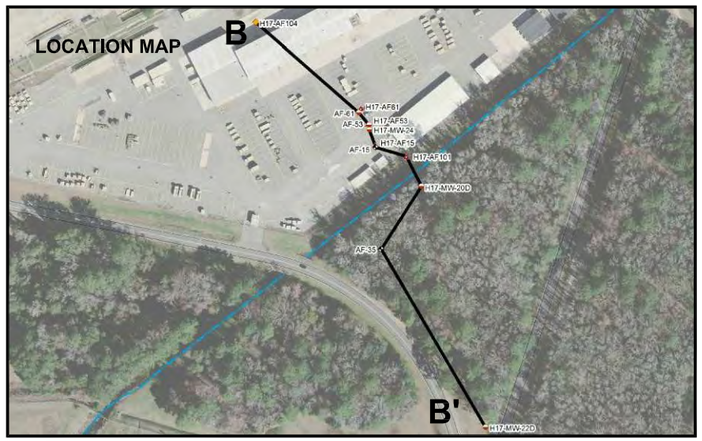
B'
SOUTHEAST



LEGEND

- SAND
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- **280 (5/10)** SAMPLE RESULT (DATE SAMPLED)
- **1.0** ISOCONCENTRATION CONTOUR (INFERRED WHERE DASHED)

NOTES:
1) All concentrations reported in micrograms per liter (µg/L).
2) ND – Not Detected Above PQL.



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

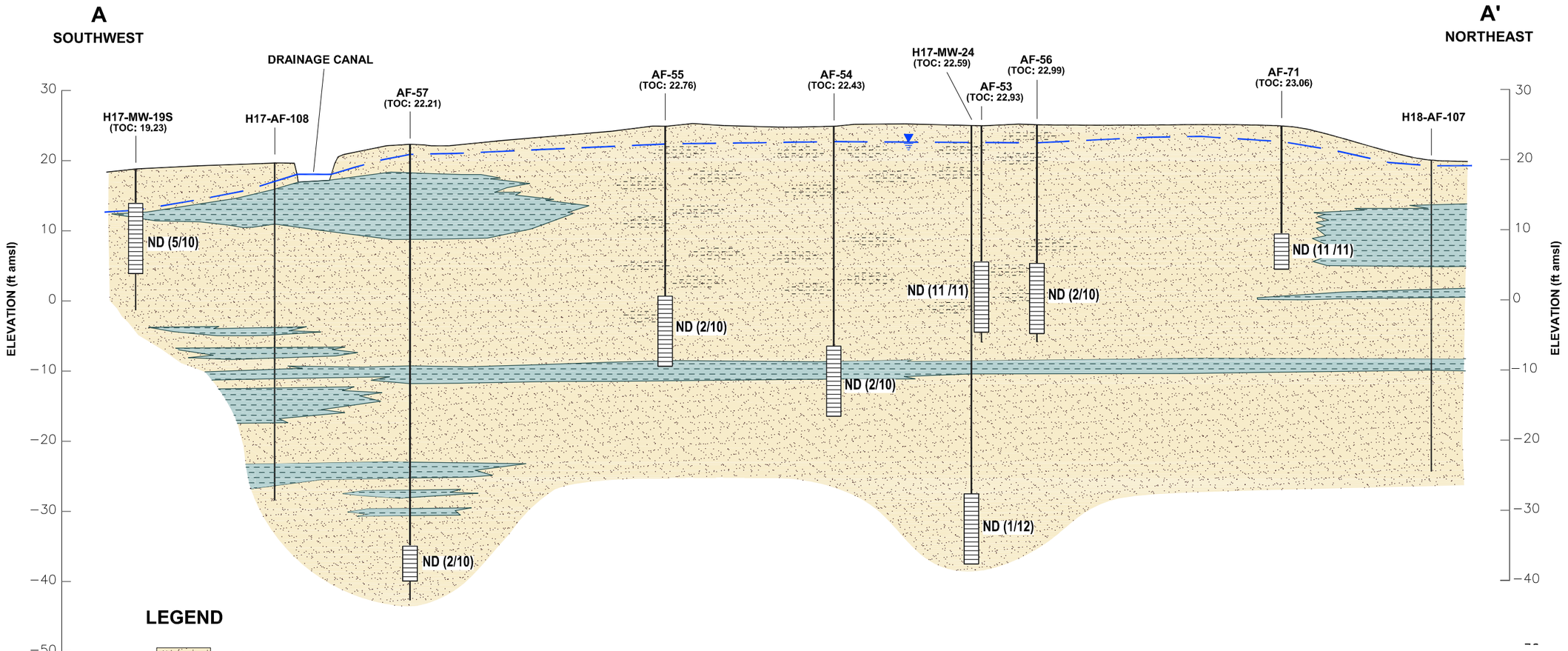
Trichloroethene Isoconcentrations along Geologic Cross-Section B-B'

ARCADIS

FIGURE
7-8

CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) DB:(B.ALTOM) LD:(B.ALTOM) PIC:(M. FENNER) PM:(C. BERTZ) APM:(S.BOSTIAN) TM:(J.FRIZZELL)
G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7-2 H17_CSR1_XSEC6_BB.dwg LAYOUT: B 7-8 SAVED: 1/31/2012 11:41 AM ACADVER: 18.0S (LMS TECH) PLOTSTYLETABLE: TN1_STANDARD.CTB PLOTTED: 1/31/2012 11:41 AM BY: ALTOM, BRENDA
XREFS: IMAGES: PROJECT: GP08HAFS,H17C,DBCSR
H17 XSEC BB.jpg

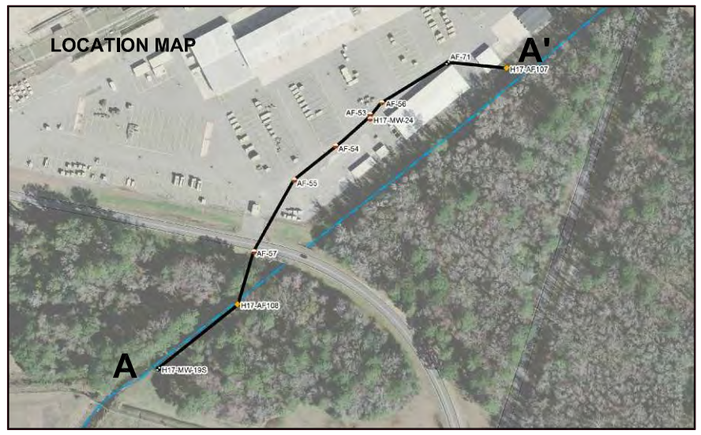
CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) DB: (B.ALTOM) LD: (B.ALTOM) PIC: (M. FENNER) PM: (C. BERTZ) APM: (S.BOSTIAN) TM: (D.WILLIS/J.FRITZELL)
G:\GIS\HAAF\MapDocs\H17\2012\CSR R1\F7-1 H17_CSR1_XSECs_AA.dwg LAYOUT: A 7-9 SAVED: 1/31/2012 12:25 PM ACADVER: 18.0S (LMS TECH) PLOTSTYLETABLE: TN1_STANDARD.CTB PLOTTED: 1/31/2012 12:26 PM BY: ALTOM, BRENDA
XREFS: IMAGES: PROJECT: GP08HAFS,H17C,DBCSR
H17 XSEC AA.jpg



LEGEND

- SAND
- SILT
- CLAY
- BOREHOLE
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- **ND (2/10)** SAMPLE RESULT (DATE SAMPLED)

NOTES:
1) All concentrations reported in micrograms per liter (µg/L).
2) ND – Not Detected Above PQL.



0 16 32
VERTICAL SCALE IN FEET

0 80 160
HORIZONTAL SCALE IN FEET

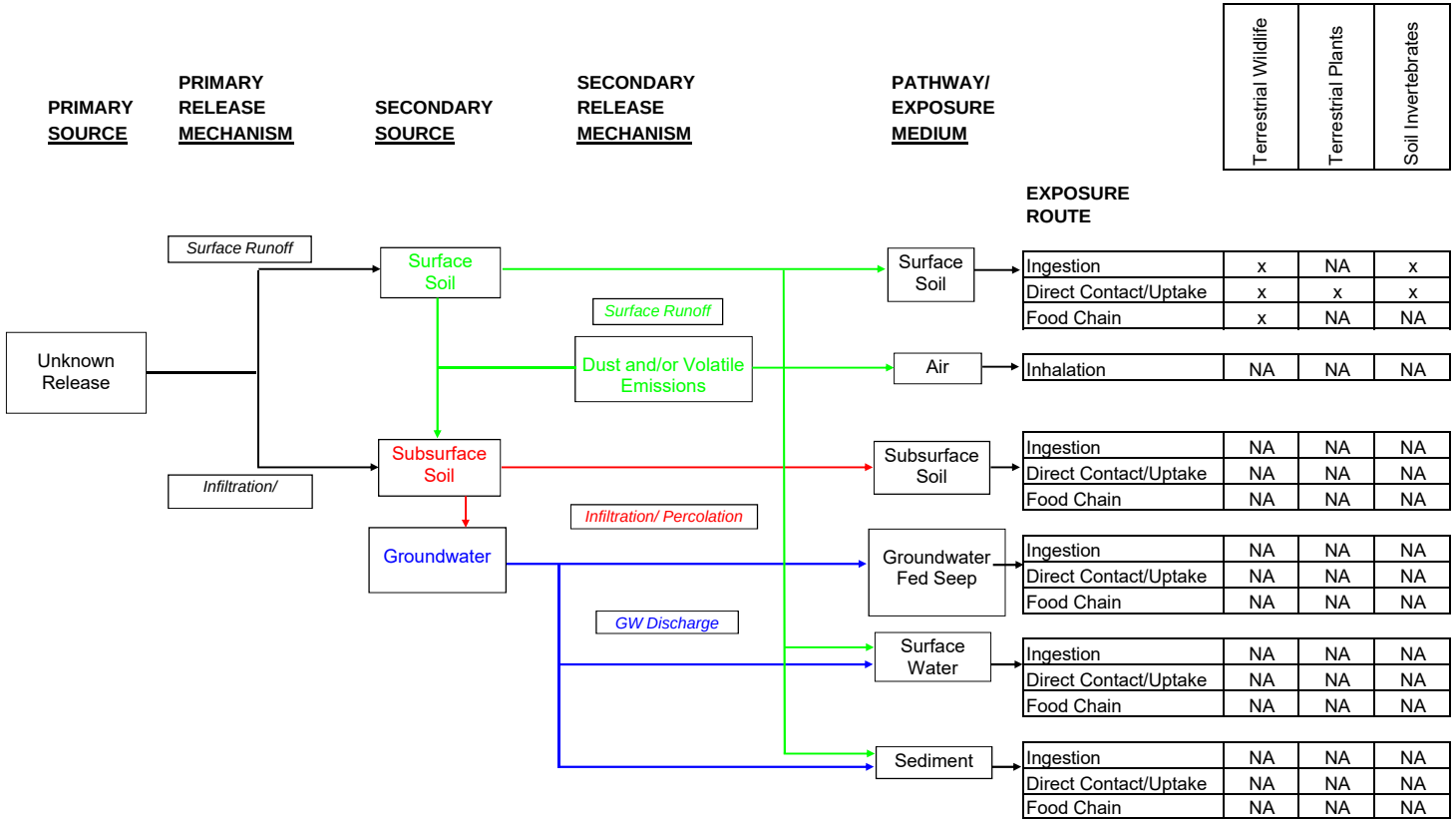
VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
HAA-17 COMPLIANCE STATUS REPORT, REVISION 1

Tetrachloroethene Isoconcentrations along Geologic Cross-Section A-A'

ARCADIS

FIGURE
7-9



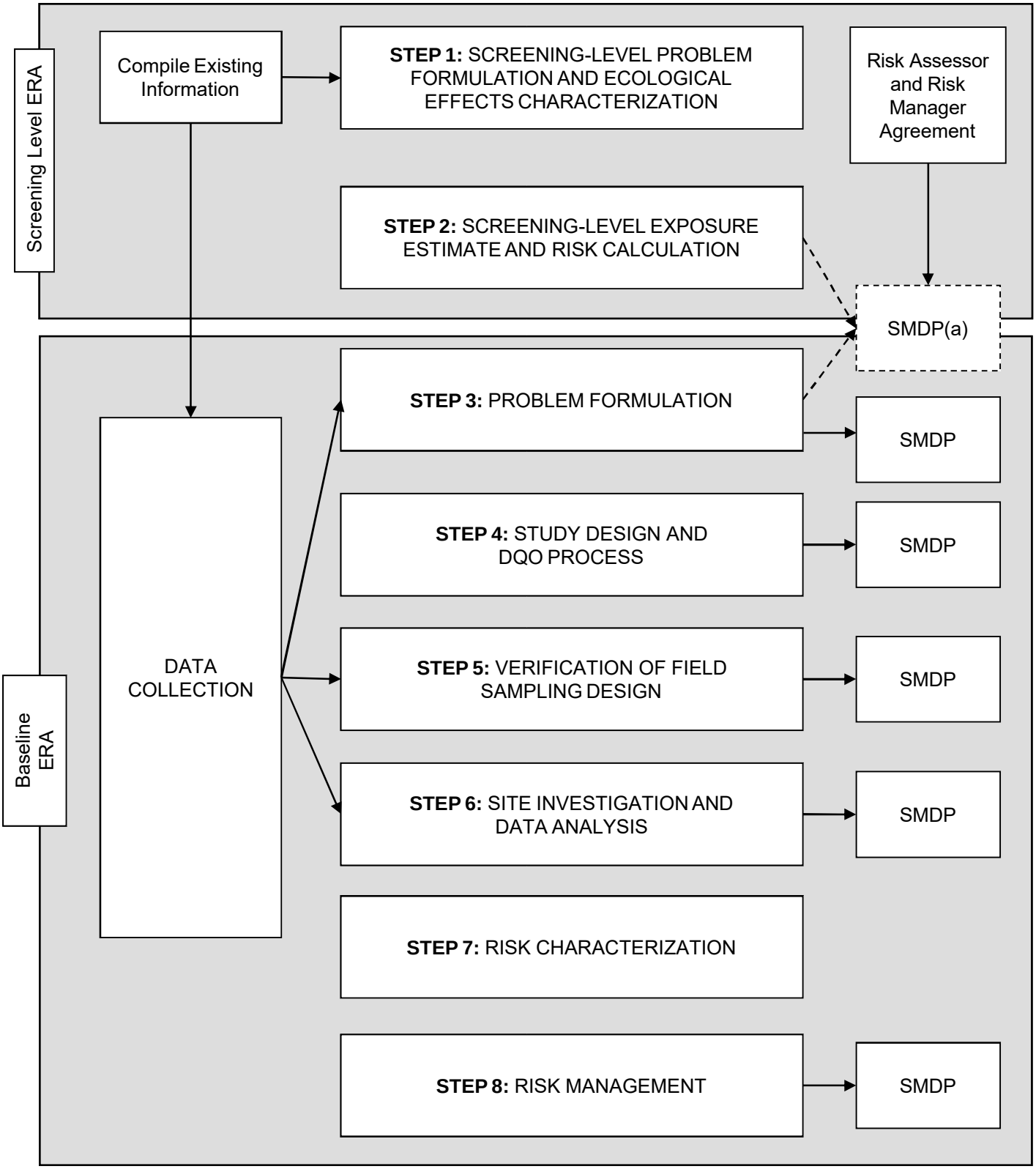
NA Pathway not applicable.
x Potential pathway.

ARCADIS

Conceptual Site Model for Potential Ecological Receptors
HAA-17 – Former USTs 25 and 26, Purge Facility and Building 12907
Hunter Army Airfield - Savannah, Georgia

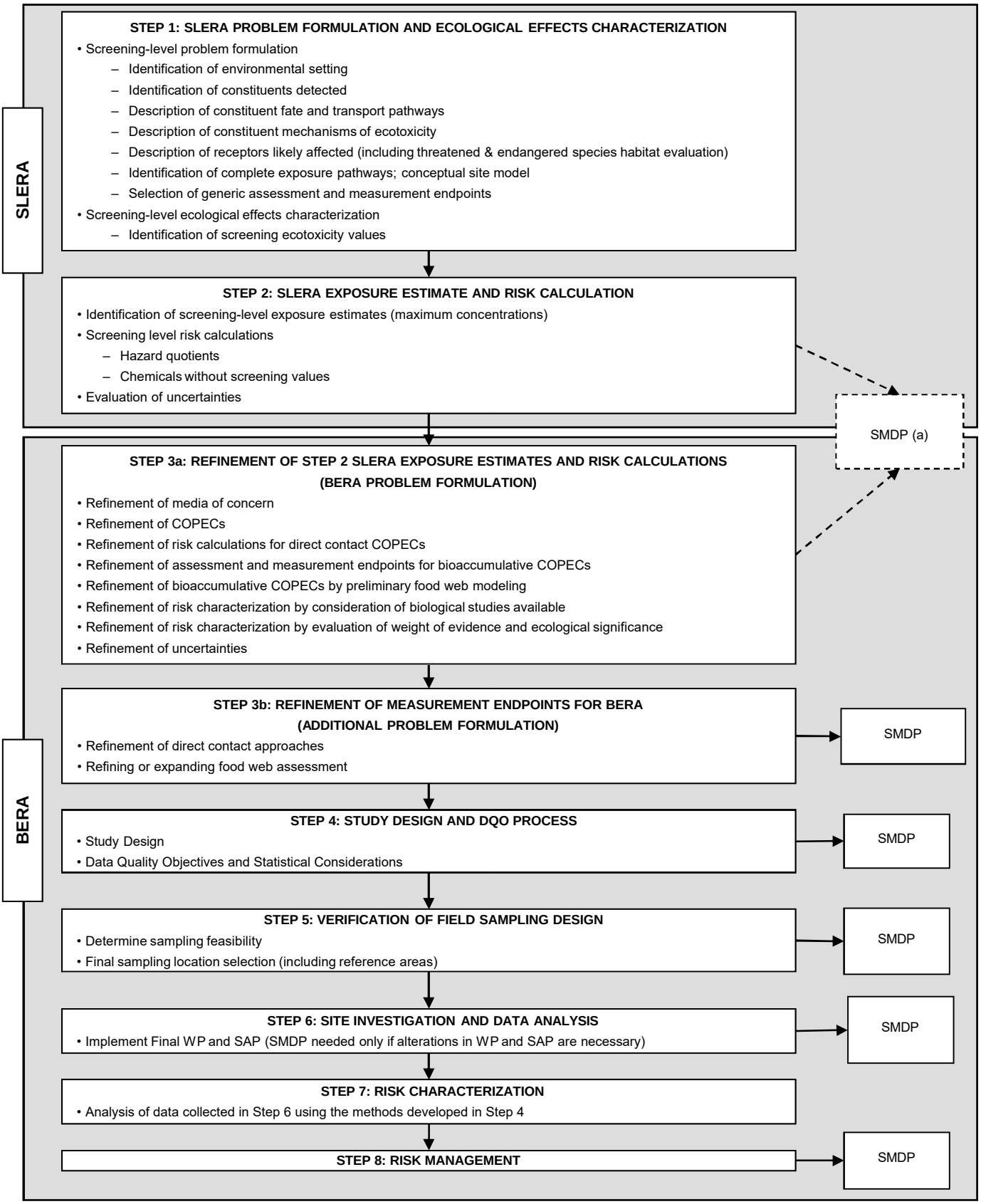
Figure 9-3

Figure 9-1
Eight-Step Ecological Risk Assessment Process



Notes:
(a) SMDP occurs EITHER after Step 2 or after Step 3a
ERA Ecological Risk Assessment
SMDP Scientific Management Decision Point
Source Adapted from USEPA 2000a

Figure 9-2
Expanded Eight-Step Ecological Risk Assessment Process



Notes:

(a) SMDP occurs EITHER after Step 2 or after Step 3a

COPECs Constituents of Potential Ecological Concern

DQO Data Quality Objectives

GW Groundwater

SAP Sampling and Analysis Plan

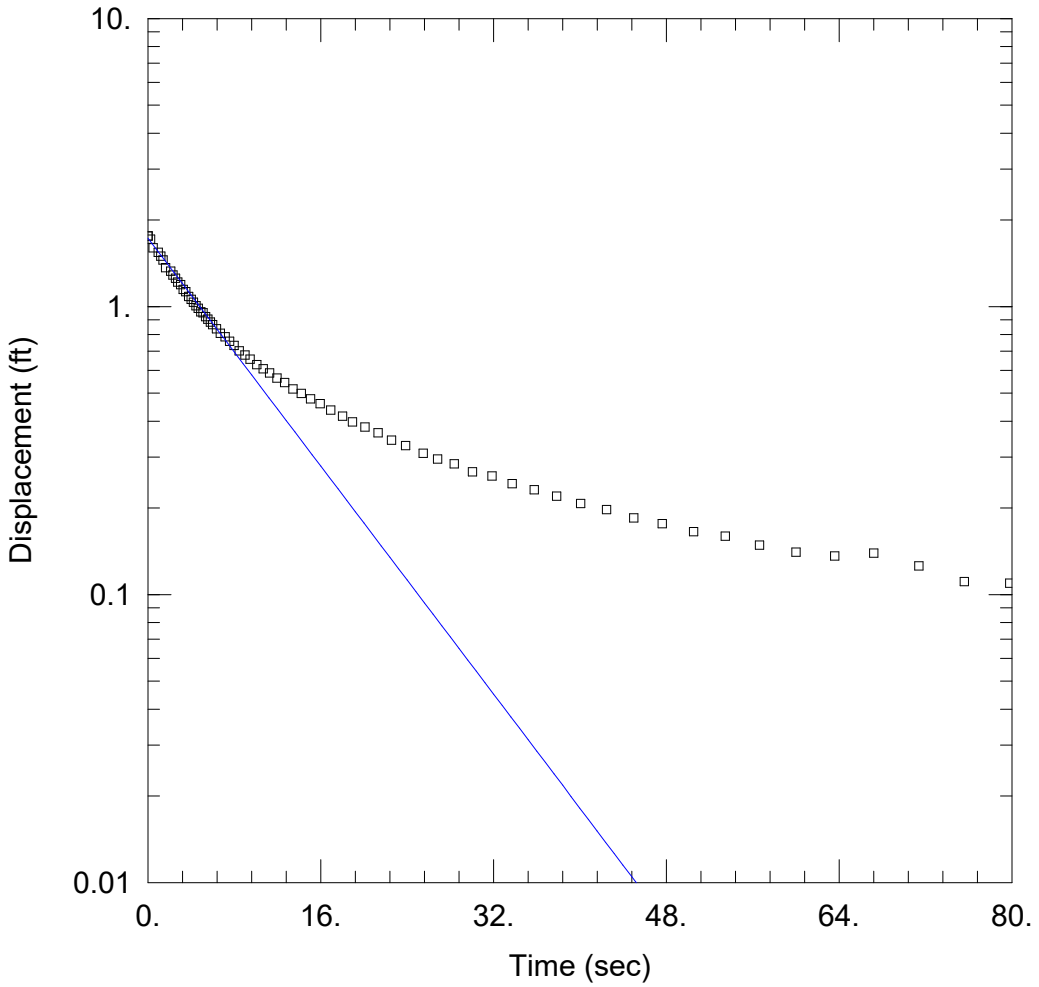
SMDP Scientific Management Decision Point

WP Work Plan

BERA Baseline ERA

SLERA Screening-level ERA

Source: Adapted from USEPA 1997 and 2000a



AF-08 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-08
Test Date: 11-4-09

AQUIFER DATA

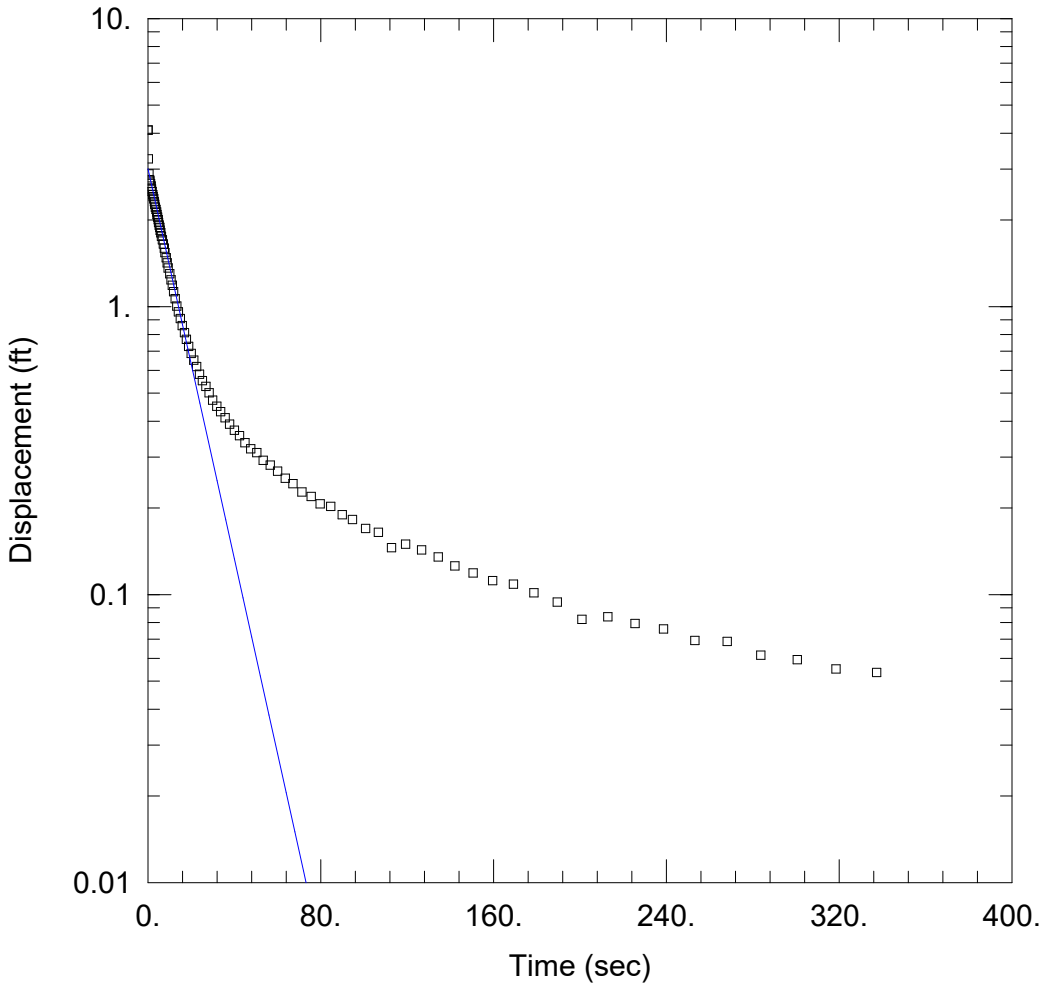
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-08)

Initial Displacement: 1.76 ft
Total Well Penetration Depth: 9.1 ft
Casing Radius: 0.02021 ft
Static Water Column Height: 8.37 ft
Screen Length: 9.1 ft
Well Radius: 0.03125 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.027E-5 ft/sec
y0 = 1.727 ft



AF-08 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-08
Test Date: 11-4-09

AQUIFER DATA

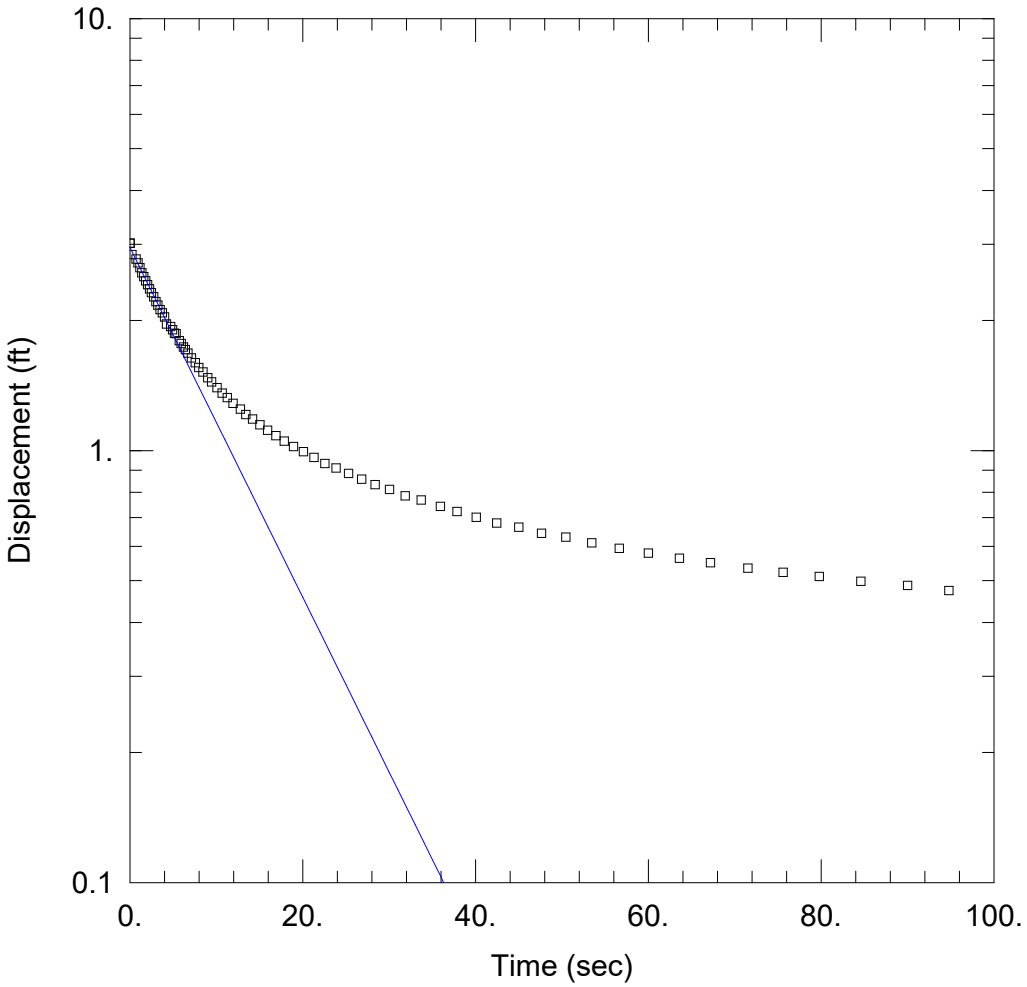
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-08)

Initial Displacement: 4.1 ft
Total Well Penetration Depth: 9.1 ft
Casing Radius: 0.02021 ft
Static Water Column Height: 8.37 ft
Screen Length: 9.1 ft
Well Radius: 0.03125 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 7.028E-6 ft/sec
y0 = 3.006 ft



AF-20 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-20
Test Date: 11-4-09

AQUIFER DATA

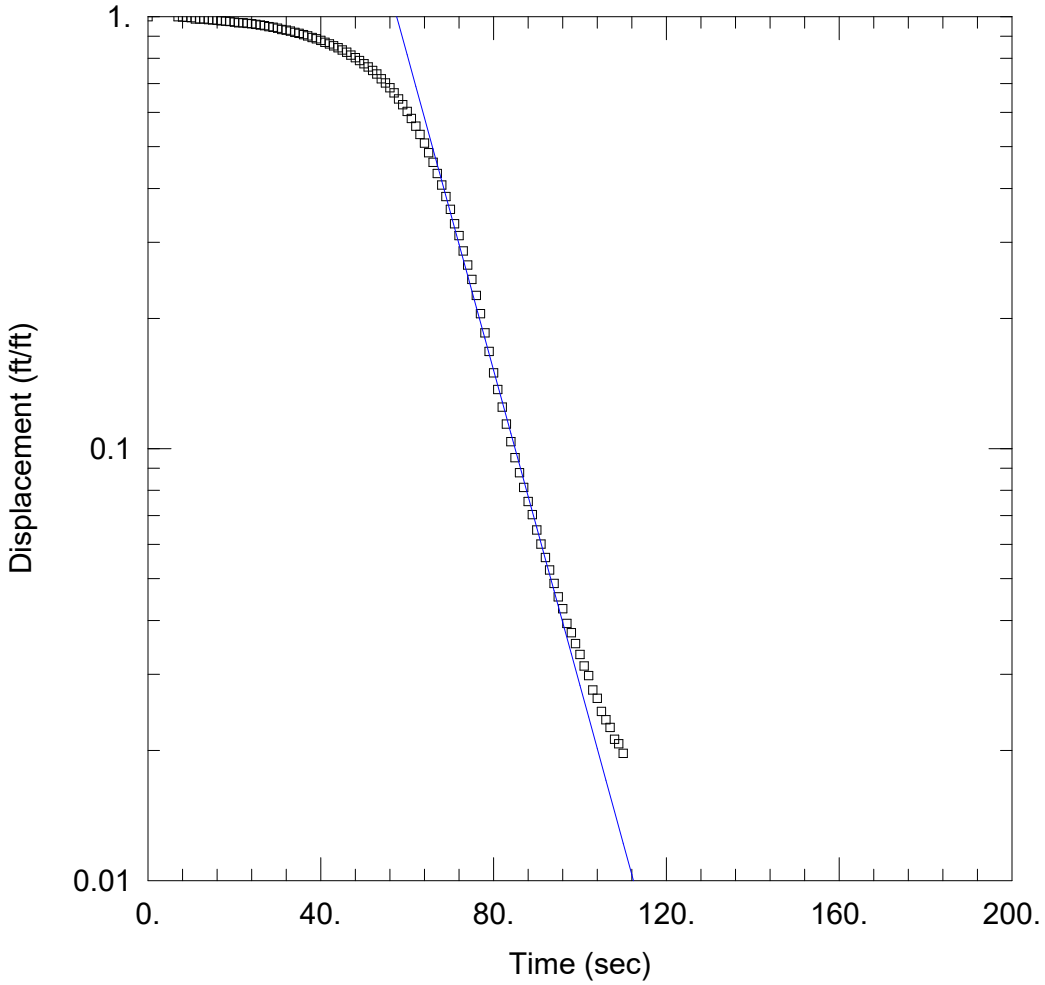
Saturated Thickness: 40. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-20)

Initial Displacement: 3.02 ft
Total Well Penetration Depth: 9.12 ft
Casing Radius: 0.02021 ft
Static Water Column Height: 8.37 ft
Screen Length: 9.12 ft
Well Radius: 0.03125 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 8.388E-6 ft/sec
y0 = 2.949 ft



AF-20 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-20
Test Date: 11-4-09

AQUIFER DATA

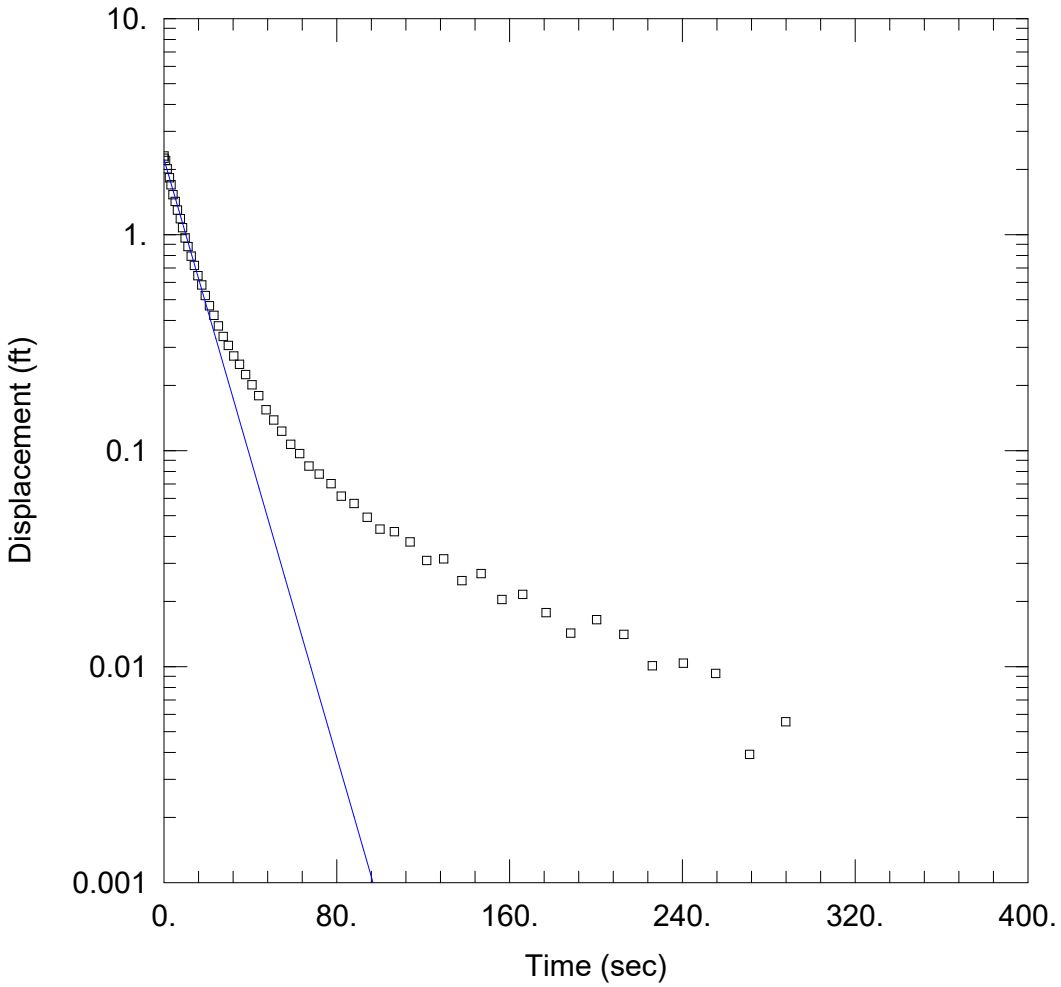
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-20)

Initial Displacement: 7.02 ft
Total Well Penetration Depth: 8.99 ft
Casing Radius: 0.02021 ft
Static Water Column Height: 8.37 ft
Screen Length: 8.99 ft
Well Radius: 0.03125 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 7.646E-6 ft/sec
y0 = 885.4 ft



AF-24 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-24
Test Date: 11-4-09

AQUIFER DATA

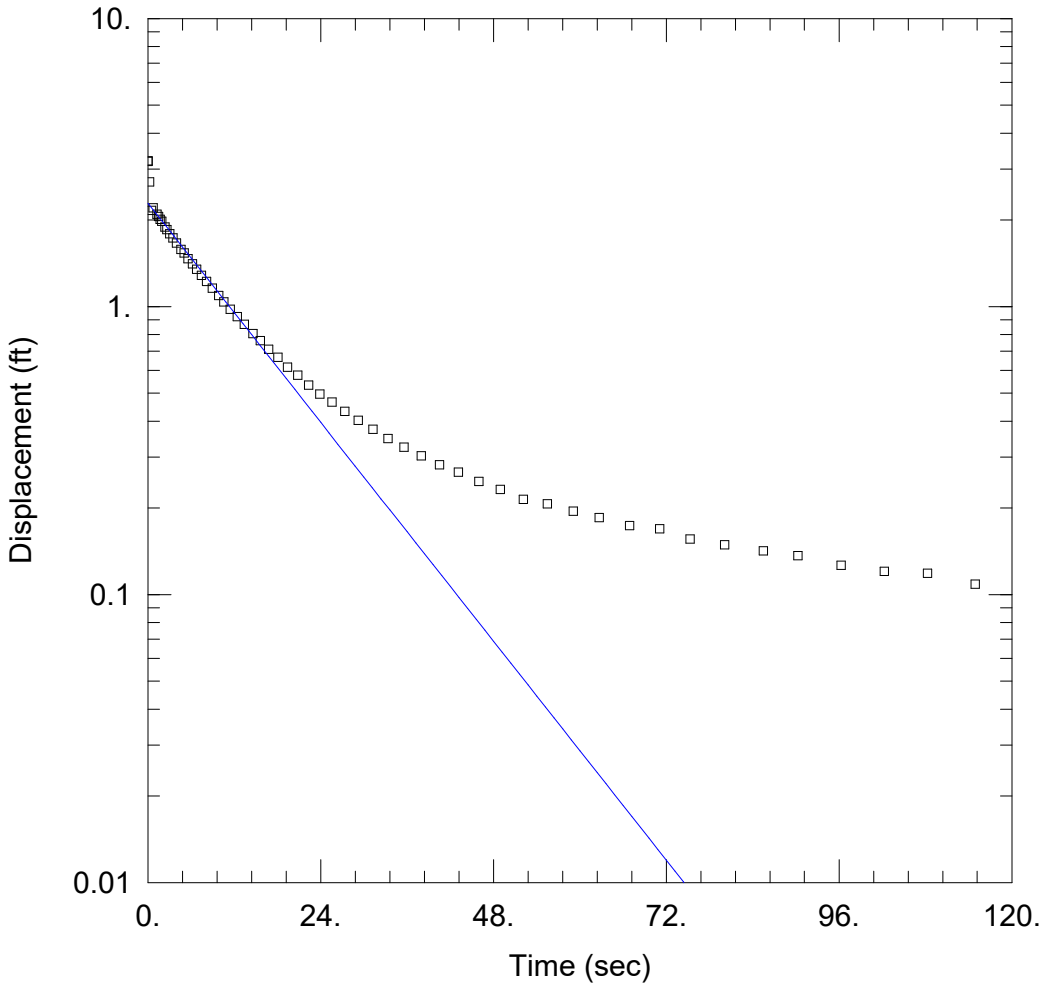
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-24)

Initial Displacement: 2.31 ft
Total Well Penetration Depth: 9.6 ft
Casing Radius: 0.02021 ft
Static Water Column Height: 9.81 ft
Screen Length: 9.6 ft
Well Radius: 0.03125 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 6.9E-6 ft/sec
y0 = 2.236 ft



AF-24 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-24
Test Date: 11-4-09

AQUIFER DATA

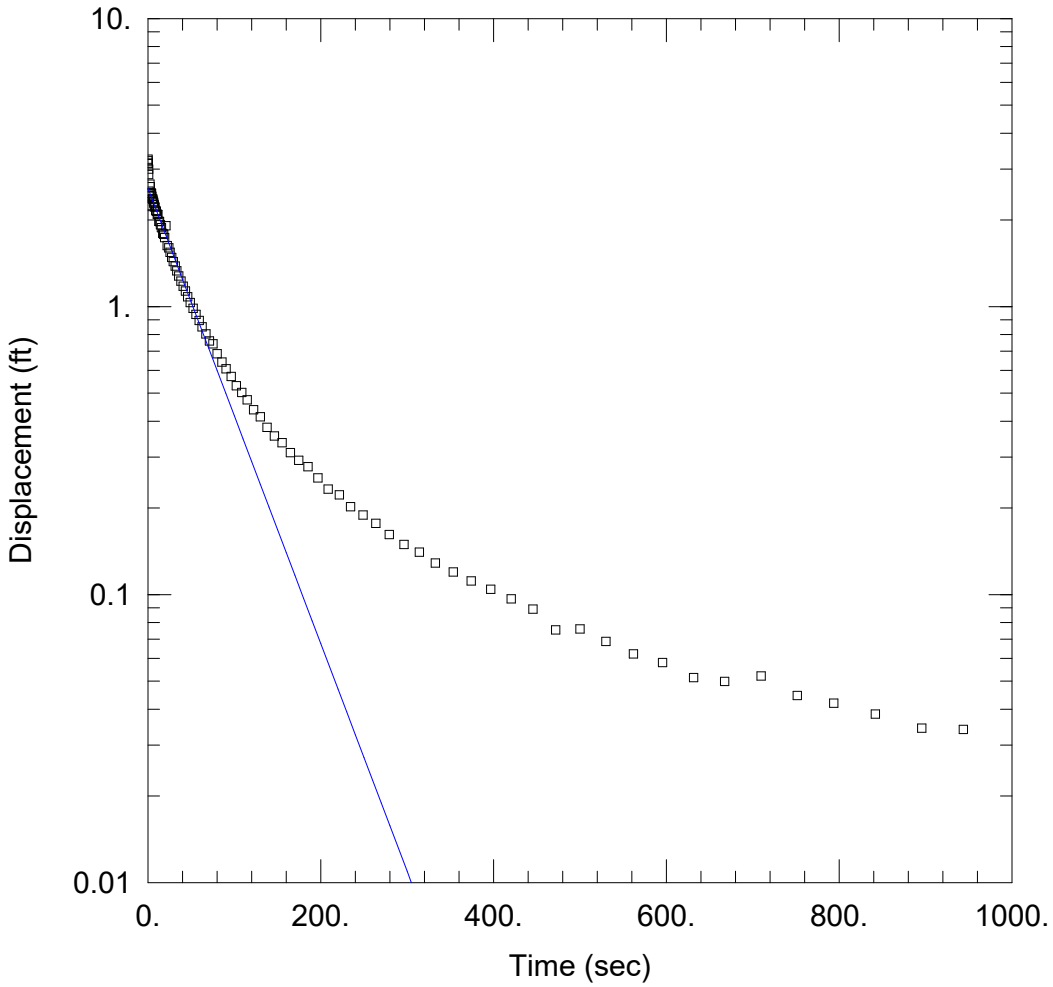
Saturated Thickness: 40. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-24)

Initial Displacement: 3.19 ft
Total Well Penetration Depth: 9.6 ft
Casing Radius: 0.02021 ft
Static Water Column Height: 9.81 ft
Screen Length: 9.6 ft
Well Radius: 0.03125 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 6.317E-6 ft/sec
y0 = 2.284 ft



AF-53 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-53
Test Date: 11-3-09

AQUIFER DATA

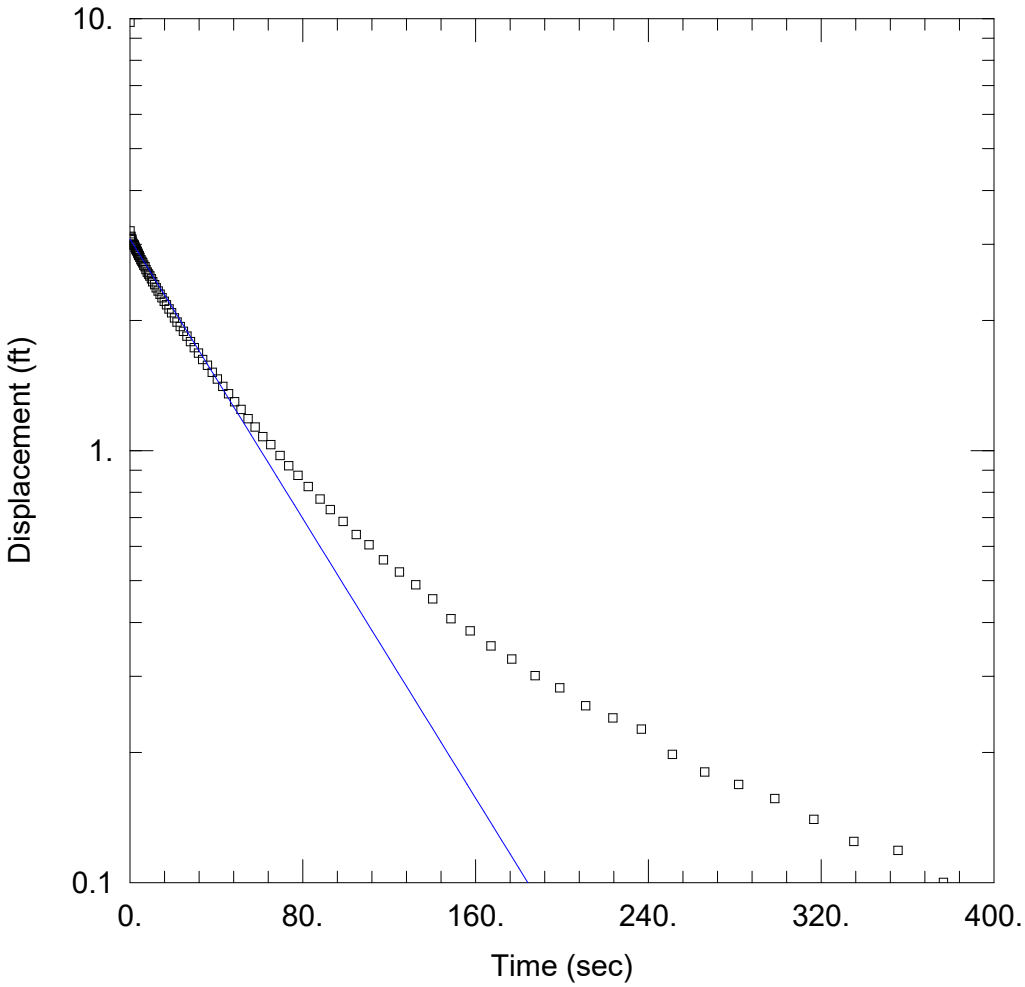
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-53)

Initial Displacement: 3.21 ft
Total Well Penetration Depth: 26.61 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 26.23 ft
Screen Length: 10. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
K = 1.857E-5 ft/sec
Solution Method: Bouwer-Rice
y0 = 2.574 ft



AF-53 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-53
Test Date: 11-3-09

AQUIFER DATA

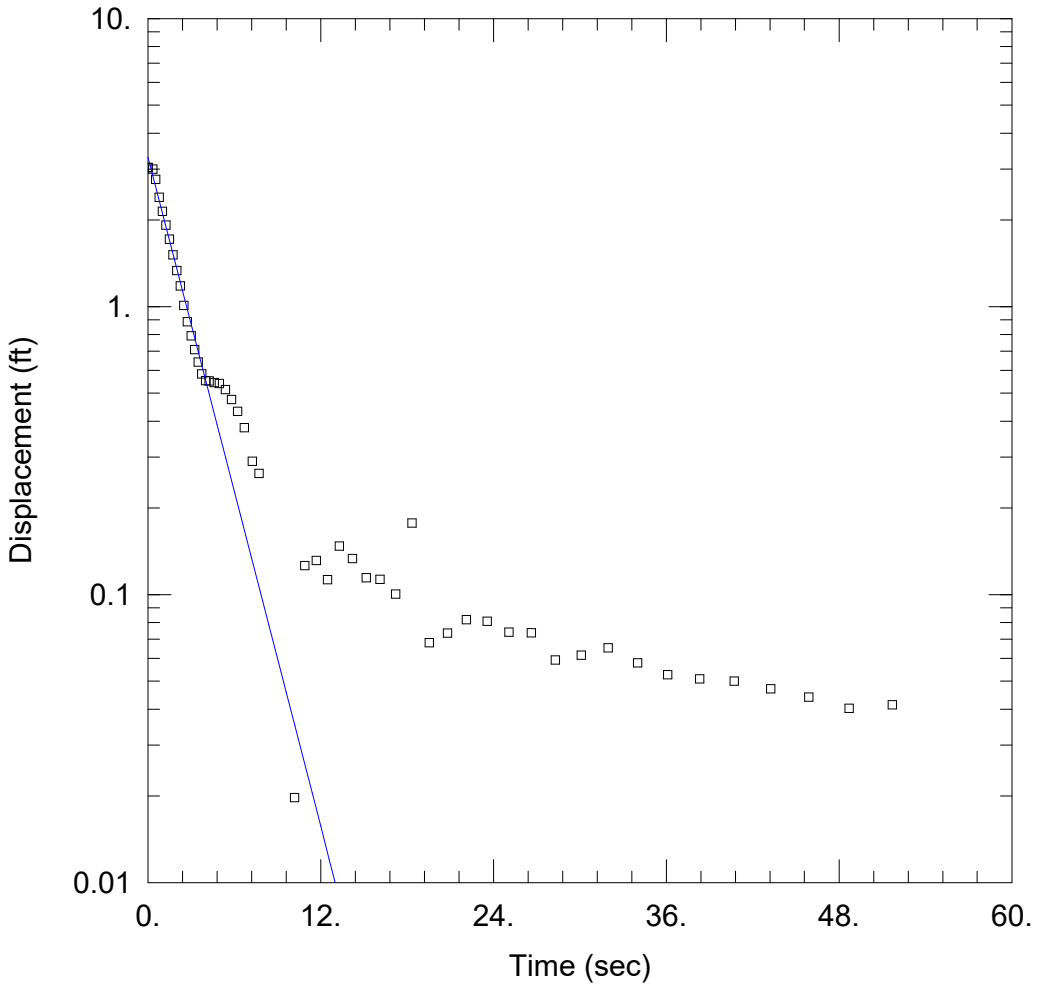
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-53)

Initial Displacement: 9.8 ft
Total Well Penetration Depth: 26.71 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 26.23 ft
Screen Length: 10. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 1.902E-5 ft/sec
y0 = 3.087 ft



AF-54 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-54
Test Date: 11-3-09

AQUIFER DATA

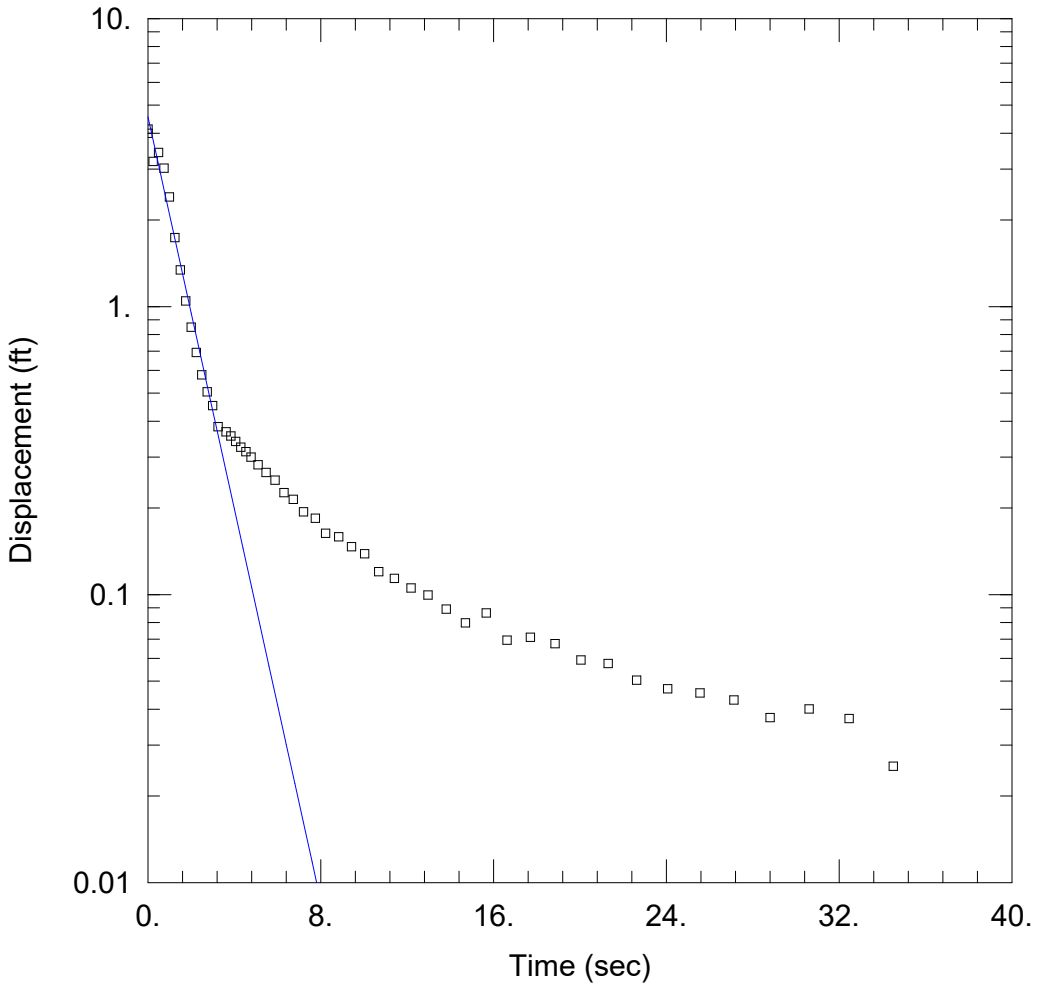
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-54)

Initial Displacement: 3.04 ft
Total Well Penetration Depth: 39.36 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 29.36 ft
Screen Length: 10. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
K = 0.0005298 ft/sec
Solution Method: Bouwer-Rice
y0 = 3.301 ft



AF-54 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-54
Test Date: 11-3-09

AQUIFER DATA

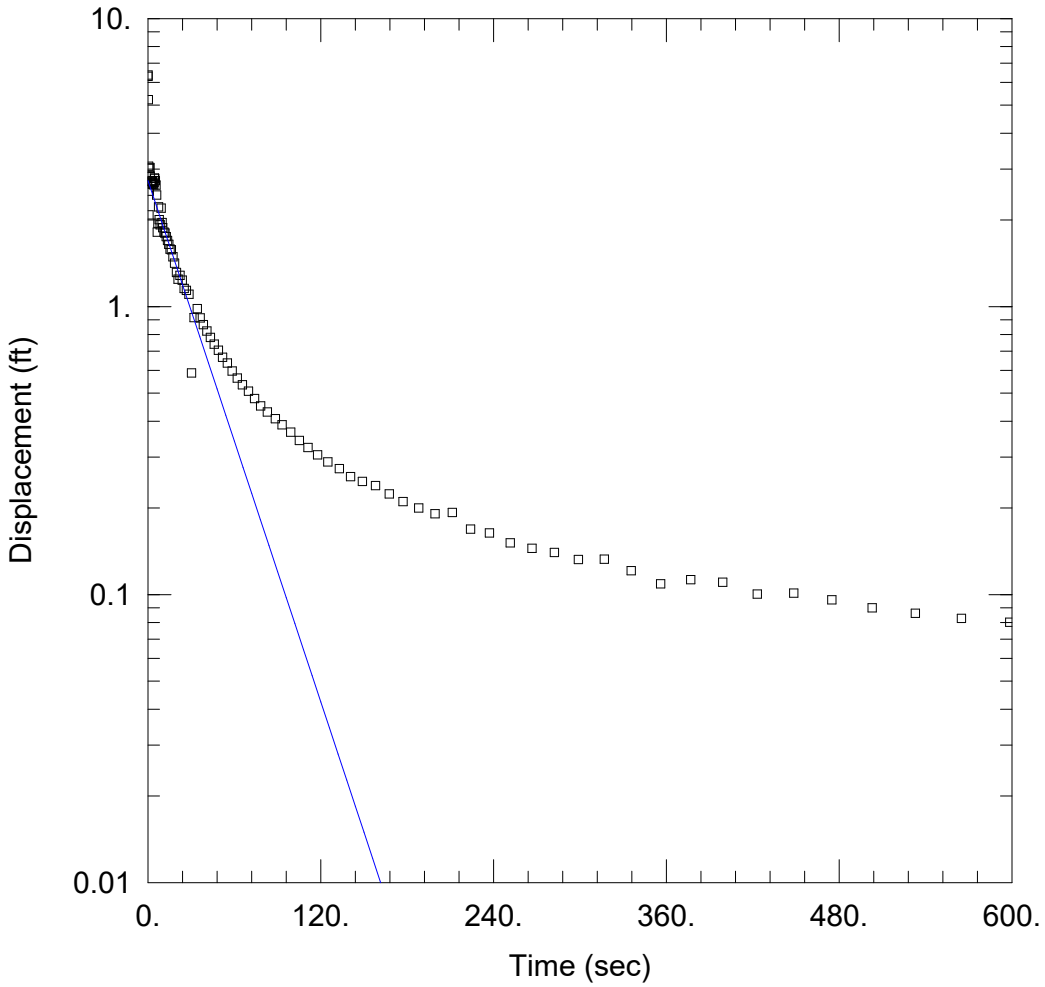
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-54)

Initial Displacement: 4.13 ft
Total Well Penetration Depth: 39.36 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 38.99 ft
Screen Length: 10. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0009321 ft/sec
y0 = 4.557 ft



AF-55 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-55
Test Date: 11-3-09

AQUIFER DATA

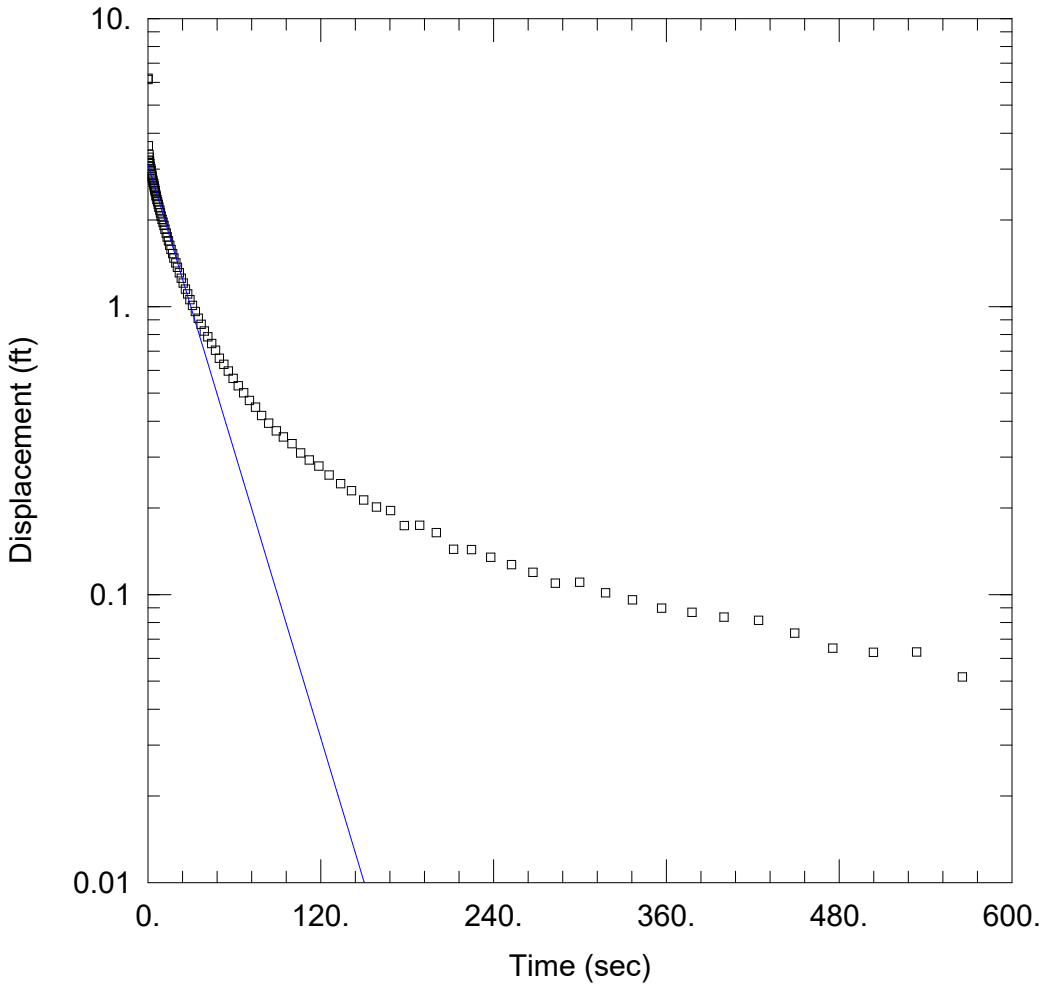
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-55)

Initial Displacement: 6.3 ft
Total Well Penetration Depth: 30.5 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 30.01 ft
Screen Length: 10. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 3.99E-5 ft/sec
y0 = 2.739 ft



AF-55 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-55
Test Date: 11-3-09

AQUIFER DATA

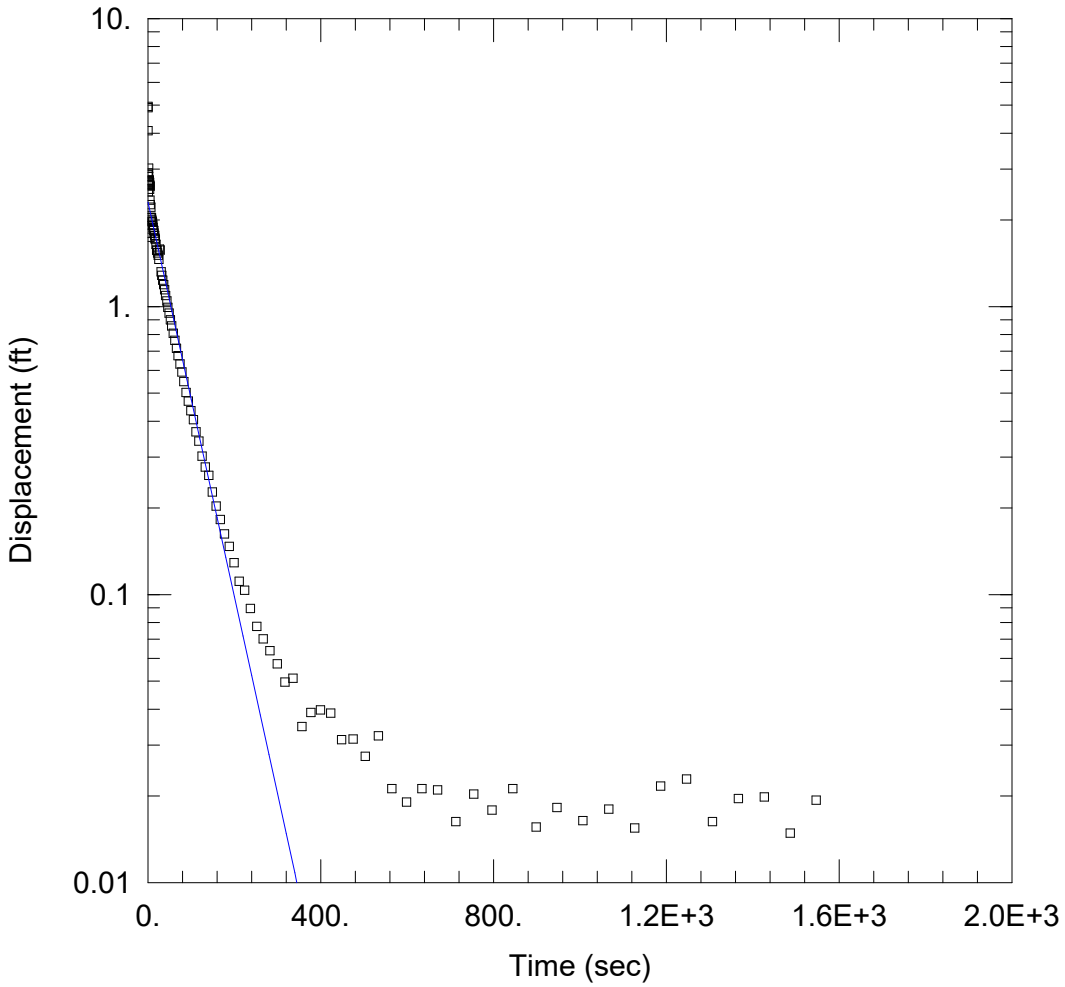
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-55)

Initial Displacement: 6.2 ft
Total Well Penetration Depth: 30.5 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 30.01 ft
Screen Length: 10. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 4.391E-5 ft/sec
y0 = 3.112 ft



AF-57 SLUG IN

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-57
Test Date: 11-3-09

AQUIFER DATA

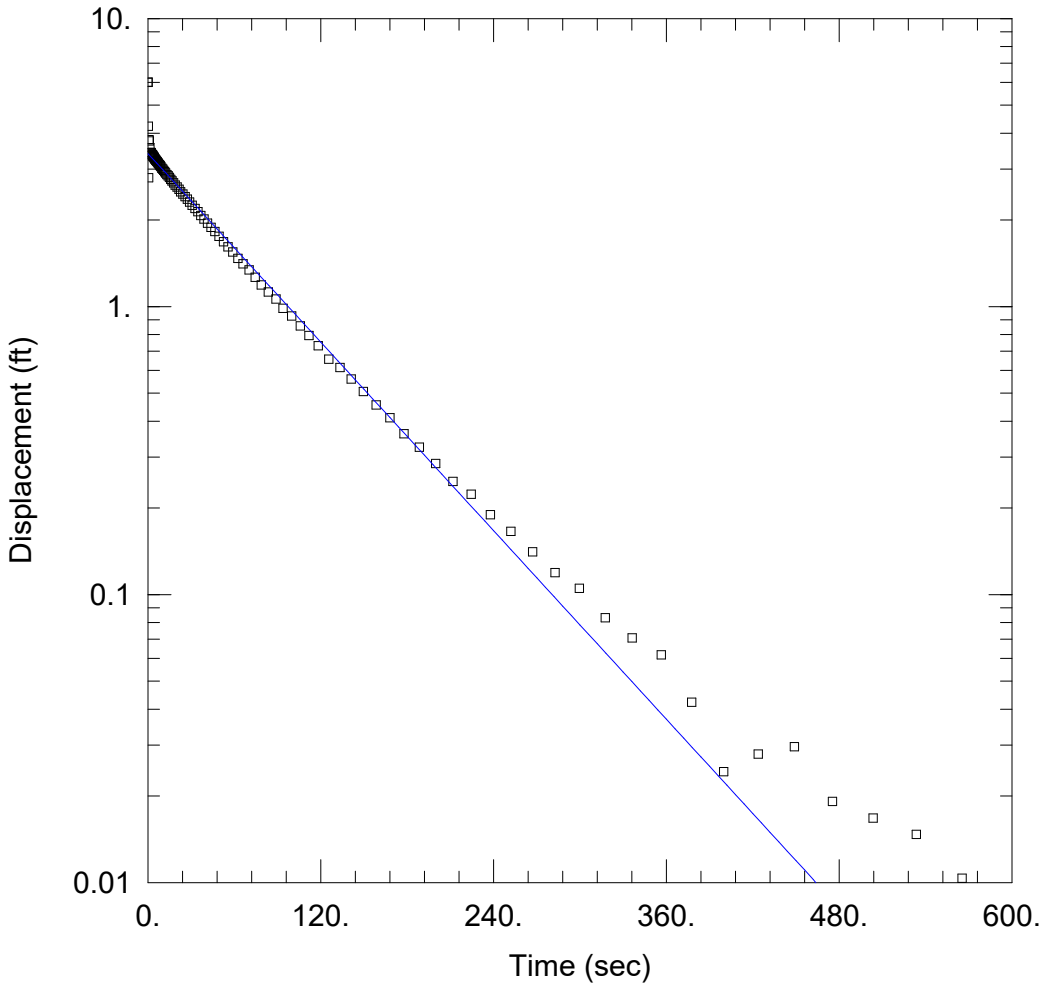
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-57)

Initial Displacement: 4.9 ft
Total Well Penetration Depth: 60.3 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 30.01 ft
Screen Length: 5. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 3.801E-5 ft/sec
y0 = 2.307 ft



AF-57 SLUG OUT

PROJECT INFORMATION

Company: ARCADIS
Client: Hunter Air Base
Project: GP08HAFS.H17A
Location: Savannah, GA
Test Well: AF-57
Test Date: 11-3-09

AQUIFER DATA

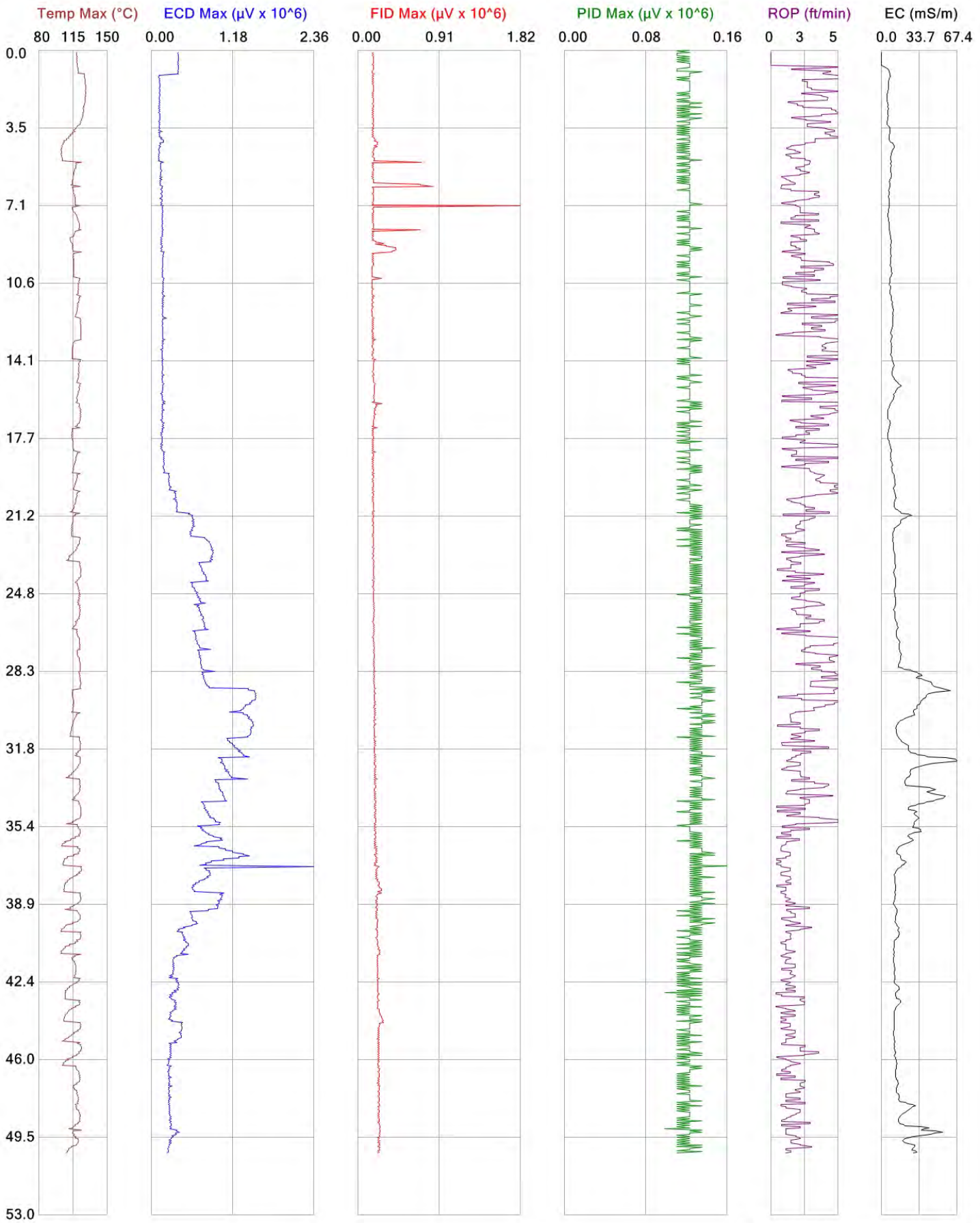
Saturated Thickness: 30. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (AF-57)

Initial Displacement: 6. ft
Total Well Penetration Depth: 60.28 ft
Casing Radius: 0.07229 ft
Static Water Column Height: 30.01 ft
Screen Length: 5. ft
Well Radius: 0.0833 ft

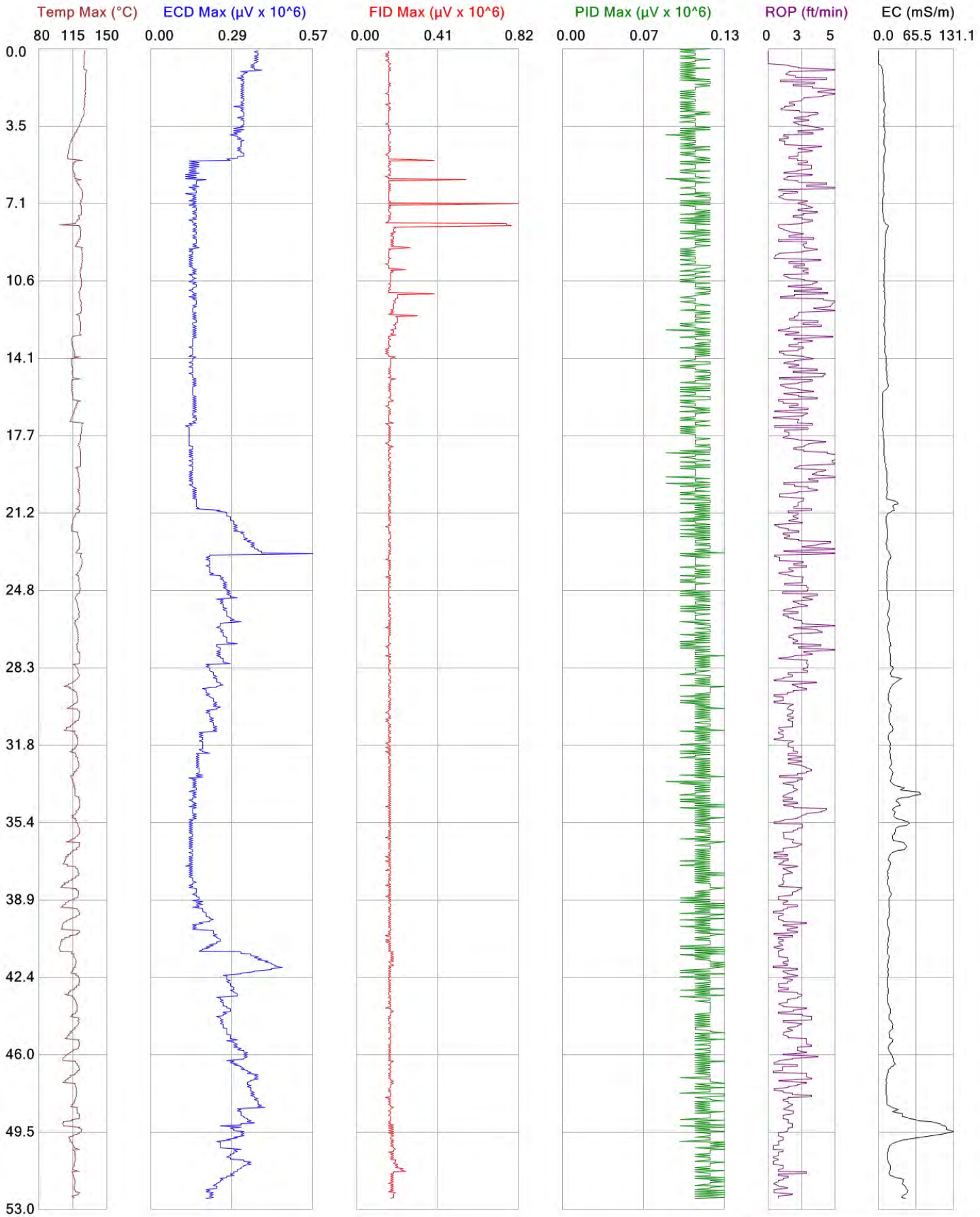
SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 3.143E-5 ft/sec
y0 = 3.397 ft



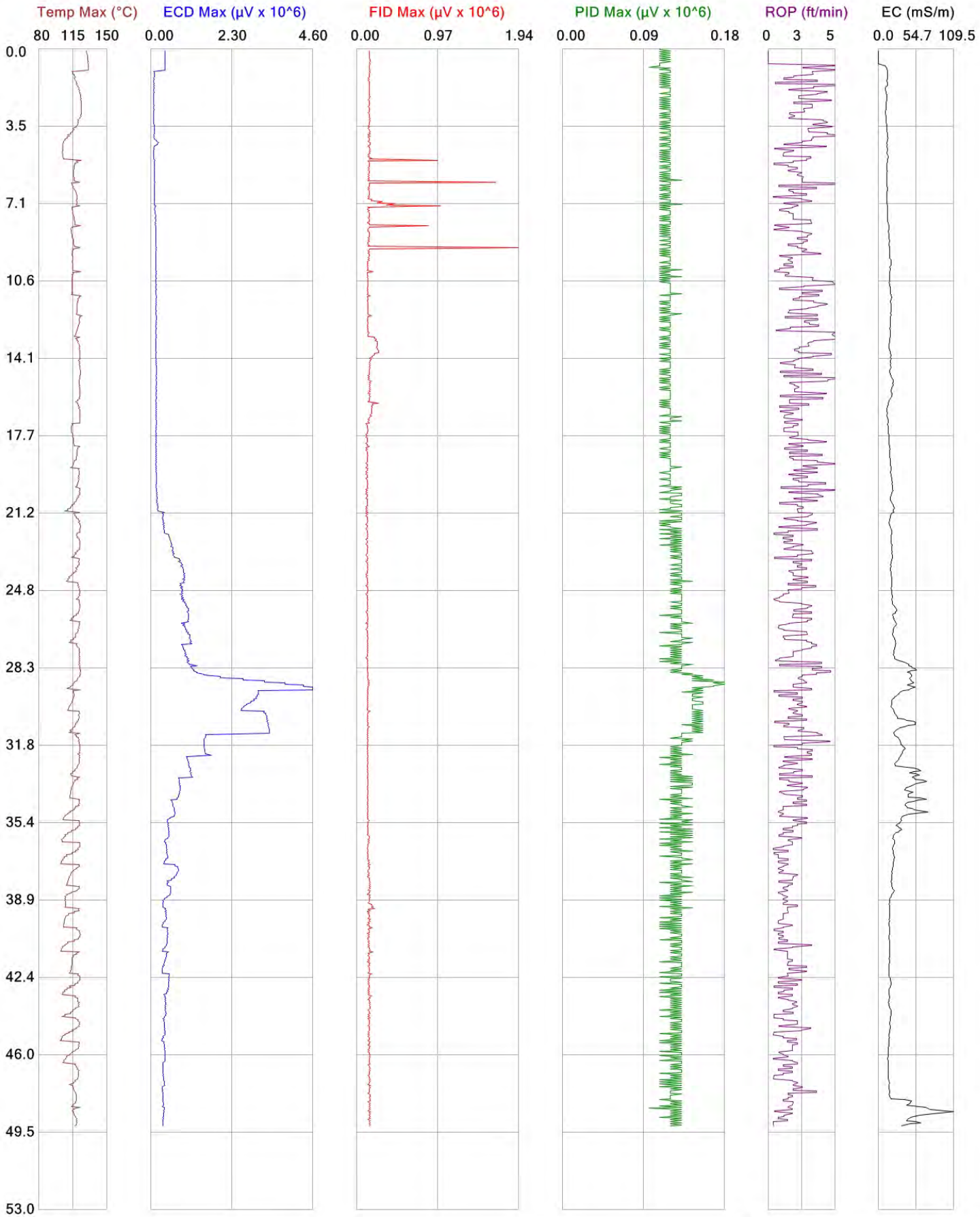
COLUMBIA TECHNOLOGIES

	File: M-AF-01
Client: ARCADIS	Date: 11/10/2009
Project ID: Hunter Army Air Field Area 17	Location:



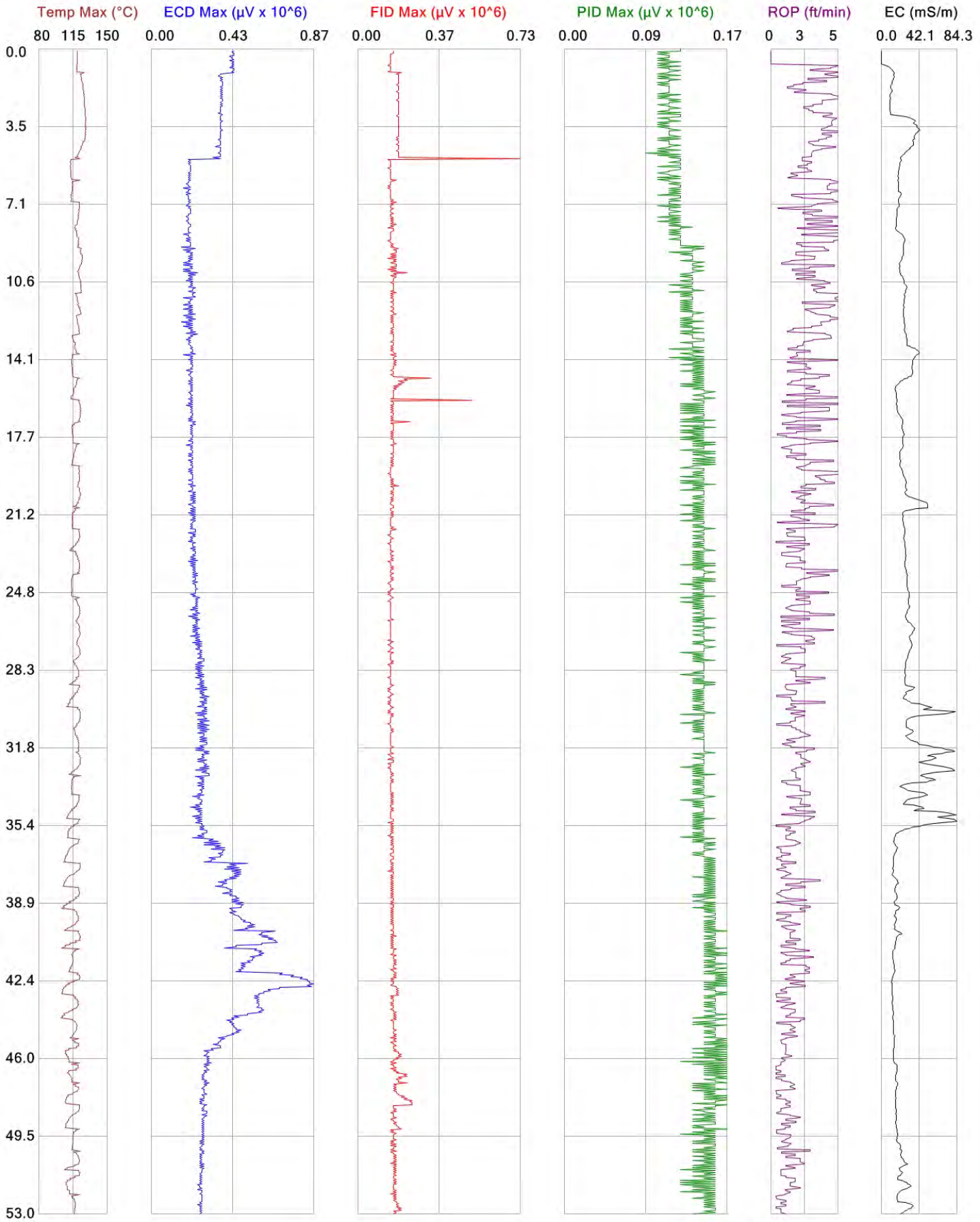
COLUMBIA TECHNOLOGIES

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Client: ARCADIS	Date: 11/11/2009
Project ID: Hunter Army Air Field Area 17	Location:



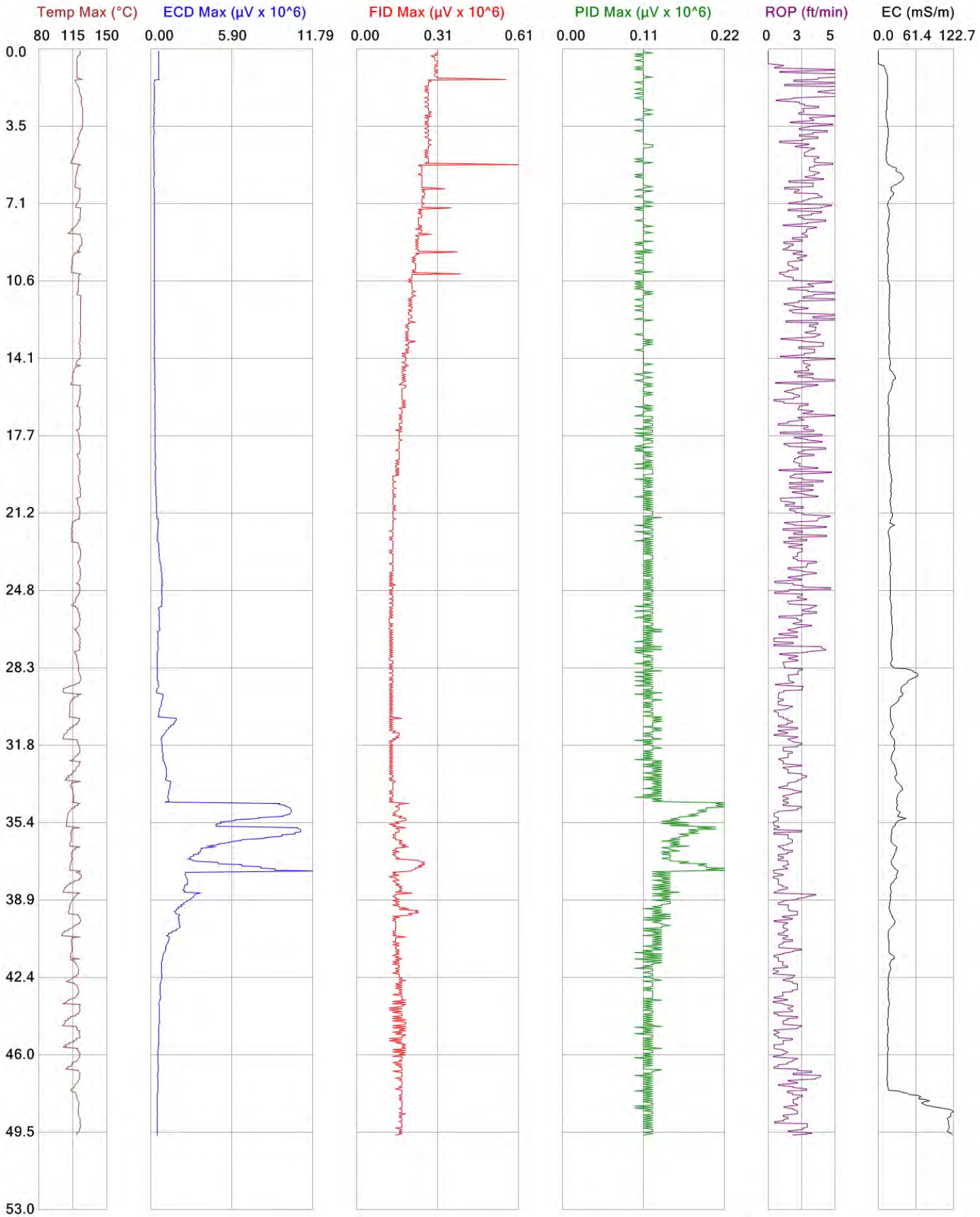
COLUMBIA TECHNOLOGIES

	File: M-AF-15
Client: ARCADIS	Date: 11/11/2009
Project ID: Hunter Army Air Field Area 17	Location:



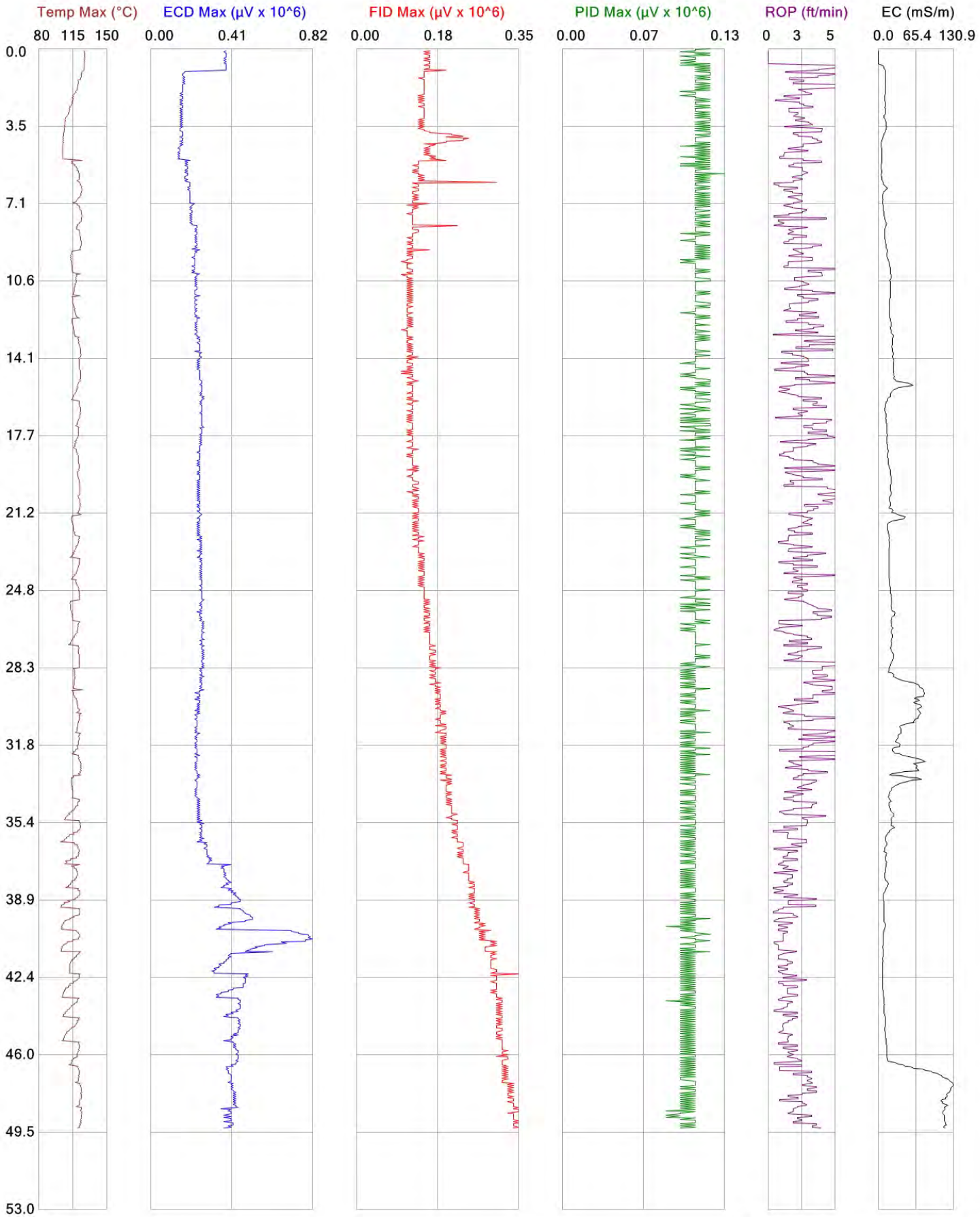
	File: M-AF-40
Client: ARCADIS	Date: 11/11/2009
Project ID: Hunter Army Air Field Area 17	Location:

COLUMBIA TECHNOLOGIES



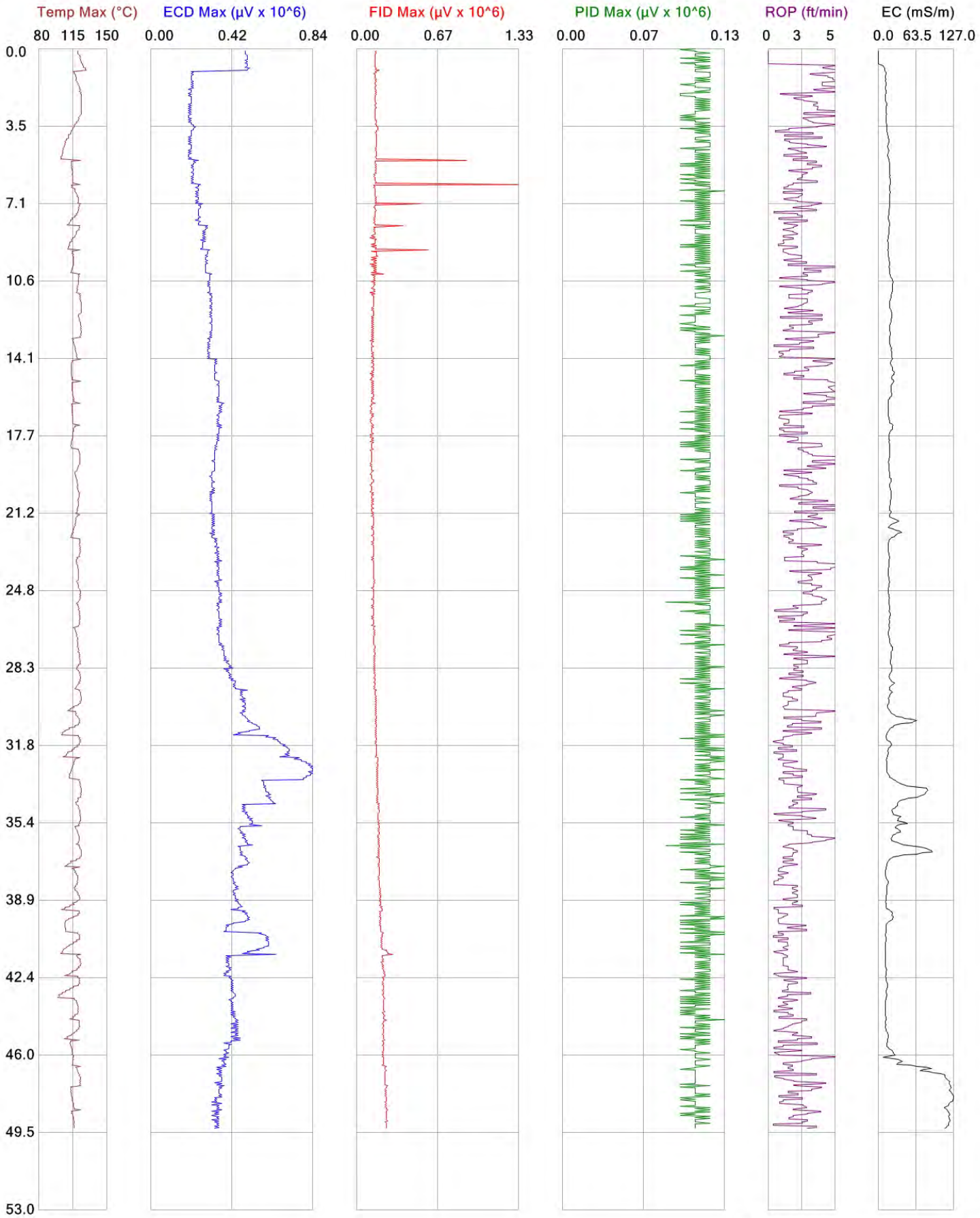
	File: M-AF-53
Client: ARCADIS	Date: 11/10/2009
Project ID: Hunter Army Air Field Area 17	Location:

COLUMBIA TECHNOLOGIES



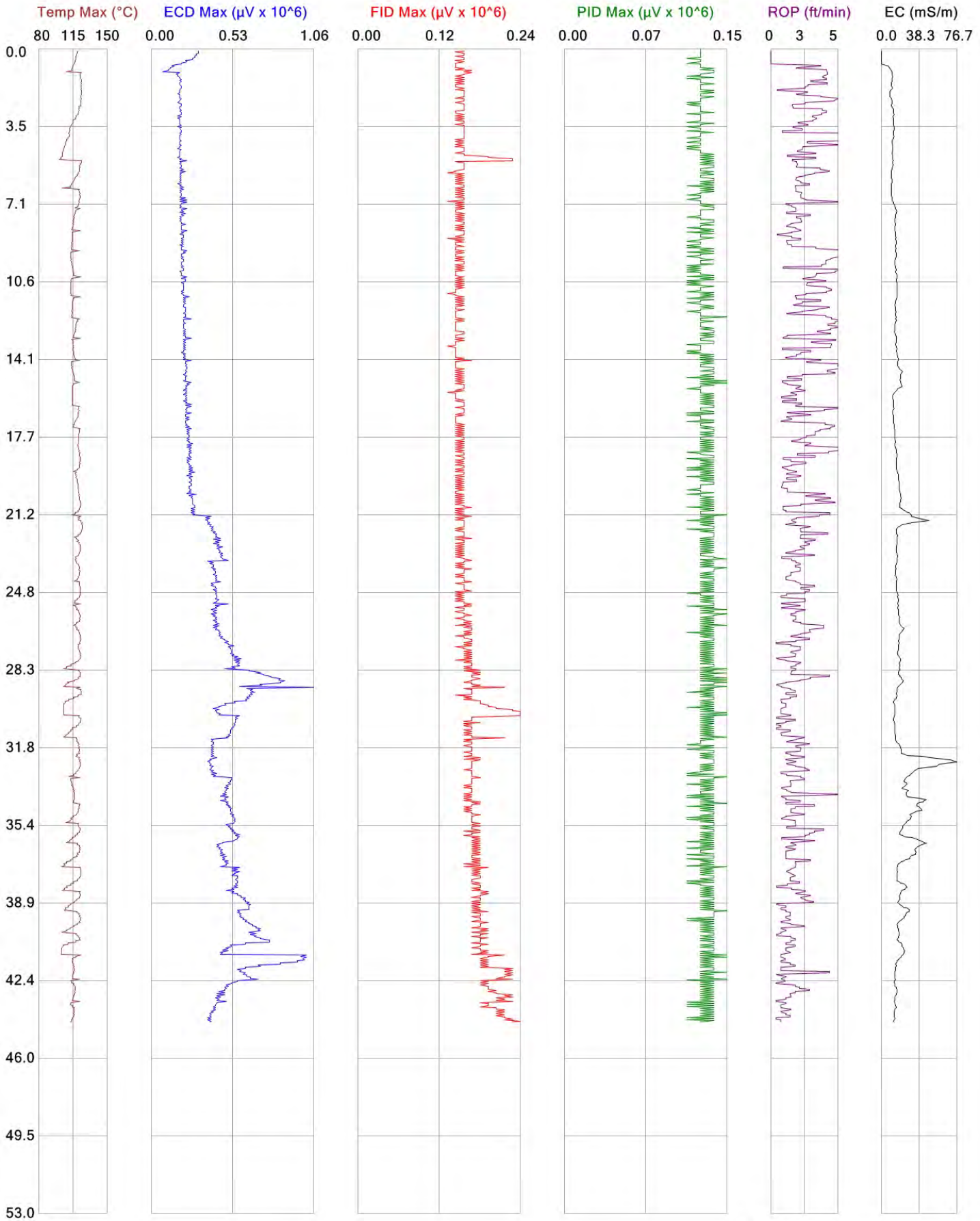
COLUMBIA TECHNOLOGIES

	File: M-AF-54
Client: ARCADIS	Date: 11/10/2009
Project ID: Hunter Army Air Field Area 17	Location:



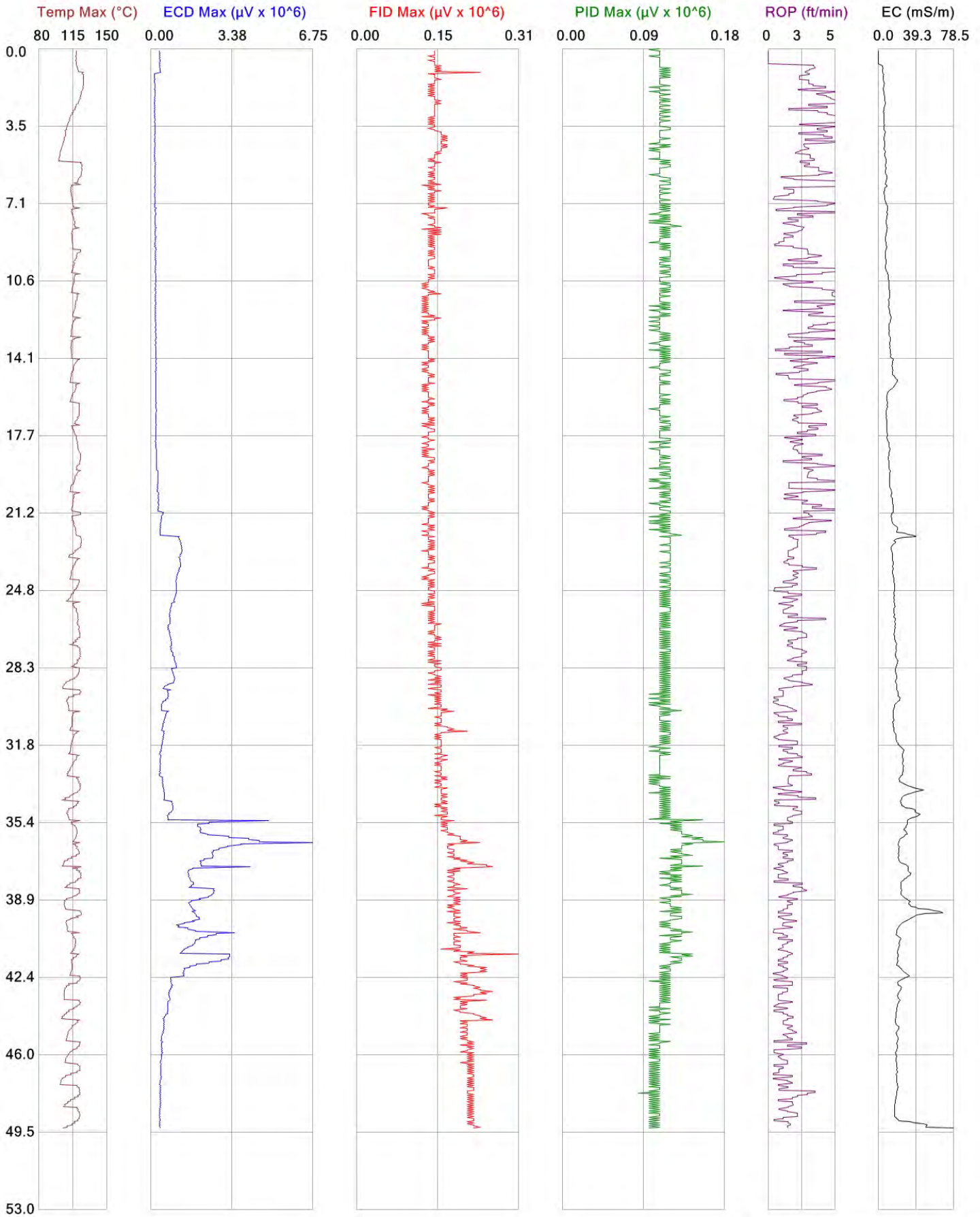
COLUMBIA TECHNOLOGIES

	File: M-AF-55
Client: ARCADIS	Date: 11/9/2009
Project ID: Hunter Army Air Field Area 17	Location:



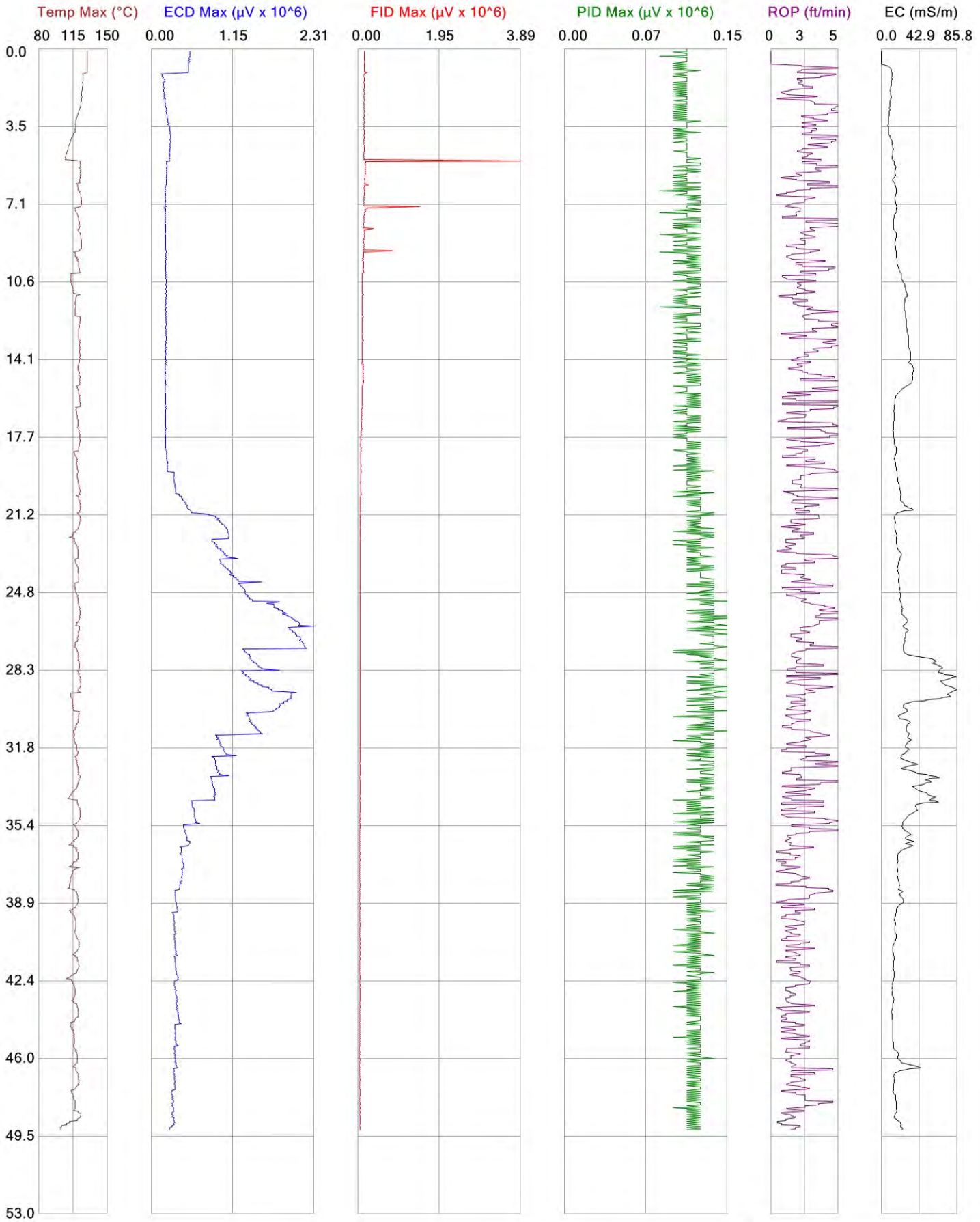
COLUMBIA TECHNOLOGIES

	File: M-AF-56
Client: ARCADIS	Date: 11/10/2009
Project ID: Hunter Army Air Field Area 17	Location:



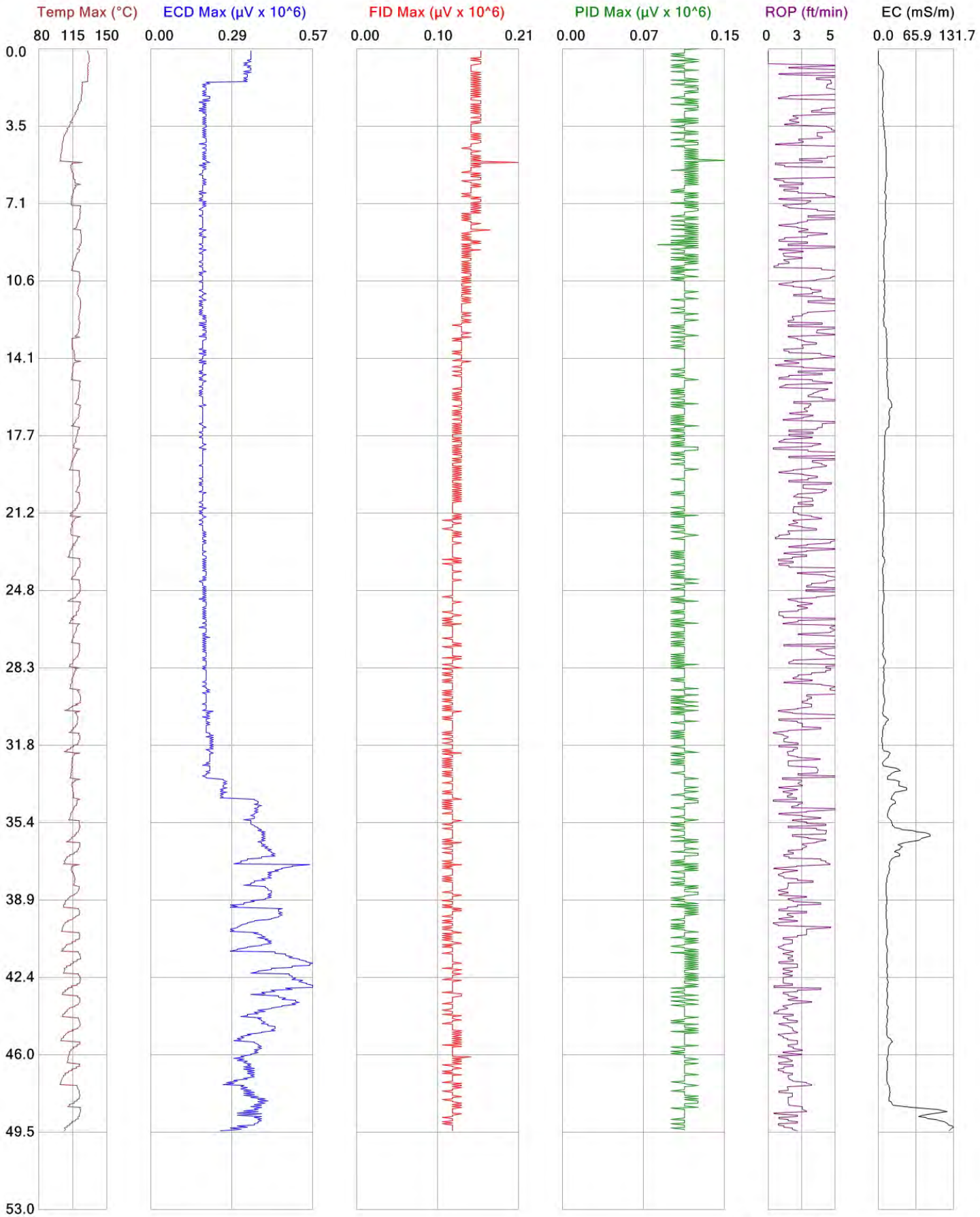
COLUMBIA TECHNOLOGIES

	File: M-AF-61
Client: ARCADIS	Date: 11/11/2009
Project ID: Hunter Army Air Field Area 17	Location:



COLUMBIA TECHNOLOGIES

	File: M-AF-62
Client: ARCADIS	Date: 11/10/2009
Project ID: Hunter Army Air Field Area 17	Location:



COLUMBIA TECHNOLOGIES

	File: M-AF-68
Client: ARCADIS	Date: 11/12/2009
Project ID: Hunter Army Air Field Area 17	Location:

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

ARCADIS U.S., Inc.
30 Patewood Drive
Suite 155
Greenville, SC 29615
Attention: Janet Christy

Project Name: **Hunter H17**

Project Number: **GP08HAFS.H17B.DGOFI**

Lot Number: **LB12007**

Date Completed: **02/17/2010**



Nisreen Saikaly
Project Manager

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The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

Case Narrative
ARCADIS U.S., Inc.
Lot Number: LB12007

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Volatile Organic Compounds

The LCSD recovery for Dichlorodifluoromethane and Trichlorofluoromethane was outside method control limits in batch 27687. The LCS results were within limits. Therefore the associated sample results were reported and no corrective action was required.

The RPD for five analytes exceeded method control limits in batch 27687; however, all other QA/QC criteria for the LCS/LCSD were within acceptance criteria and method control limits. The associated sample results were reported and no corrective action was required.

The LCSD recovery for Dichlorodifluoromethane was outside method control limits in batch 27741. The LCS results were within limits. Therefore the associated sample results were reported and no corrective action was required.

The MS/MSD recoveries in batch 27741 were outside acceptance criteria. All other QA/QC criteria for the batch were within acceptance criteria and method control limits. The MS/MSD recovery results are attributed to matrix interference. The associated sample results were reported and no corrective action was required

Sample Summary
ARCADIS U.S., Inc.
Lot Number: LB12007

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	AF-56 (2-10-10)	Aqueous	02/10/2010 0859	02/12/2010
002	AF-69 (2-10-10)	Aqueous	02/10/2010 0955	02/12/2010
003	AF-14 (2-10-10)	Aqueous	02/10/2010 1043	02/12/2010
004	AF-23 (2-10-10)	Aqueous	02/10/2010 1120	02/12/2010
005	AF-13 (2-10-10)	Aqueous	02/10/2010 1210	02/12/2010
006	AF-55 (2-10-10)	Aqueous	02/10/2010 1240	02/12/2010
007	AF-54 (2-10-10)	Aqueous	02/10/2010 1302	02/12/2010
008	AF-68 (2-10-10)	Aqueous	02/10/2010 1347	02/12/2010
009	AF-57 (2-10-10)	Aqueous	02/10/2010 1442	02/12/2010
010	DUP-1	Aqueous	02/10/2010	02/12/2010
011	AF-41 (2-10-10)	Aqueous	02/10/2010 1552	02/12/2010
012	AF-58 (2-11-10)	Aqueous	02/11/2010 0837	02/12/2010
013	AF-35 (2-11-10)	Aqueous	02/11/2010 0940	02/12/2010
014	AF-25 (2-11-10)	Aqueous	02/11/2010 1027	02/12/2010
015	AF-26 (2-11-10)	Aqueous	02/11/2010 1049	02/12/2010
016	MW-12S (2-11-10)	Aqueous	02/11/2010 1319	02/12/2010
017	MW-12D (2-11-10)	Aqueous	02/11/2010 1330	02/12/2010
018	MW-7D (2-11-10)	Aqueous	02/11/2010 1423	02/12/2010
019	MW-7S (2-11-10)	Aqueous	02/11/2010 1437	02/12/2010
020	MW-2S(2-11-10)	Aqueous	02/11/2010 1646	02/12/2010
021	MW-2D (2-11-10)	Aqueous	02/11/2010 1652	02/12/2010
022	Trip Blank	Aqueous	02/11/2010	02/12/2010
023	MW-3S	Aqueous	02/11/2010 1548	02/12/2010
024	MW-3D	Aqueous	02/11/2010 1552	02/12/2010

(24 samples)

Executive Summary
ARCADIS U.S., Inc.
Lot Number: LB12007

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	AF-56 (2-10-10)	Aqueous	Benzene	8260B	3.2		ug/L	6
001	AF-56 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	15		ug/L	6
001	AF-56 (2-10-10)	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1.7	J	ug/L	6
001	AF-56 (2-10-10)	Aqueous	Toluene	8260B	1.3	J	ug/L	6
001	AF-56 (2-10-10)	Aqueous	Trichloroethene	8260B	1100		ug/L	7
002	AF-69 (2-10-10)	Aqueous	Acetone	8260B	17		ug/L	8
002	AF-69 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	3.4		ug/L	8
002	AF-69 (2-10-10)	Aqueous	Trichloroethene	8260B	66		ug/L	9
003	AF-14 (2-10-10)	Aqueous	Acetone	8260B	18		ug/L	10
004	AF-23 (2-10-10)	Aqueous	Acetone	8260B	17		ug/L	12
004	AF-23 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	0.16	J	ug/L	12
005	AF-13 (2-10-10)	Aqueous	Benzene	8260B	0.25	J	ug/L	14
005	AF-13 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	0.65		ug/L	14
006	AF-55 (2-10-10)	Aqueous	Acetone	8260B	17		ug/L	16
006	AF-55 (2-10-10)	Aqueous	Benzene	8260B	0.94		ug/L	16
006	AF-55 (2-10-10)	Aqueous	trans-1,2-Dichloroethene	8260B	2.3		ug/L	16
006	AF-55 (2-10-10)	Aqueous	1,1-Dichloroethene	8260B	0.90		ug/L	16
006	AF-55 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	110		ug/L	16
006	AF-55 (2-10-10)	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.24	J	ug/L	16
006	AF-55 (2-10-10)	Aqueous	Trichloroethene	8260B	170		ug/L	17
006	AF-55 (2-10-10)	Aqueous	Vinyl chloride	8260B	0.19	J	ug/L	17
007	AF-54 (2-10-10)	Aqueous	Acetone	8260B	17		ug/L	18
007	AF-54 (2-10-10)	Aqueous	Benzene	8260B	0.19	J	ug/L	18
007	AF-54 (2-10-10)	Aqueous	trans-1,2-Dichloroethene	8260B	0.24	J	ug/L	18
007	AF-54 (2-10-10)	Aqueous	1,1-Dichloroethene	8260B	1.1		ug/L	18
007	AF-54 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	52		ug/L	18
007	AF-54 (2-10-10)	Aqueous	Trichloroethene	8260B	270		ug/L	19
007	AF-54 (2-10-10)	Aqueous	Vinyl chloride	8260B	0.074	J	ug/L	19
008	AF-68 (2-10-10)	Aqueous	Acetone	8260B	17		ug/L	20
008	AF-68 (2-10-10)	Aqueous	Benzene	8260B	1.7		ug/L	20
008	AF-68 (2-10-10)	Aqueous	trans-1,2-Dichloroethene	8260B	1.4		ug/L	20
008	AF-68 (2-10-10)	Aqueous	1,1-Dichloroethene	8260B	1.5		ug/L	20
008	AF-68 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	79		ug/L	20
008	AF-68 (2-10-10)	Aqueous	Trichloroethene	8260B	410		ug/L	21
008	AF-68 (2-10-10)	Aqueous	Vinyl chloride	8260B	0.15	J	ug/L	21
009	AF-57 (2-10-10)	Aqueous	Acetone	8260B	18		ug/L	22
009	AF-57 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	0.47	J	ug/L	22
010	DUP-1	Aqueous	Acetone	8260B	18		ug/L	24
010	DUP-1	Aqueous	Benzene	8260B	0.93		ug/L	24
010	DUP-1	Aqueous	trans-1,2-Dichloroethene	8260B	2.3		ug/L	24
010	DUP-1	Aqueous	1,1-Dichloroethene	8260B	0.86		ug/L	24
010	DUP-1	Aqueous	cis-1,2-Dichloroethene	8260B	110		ug/L	24
010	DUP-1	Aqueous	Trichloroethene	8260B	170		ug/L	25
010	DUP-1	Aqueous	Vinyl chloride	8260B	0.15	J	ug/L	25
011	AF-41 (2-10-10)	Aqueous	Acetone	8260B	1.1	J	ug/L	26

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
011	AF-41 (2-10-10)	Aqueous	trans-1,2-Dichloroethene	8260B	0.24	J	ug/L	26
011	AF-41 (2-10-10)	Aqueous	1,1-Dichloroethene	8260B	0.89		ug/L	26
011	AF-41 (2-10-10)	Aqueous	cis-1,2-Dichloroethene	8260B	48		ug/L	26
011	AF-41 (2-10-10)	Aqueous	Trichloroethene	8260B	46		ug/L	27
012	AF-58 (2-11-10)	Aqueous	Acetone	8260B	2.4	J	ug/L	28
012	AF-58 (2-11-10)	Aqueous	trans-1,2-Dichloroethene	8260B	0.93		ug/L	28
012	AF-58 (2-11-10)	Aqueous	1,1-Dichloroethene	8260B	1.4		ug/L	28
012	AF-58 (2-11-10)	Aqueous	cis-1,2-Dichloroethene	8260B	110		ug/L	28
012	AF-58 (2-11-10)	Aqueous	Trichloroethene	8260B	270		ug/L	29
012	AF-58 (2-11-10)	Aqueous	Vinyl chloride	8260B	0.35	J	ug/L	29
013	AF-35 (2-11-10)	Aqueous	Benzene	8260B	0.12	J	ug/L	30
013	AF-35 (2-11-10)	Aqueous	trans-1,2-Dichloroethene	8260B	0.84		ug/L	30
013	AF-35 (2-11-10)	Aqueous	cis-1,2-Dichloroethene	8260B	14		ug/L	30
013	AF-35 (2-11-10)	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.096	J	ug/L	30
013	AF-35 (2-11-10)	Aqueous	Toluene	8260B	0.33	J	ug/L	30
013	AF-35 (2-11-10)	Aqueous	Trichloroethene	8260B	2.1		ug/L	31
014	AF-25 (2-11-10)	Aqueous	Benzene	8260B	0.37	J	ug/L	32
014	AF-25 (2-11-10)	Aqueous	trans-1,2-Dichloroethene	8260B	0.56		ug/L	32
014	AF-25 (2-11-10)	Aqueous	cis-1,2-Dichloroethene	8260B	24		ug/L	32
014	AF-25 (2-11-10)	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1.2		ug/L	32
014	AF-25 (2-11-10)	Aqueous	Trichloroethene	8260B	77		ug/L	33
016	MW-12S (2-11-10)	Aqueous	Acetone	8260B	1.5	J	ug/L	36
018	MW-7D (2-11-10)	Aqueous	Acetone	8260B	2.0	J	ug/L	40
019	MW-7S (2-11-10)	Aqueous	Acetone	8260B	17		ug/L	42
020	MW-2S(2-11-10)	Aqueous	Acetone	8260B	1.1	J	ug/L	44
021	MW-2D (2-11-10)	Aqueous	Acetone	8260B	17		ug/L	46
022	Trip Blank	Aqueous	Acetone	8260B	17		ug/L	48
023	MW-3S	Aqueous	Acetone	8260B	17		ug/L	50
024	MW-3D	Aqueous	Acetone	8260B	18		ug/L	52

(74 detections)

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-001**
Description: **AF-56 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 0859**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	02/15/2010 2341	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		50	0.31	ug/L	1
Benzene	**71-43-2**	**8260B**	**3.2**		**2.5**	**0.14**	**ug/L**	**1**
Bromodichloromethane	75-27-4	8260B	ND		2.5	0.85	ug/L	1
Bromoform	75-25-2	8260B	ND		2.5	0.051	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		2.5	1.0	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		50	10	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		2.5	0.49	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		2.5	0.43	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		2.5	0.85	ug/L	1
Chloroethane	75-00-3	8260B	ND		2.5	0.85	ug/L	1
Chloroform	67-66-3	8260B	ND		2.5	0.85	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		2.5	0.87	ug/L	1
Cyclohexane	110-82-7	8260B	ND		2.5	1.5	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		2.5	0.35	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		2.5	0.85	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		2.5	0.31	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		2.5	0.85	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		2.5	0.85	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		2.5	0.85	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		2.5	0.35	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		2.5	0.27	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		2.5	0.12	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		2.5	0.40	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		2.5	0.47	ug/L	1
cis-1,2-Dichloroethene	**156-59-2**	**8260B**	**15**		**2.5**	**0.44**	**ug/L**	**1**
1,2-Dichloropropane	78-87-5	8260B	ND		2.5	0.41	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		2.5	0.90	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		2.5	0.45	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		2.5	0.85	ug/L	1
2-Hexanone	591-78-6	8260B	ND		50	1.4	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		2.5	0.14	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	1.5	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1.7**	**J**	**2.5**	**0.095**	**ug/L**	**1**
4-Methyl-2-pentanone	108-10-1	8260B	ND		50	1.6	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		25	4.8	ug/L	1
Methylene chloride	75-09-2	8260B	ND		2.5	0.85	ug/L	1
Styrene	100-42-5	8260B	ND		2.5	0.075	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		2.5	0.065	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		2.5	0.072	ug/L	1
Toluene	**108-88-3**	**8260B**	**1.3**	**J**	**2.5**	**0.85**	**ug/L**	**1**
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		2.5	1.5	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		2.5	0.85	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		2.5	0.14	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		2.5	0.16	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-001**
Description: **AF-56 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 0859**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	02/15/2010 2341	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	**79-01-6**	**8260B**	**1100**		**2.5**	**0.12**	**ug/L**	**1**
Trichlorofluoromethane	75-69-4	8260B	ND		2.5	0.25	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		2.5	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		2.5	0.85	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Bromofluorobenzene		114	70-130
Toluene-d8		93	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-002**
Description: **AF-69 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 0955**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 1928	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	**67-64-1**	**8260B**	**17**		**10**	**0.061**	**ug/L**	**1**
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	**156-59-2**	**8260B**	**3.4**		**0.50**	**0.087**	**ug/L**	**1**
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-002**
Description: **AF-69 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 0955**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 1928	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	**79-01-6**	**8260B**	**66**		**0.50**	**0.024**	**ug/L**	**1**
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-003**
Description: **AF-14 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 1043**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 1950	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	**67-64-1**	**8260B**	**18**		**10**	**0.061**	**ug/L**	**1**
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-003**
Description: **AF-14 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 1043**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 1950	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-004**
Description: **AF-23 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 1120**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	02/16/2010 0456	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	**67-64-1**	**8260B**	**17**		**10**	**0.061**	**ug/L**	**2**
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	2
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	2
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	2
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	2
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	2
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	2
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	2
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	2
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	2
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	2
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	2
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	2
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	2
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	2
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	2
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	2
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	2
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	2
cis-1,2-Dichloroethene	**156-59-2**	**8260B**	**0.16**	**J**	**0.50**	**0.087**	**ug/L**	**2**
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	2
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	2
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	2
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	2
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	2
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	2
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	2
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	2
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	2
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	2
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	2
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Description: **AF-23 (2-10-10)**
Date Sampled: **02/10/2010 1120**
Date Received: **02/12/2010**

Laboratory ID: **LB12007-004**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	02/16/2010 0456	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	2
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	2
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-005**
Description: **AF-13 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 1210**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2012	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	**71-43-2**	**8260B**	**0.25**	**J**	**0.50**	**0.027**	**ug/L**	**1**
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	**156-59-2**	**8260B**	**0.65**		**0.50**	**0.087**	**ug/L**	**1**
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-005**
Description: **AF-13 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 1210**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2012	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.** Laboratory ID: **LB12007-006**

Description: **AF-55 (2-10-10)** Matrix: **Aqueous**

Date Sampled: **02/10/2010 1240**

Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2034	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	**67-64-1**	**8260B**	**17**		**10**	**0.061**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**0.94**		**0.50**	**0.027**	**ug/L**	**1**
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	**156-60-5**	**8260B**	**2.3**		**0.50**	**0.079**	**ug/L**	**1**
1,1-Dichloroethene	**75-35-4**	**8260B**	**0.90**		**0.50**	**0.094**	**ug/L**	**1**
cis-1,2-Dichloroethene	**156-59-2**	**8260B**	**110**		**0.50**	**0.087**	**ug/L**	**1**
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.24**	**J**	**0.50**	**0.019**	**ug/L**	**1**
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

B = Detected in the method blank

J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-006**
Description: **AF-55 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 1240**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2034	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	**79-01-6**	**8260B**	**170**		**0.50**	**0.024**	**ug/L**	**1**
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	**75-01-4**	**8260B**	**0.19**	**J**	**0.50**	**0.065**	**ug/L**	**1**
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Description: **AF-54 (2-10-10)**
Date Sampled: **02/10/2010 1302**
Date Received: **02/12/2010**

Laboratory ID: **LB12007-007**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2056	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	**67-64-1**	**8260B**	**17**		**10**	**0.061**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**0.19**	**J**	**0.50**	**0.027**	**ug/L**	**1**
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	**156-60-5**	**8260B**	**0.24**	**J**	**0.50**	**0.079**	**ug/L**	**1**
1,1-Dichloroethene	**75-35-4**	**8260B**	**1.1**		**0.50**	**0.094**	**ug/L**	**1**
cis-1,2-Dichloroethene	**156-59-2**	**8260B**	**52**		**0.50**	**0.087**	**ug/L**	**1**
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-007**
Description: **AF-54 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 1302**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2056	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	**79-01-6**	**8260B**	**270**		**0.50**	**0.024**	**ug/L**	**1**
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	**75-01-4**	**8260B**	**0.074**	**J**	**0.50**	**0.065**	**ug/L**	**1**
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-008**
Description: **AF-68 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 1347**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2118	RRH		27697
2	5030B	8260B	2	02/16/2010 1522	DLB		27747

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	**67-64-1**	**8260B**	**17**		**10**	**0.061**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**1.7**		**0.50**	**0.027**	**ug/L**	**1**
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	**156-60-5**	**8260B**	**1.4**		**0.50**	**0.079**	**ug/L**	**1**
1,1-Dichloroethene	**75-35-4**	**8260B**	**1.5**		**0.50**	**0.094**	**ug/L**	**1**
cis-1,2-Dichloroethene	**156-59-2**	**8260B**	**79**		**0.50**	**0.087**	**ug/L**	**1**
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-008**
Description: **AF-68 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 1347**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2118	RRH		27697
2	5030B	8260B	2	02/16/2010 1522	DLB		27747

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1
Trichloroethene	**79-01-6**	**8260B**	**410**		**1.0**	**0.049**	**ug/L**	**2**
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	**75-01-4**	**8260B**	**0.15**	**J**	**0.50**	**0.065**	**ug/L**	**1**
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Run 1 Acceptance Limits	Q	Run 2 % Recovery	Run 2 Acceptance Limits
1,2-Dichloroethane-d4		97	70-130		117	70-130
Bromofluorobenzene		99	70-130		116	70-130
Toluene-d8		102	70-130		111	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-009**
Description: **AF-57 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 1442**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2140	RRH		27697
2	5030B	8260B	1	02/16/2010 0033	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	**67-64-1**	**8260B**	**18**		**10**	**0.061**	**ug/L**	**1**
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	**156-59-2**	**8260B**	**0.47**	**J**	**0.50**	**0.087**	**ug/L**	**1**
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-009**
Description: **AF-57 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 1442**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2140	RRH		27697
2	5030B	8260B	1	02/16/2010 0033	DLB		27741

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	2
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Run 1 Q	Run 1 % Recovery	Run 1 Acceptance Limits	Run 2 Q	Run 2 % Recovery	Run 2 Acceptance Limits
1,2-Dichloroethane-d4		97	70-130		98	70-130
Bromofluorobenzene		99	70-130		99	70-130
Toluene-d8		103	70-130		98	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.** Laboratory ID: **LB12007-010**

Description: **DUP-1** Matrix: **Aqueous**

Date Sampled: **02/10/2010**

Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2202	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	**67-64-1**	**8260B**	**18**		**10**	**0.061**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**0.93**		**0.50**	**0.027**	**ug/L**	**1**
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	**156-60-5**	**8260B**	**2.3**		**0.50**	**0.079**	**ug/L**	**1**
1,1-Dichloroethene	**75-35-4**	**8260B**	**0.86**		**0.50**	**0.094**	**ug/L**	**1**
cis-1,2-Dichloroethene	**156-59-2**	**8260B**	**110**		**0.50**	**0.087**	**ug/L**	**1**
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

B = Detected in the method blank

J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range

P = The RPD between two GC columns exceeds 40%

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

N = Recovery is out of criteria

H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-010**
Description: **DUP-1**
Matrix: **Aqueous**
Date Sampled: **02/10/2010**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/13/2010 2202	RRH		27697

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	**79-01-6**	**8260B**	**170**		**0.50**	**0.024**	**ug/L**	**1**
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	**75-01-4**	**8260B**	**0.15**	**J**	**0.50**	**0.065**	**ug/L**	**1**
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-011**
Description: **AF-41 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 1552**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 1020	DLB		27747

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	**67-64-1**	**8260B**	**1.1**	**J**	**10**	**0.061**	**ug/L**	**1**
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	**156-60-5**	**8260B**	**0.24**	**J**	**0.50**	**0.079**	**ug/L**	**1**
1,1-Dichloroethene	**75-35-4**	**8260B**	**0.89**		**0.50**	**0.094**	**ug/L**	**1**
cis-1,2-Dichloroethene	**156-59-2**	**8260B**	**48**		**0.50**	**0.087**	**ug/L**	**1**
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-011**
Description: **AF-41 (2-10-10)**
Matrix: **Aqueous**
Date Sampled: **02/10/2010 1552**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/16/2010 1020	DLB		27747

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	**79-01-6**	**8260B**	**46**		**0.50**	**0.024**	**ug/L**	**1**
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		117	70-130
Bromofluorobenzene		116	70-130
Toluene-d8		111	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Description: **AF-58 (2-11-10)**
Date Sampled: **02/11/2010 0837**
Date Received: **02/12/2010**

Laboratory ID: **LB12007-012**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	02/17/2010 0025	RRH		27733

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	**67-64-1**	**8260B**	**2.4**	**J**	**10**	**0.061**	**ug/L**	**2**
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	2
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	2
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	2
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	2
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	2
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	2
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	2
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	2
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	2
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	2
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	2
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	2
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	2
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	2
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	2
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	2
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	2
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	2
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	2
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	2
trans-1,2-Dichloroethene	**156-60-5**	**8260B**	**0.93**		**0.50**	**0.079**	**ug/L**	**2**
1,1-Dichloroethene	**75-35-4**	**8260B**	**1.4**		**0.50**	**0.094**	**ug/L**	**2**
cis-1,2-Dichloroethene	**156-59-2**	**8260B**	**110**		**0.50**	**0.087**	**ug/L**	**2**
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	2
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	2
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	2
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	2
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	2
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	2
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	2
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	2
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	2
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	2
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	2
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	2
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	2
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	2
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	2
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	2
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	2

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-012**
Description: **AF-58 (2-11-10)**
Matrix: **Aqueous**
Date Sampled: **02/11/2010 0837**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	02/17/2010 0025	RRH		27733

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	**79-01-6**	**8260B**	**270**		**0.50**	**0.024**	**ug/L**	**2**
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	2
Vinyl chloride	**75-01-4**	**8260B**	**0.35**	**J**	**0.50**	**0.065**	**ug/L**	**2**
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		111	70-130
Bromofluorobenzene		115	70-130
Toluene-d8		109	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Description: **AF-35 (2-11-10)**
Date Sampled: **02/11/2010 0940**
Date Received: **02/12/2010**

Laboratory ID: **LB12007-013**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2016	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	**71-43-2**	**8260B**	**0.12**	**J**	**0.50**	**0.027**	**ug/L**	**1**
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	**156-60-5**	**8260B**	**0.84**		**0.50**	**0.079**	**ug/L**	**1**
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	**156-59-2**	**8260B**	**14**		**0.50**	**0.087**	**ug/L**	**1**
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.096**	**J**	**0.50**	**0.019**	**ug/L**	**1**
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	**108-88-3**	**8260B**	**0.33**	**J**	**0.50**	**0.17**	**ug/L**	**1**
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-013**
Description: **AF-35 (2-11-10)**
Matrix: **Aqueous**
Date Sampled: **02/11/2010 0940**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2016	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	**79-01-6**	**8260B**	**2.1**		**0.50**	**0.024**	**ug/L**	**1**
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		117	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-014**
Description: **AF-25 (2-11-10)**
Matrix: **Aqueous**
Date Sampled: **02/11/2010 1027**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2039	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	**71-43-2**	**8260B**	**0.37**	**J**	**0.50**	**0.027**	**ug/L**	**1**
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	**156-60-5**	**8260B**	**0.56**		**0.50**	**0.079**	**ug/L**	**1**
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	**156-59-2**	**8260B**	**24**		**0.50**	**0.087**	**ug/L**	**1**
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1.2**		**0.50**	**0.019**	**ug/L**	**1**
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-014**
Description: **AF-25 (2-11-10)**
Matrix: **Aqueous**
Date Sampled: **02/11/2010 1027**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2039	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	**79-01-6**	**8260B**	**77**		**0.50**	**0.024**	**ug/L**	**1**
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		119	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-015**
Description: **AF-26 (2-11-10)**
Matrix: **Aqueous**
Date Sampled: **02/11/2010 1049**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2102	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-015**
Description: **AF-26 (2-11-10)**
Matrix: **Aqueous**
Date Sampled: **02/11/2010 1049**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2102	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		120	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-016**
Description: **MW-12S (2-11-10)**
Matrix: **Aqueous**
Date Sampled: **02/11/2010 1319**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2125	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	**67-64-1**	**8260B**	**1.5**	**J**	**10**	**0.061**	**ug/L**	**1**
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-016**
Description: **MW-12S (2-11-10)**
Matrix: **Aqueous**
Date Sampled: **02/11/2010 1319**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2125	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		118	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-017**
Description: **MW-12D (2-11-10)**
Matrix: **Aqueous**
Date Sampled: **02/11/2010 1330**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2147	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND		10	0.061	ug/L	1
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-017**
Description: **MW-12D (2-11-10)**
Matrix: **Aqueous**
Date Sampled: **02/11/2010 1330**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2147	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	ND		0.50	0.024	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND		0.50	0.051	ug/L	1
Vinyl chloride	75-01-4	8260B	ND		0.50	0.065	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		0.50	0.17	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		115	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
N = Recovery is out of criteria
H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Laboratory ID: **LB12007-018**
Description: **MW-7D (2-11-10)**
Matrix: **Aqueous**
Date Sampled: **02/11/2010 1423**
Date Received: **02/12/2010**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/15/2010 2210	LBS		27687

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Acetone	**67-64-1**	**8260B**	**2.0**	**J**	**10**	**0.061**	**ug/L**	**1**
Benzene	71-43-2	8260B	ND		0.50	0.027	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		0.50	0.17	ug/L	1
Bromoform	75-25-2	8260B	ND		0.50	0.010	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		0.50	0.20	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	2.0	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		0.50	0.085	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		0.50	0.17	ug/L	1
Chloroethane	75-00-3	8260B	ND		0.50	0.17	ug/L	1
Chloroform	67-66-3	8260B	ND		0.50	0.17	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		0.50	0.17	ug/L	1
Cyclohexane	110-82-7	8260B	ND		0.50	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		0.50	0.069	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		0.50	0.061	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		0.50	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		0.50	0.17	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		0.50	0.17	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		0.50	0.071	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		0.50	0.054	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		0.50	0.023	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		0.50	0.079	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		0.50	0.094	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		0.50	0.087	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		0.50	0.081	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		0.50	0.18	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		0.50	0.090	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		0.50	0.17	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.27	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		0.50	0.029	ug/L	1
Methyl acetate	79-20-9	8260B	ND		1.0	0.30	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		0.50	0.019	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.31	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.95	ug/L	1
Methylene chloride	75-09-2	8260B	ND		0.50	0.17	ug/L	1
Styrene	100-42-5	8260B	ND		0.50	0.015	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		0.50	0.013	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		0.50	0.014	ug/L	1
Toluene	108-88-3	8260B	ND		0.50	0.17	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND		0.50	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		0.50	0.17	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		0.50	0.029	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		0.50	0.031	ug/L	1

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