U.S. Army Environmental Command

# HAA-01 (FORMER FIRE TRAINING AREA AND DAACG CHLORINATED SOLVENTS AREA) REMEDIAL INVESTIGATION/FEASIBILITY ST

Hunter Army Airfield, Savannah, Georgia

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# ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ABSd | dermal absorption efficiency |
| ADAF | age-dependent adjustment factor |
| ARAR | applicable or relevant and appropriate requirement |
| Arcadis | PIKA/Arcadis U.S., Inc. |
| AST | aboveground storage tank |
| ASTM | ASTM International |
| ASV | alternative screening value |
| AWQC | Ambient Water Quality Criteria |
| BERA | Baseline Ecological Risk Assessment |
| bgs | below ground surface |
| BTEX | benzene, toluene, ethylbenzene, xylenes |
| ºC | degrees Celsius |
| CalEPA | California Environmental Protection Agency |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| CFR | Code of Federal Regulations |
| cis-1,2-DCE | cis-1,2-dichloroethene |
| COC | constituent of concern |
| COPC | constituent of potential concern |
| COPEC | constituent of potential ecological concern |
| CSM | conceptual site model |
| CSF | cancer slope factor |
| CSR | Compliance Status Report |
| DAACG Area | Departure/Arrival Airfield Control Group Chlorinated Solvents Area |
| DDD | Dichlorodiphenyldichloroethane |
| DDE | Dichlorodiphenyldichloroethylene |
| DDT | dichlorodiphenyltrichloroethane |
| DNA | deoxyribonucleic acid |
| DO | dissolved oxygen |
| DPT | direct push technology |

| | |
|---|---|
| Eco-RBCA | Standard Guide for Risk-Based Corrective Action for Protection of Ecological Resources |
| EcoSSL | Ecological Soil Screening Level |
| ELCR | excess lifetime cancer risk |
| EPC | Exposure Point Concentration |
| ERA | Ecological Risk Assessment |
| ERD | enhanced reductive dechlorination |
| ESE | Environmental Science and Engineering, Inc. |
| ESL | Ecological Screening Level |
| ESV | Ecological Screening Value |
| EVO | emulsified vegetable oil |
| °F | degrees Fahrenheit |
| FS | Feasibility Study |
| ft/ft | feet per foot |
| ft/min | feet per minute |
| ft/yr | feet per year |
| FTA | Fire Training Area |
| GAEPD | Georgia Environmental Protection Division |
| GRA | General Response Action |
| HAAF | Hunter Army Airfield |
| HBG | health-based goal |
| HHRA | Human Health Risk Assessment |
| HI | hazard index |
| HMW-PAH | high molecular weight polycyclic aromatic hydrocarbon |
| hp | horsepower |
| HQ | hazard quotient |
| HSA | hollow stem auger |
| IDW | investigation derived waste |
| IRZ | in-situ reductive zone |
| ISCO | in-situ chemical oxidation |
| IUR | inhalation unit risk |

| | |
|---|---|
| IWQS | In-Stream Water Quality Standards |
| kg/d | kilograms per day |
| LANL | Los Alamos National Laboratory |
| Law | Law Engineering and Environmental Services, Inc. |
| LMW-PAH | low molecular weight polycyclic aromatic hydrocarbon |
| LOAEL | lowest observable adverse effects level |
| LUC | land use control |
| MCL | Maximum Contaminant Level |
| MDL | method detection limit |
| µg/L | micrograms per liter |
| µmhos/cm | micromhos per centimeter |
| mg/L | milligrams per liter |
| mg/kg | milligrams per kilogram |
| min/yr | minutes per year |
| MNA | monitored natural attenuation |
| MOA | mode of action |
| msl | mean sea level |
| mV | millivolts |
| NCP | National Oil and Hazardous Substances Contingency Plan |
| NOAEL | no observed adverse effects level |
| NTU | Nephelometric Turbidity Unit |
| O&M | operation and maintenance |
| Omega | Omega Environmental Services, Inc. |
| ORP | oxidation reduction potential |
| PADEP | Pennsylvania Department of Environmental Protection |
| PAH | polycyclic aromatic hydrocarbon |
| PCB | polychlorinated biphenyl |
| PEF | particulate emission factor |
| PID | photoionization detector |
| PRG | preliminary remediation goals |
| PRP | Potentially Responsible Party |

| | |
|---|---|
| PVC | polyvinyl chloride |
| QAPP | Quality Assurance Project Plan |
| RAO | Remedial Action Objective |
| RCRA | Resource Conservation and Recovery Act |
| RfC | reference concentration |
| RfD | reference dose |
| RI | Remedial Investigation |
| RME | Reasonable Maximum Exposure |
| RSL | Regional Screening Level |
| SAP | Sampling and Analysis Plan |
| SESD | Science and Ecosystem Support Division |
| SLERA | Screening-Level Ecological Risk Assessment |
| SMDP | Scientific Management Decision Point |
| SSL | Soil Screening Level |
| STEP | Solutions To Environmental Problems, Inc. |
| SVOC | semi-volatile organic compound |
| TCE | trichloroethene |
| TPH | total petroleum hydrocarbons |
| trans-1,2-DCE | trans-1.2-dichloroethene |
| TRV | toxicity reference value |
| UBC | Upper Background Concentration |
| UCL | upper confidence limit |
| U.S. | United States |
| USAEHA | United States Army Environmental Hygiene Agency |
| USACE | United States Army Corps of Engineers |
| USEPA | United States Environmental Protection Agency |
| USCS | Unified Soil Classification System |
| USGS | United States Geological Survey |
| VF | volatilization factor |
| VISL | Vapor Intrusion Screening Level |
| VOC | volatile organic compound |

# EXECUTIVE SUMMARY

This Remedial Investigation (RI)/Feasibility Study (FS) was prepared for the former Fire Training Area (FTA) and the Departure/Arrival Airfield Control Group Chlorinated Solvents Area (DAACG Area) – collectively identified as HAA-01 (Hazardous Site Inventory Number 10395) located at Hunter Army Airfield (HAAF) (United States Environmental Protection Agency [USEPA] ID: GA4 210 022 733), Georgia – under Contract W9124J-13-D-0009 Task Order 0004. The stakeholders include representatives of the United States Army Environmental Command, USEPA Region 4, and the Georgia Environmental Protection Division (GAEPD). Restoration activities for HAA-01 are primarily regulated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act. This RI/FS follows the methodology provided in *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (USEPA 1988a).

**Site Description**

HAAF is located in Savannah, Georgia approximately 10 miles west of the Atlantic coast and is situated on a southwest-to-northeast trending ridge along the southeastern coast of Georgia. HAA-01 (the Site) is located within the northwestern portion of HAAF, west of the flight line, and approximately 800 feet northwest of the control tower. The site is inactive and maintained as a grassy meadow with areas of mature hardwood and evergreen forest to the north and south. The former FTA consisted of a gravel covered concrete fire training pad, an approximately 6,400 square foot area enclosed within a concrete curb. Within this pad there was a steel structure utilized as a mock aircraft, a 17,000 gallon aboveground storage tank (AST) used to store fuel, a 1,100-gallon AST used to contain fuel and solvent contaminated water, and associated underground piping. Typical fire training activities included spraying water contaminated fuels (#4 Jet Propulsion Fuel [JP-4] and diesel fuel) on the mock aircraft, igniting the coated structure, and subsequently extinguishing the aircraft. In 1987, the United States Army Environmental Hygiene Agency conducted a preliminary assessment of soils at the former FTA. Fire training activities were discontinued in 1991 and all components of the former FTA were removed in 1998 as part of soil remediation activities conducted following prior investigation activities.

While conducting subsequent field investigations at the former FTA in 2000, chlorinated solvents (cis-1,2-dichloroethene [cis-1,2,-DCE] and trans-1,2-dichloroethene [trans-1,2,-DCE]) were detected in a monitoring well located north of the former FTA. This area was subsequently designated as the DAACG Area. Due to their proximity and history, the FTA and DAACG Area have been treated as one site for investigation and remediation purposes. Additional investigations in this area, as well as historical record searches, have been unsuccessful in identifying any potential sources of the chlorinated solvents in the DAACG Area. The human health risk assessment (HHRA) for HAAF can be found in Section 8 of this report.

The primary chemical constituents of concern (COCs) in the former FTA, based on the Human Health Risk Assessment (HHRA), found in Section 8 of this report, are presented below in **Table ES-1**.

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**Table ES-1: Primary Chemical Constituents of Concern at the Former FTA**

| Location | COC Type | COC Name |
|---|---|---|
| Groundwater | Volatile organic compounds (VOCs) | Benzene<br>1,2-Dichloropropane<br>1,1,2-Trichloroethane<br>1,1,2,2-Tetrachloroethane<br>Vinyl Chloride |
| | Semi-volatile organic compounds (SVOCs) | 4-Chlorobenzenamine |
| | Polycyclic aromatic hydrocarbons (PAHs) | Naphthalene |
| | Pesticides | Dieldrin<br>Heptachlor epoxide<br>alpha-Hexachlorocyclohexane |
| | Inorganics | Arsenic<br>Chromium<br>Iron |
| Surface Water | No COCs have been identified for surface water based on the HHRA. | |
| Soil | PAHs | Benzo(a)pyrene |
| Sediment | PAHs | Benzo(a)anthracene<br>Benzo(a)pyrene<br>Benzo(b)fluoranthene<br>Benzo(k)fluoranthene<br>Indeno(1,2,3-cd)pyrene |
| | Inorganics | Arsenic<br>Chromium, Hexavalent |

The primary COCs in the DAACG Area, based on the HHRA, are presented below in **Table ES-2**.

**Table ES-2: Primary Chemical Constituents of Concern at the DAACG Area**

| Location | COC Type | COC Name |
|---|---|---|
| Groundwater | VOCs | Chloroform<br>cis-1,2-DCE<br>1,1,2,2-Tetrachlorethane<br>Vinyl chloride |
| | SVOCs | 4-Chlorobenzenamine |
| | Pesticides | Aldrin<br>gamma-Chlordane |

| Location | COC Type | COC Name |
|---|---|---|
| | | Dieldrin |
| | | Heptachlor epoxide |
| | | alpha-Hexachlorocyclohexane |
| | Inorganics | Chromium |
| Surface Water | No COCs have been identified for surface water based on the HHRA. | |
| Soil | No COCs have been identified for soil in the DAACG Area based on the HHRA. | |

Multiple phases of investigation were conducted at HAA-01 from 1987 to 2014 to delineate the extent of VOCs, SVOCs, PAHs, metals, polychlorinated biphenyls (PCBs), and pesticides in groundwater, soil, surface water, and sediment. Many of these compounds are associated with former fire training activities conducted in the area. Free phase product was identified in 1995 and removal activities were initiated in 1999. Free product has not been detected since 2003, when soil containing free product was excavated. The results of these investigations are sufficient to identify the constituents of potential concern (COPCs), delineate their nature and extent, complete a human health and ecological risk assessment, and develop appropriate remedial measures to address the COPCs. A summary of the sampling events and findings used to define the nature and extent of the contaminants at HAA-01 is presented in **Table ES-3**.

**Table ES-3: Nature and Extent of Contaminants at HAA-01**

| Field Activity | Findings of Historical Investigations |
|---|---|
| (1987) Preliminary Assessment | • Metals, PAHs, and phthalates detected in soil samples among four borings installed near the former FTA. |
| (1990-1992) Soil Sampling, Well Installation, Groundwater Sampling, and Sediment Sampling | • VOCs and SVOCs identified in soil samples.<br>• PAHs and metals identified in drainage ditch sediment samples.<br>• VOCs, SVOCs, and metals identified in groundwater.<br>• Results of investigation indicated that additional delineation was necessary. |
| (1995) Source Removal Design Investigation, Well Installation, Groundwater Sampling, and Soil Sampling | • Presence of VOCs and PAHs above USEPA screening levels identified in soil and groundwater in the immediate vicinity of the FTA.<br>• Horizontal extent of soil reported as delineated.<br>• Vertical extent of groundwater reported as delineated.<br>• Free phase product identified in monitoring well HMW-07. |
| (1997-2000) Soil Excavation, Free Product Removal, Confirmatory Soil Sampling | • Simulated aircraft structure, ASTs, underground transmission lines, and fire training pad removed from FTA. Excavations up to 8 feet below ground surface removed 9,430 tons of soil, 233 tons of concrete debris, and 81,906 gallons of wastewater from former FTA components.<br>• Confirmatory soil sampling indicated VOCs and PAHs still above USEPA screening levels in multiple locations after excavation activities.<br>• Free product belt skimmer system installed on HMW-07 and six product delineation points installed around perimeter of HMW-07. Free product was not detected in any of these points and the skimmer system ran until HMW-07 and the associated delineation points were removed in December 2003. |

| Field Activity | Findings of Historical Investigations |
|---|---|
| (July 1999-January 2000) Soil Sampling, Well Installation, and Groundwater Sampling | • SVOCs not present in surface soil samples from soil borings (SB-41 and SB-42) advanced to horizontally delineate SB-38.<br>• VOCs, SVOCs, and metals detected in groundwater samples. |
| (October and November 2001) Soil Sampling, Well Installation, Groundwater Sampling, and Surface Water Sampling | • Benzene, toluene, ethylbenzene, and xylene compounds (BTEX) and naphthalene detected below screening levels in one surface water sample, however, results most likely represented storm water flow from the flightline, not groundwater discharge from the HAA-01 area. |
| (2003) Interim Removal Actions | • HMW-07, associated free product delineation points, and soil surrounding HMW-07 removed; post-excavation sampling indicated VOCs below USEPA screening levels.<br>• VOCs detected above USEPA screening levels in newly installed monitoring well HMW-23. |
| (2002-2003) Vertical Profile Investigation | • Eight permanent monitoring wells installed based on results of vertical profile sampling to identify delineation gaps. |
| (2004-2008) Groundwater Sampling | • Multiple detections of VOCs and PAHs above USEPA screening levels observed in groundwater from the FTA and DAACG Area over the 2004 – 2008 period of monitoring. |
| (February 2009) Groundwater Sampling | • Groundwater samples collected from 10 shallow surficial aquifer monitoring wells in the former FTA and 10 shallow surficial monitoring wells in the DAACG Area.<br>• Groundwater samples analyzed for an expanded list of compounds to include VOCs, SVOCs, Metals, Pesticides, and Herbicides. Multiple detections of VOCs and PAHs above USEPA screening levels observed in groundwater from the FTA and DAACG Area. Various pesticides above USEPA screening levels observed in groundwater from the FTA and DAACG Area.<br>• Groundwater elevation data used to construct potentiometric map for shallow surficial aquifer. |
| (November 2009) Soil Sampling and Well Installation | • Focused soil samples collected at five soil borings within the former FTA; detections of VOCs, SVOCs, and metals above USEPA screening levels observed. Additional soil samples collected from shallow and deep intervals during installation of new monitoring wells in DAACG area; detections of metals above USEPA screening levels observed. These were used to delineate previously detected compounds.<br>• Nine shallow and three deep surficial aquifer monitoring wells installed to delineate detected compounds in groundwater to background and/or non-detect concentrations |
| (December 2009) Groundwater Sampling | • Groundwater samples from 12 newly installed and 20 existing monitoring wells collected in the former FTA and DAACG area.<br>• Groundwater samples from the former FTA analyzed for VOCs and groundwater samples from the DAACG area analyzed for metals, pesticides, and VOCs. Eight wells from both the former FTA and DAACG area analyzed for SVOCs based on historic detections. Detections of various VOCs, SVOCs, and pesticides above USEPA screening levels observed in groundwater from the FTA and DAACG Area. |
| (January to February 2012) Well Installation and Groundwater Sampling | • A deep surficial aquifer monitoring well (HA01-MW-07D) installed in February 2012 to provide additional vertical delineation. |

| Field Activity | Findings of Historical Investigations |
|---|---|
| | • Monitoring wells (HA01-MW-12 and HA01-MW-14) resampled and analyzed for VOCs in January; no constituents detected above USEPA screening levels. Groundwater samples collected from well HA01-MW-07D and analyzed for metals, VOCs, SVOCs, pesticides, and herbicides; no constituents detected above USEPA screening levels. |
| (December 2014) Groundwater, Surface Water, and Sediment Sampling | • Groundwater samples collected from 26 shallow and two deep surficial aquifer monitoring wells at the former FTA and DAACG area and analyzed for one or more of VOCs, SVOCs, Resource Conservation and Recovery Act (RCRA) metals, hexavalent chromium, and pesticides. Detections of various VOCs, SVOCs, and pesticides above USEPA screening levels observed in groundwater from the FTA and DAACG Area.<br>• The well with the highest VOC concentration also analyzed for 1,4-dioxane to evaluate possible presence in surficial aquifer and found to be non-detect for 1,4-dioxane.<br>• Six surface water and six sediment samples collected from the drainage canal west of the former FTA were analyzed for VOCs, SVOCs, RCRA metals, hexavalent chromium, and pesticides. |

**Risk Assessment**

The RI/FS included a Baseline Risk Assessment for the site, which included a HHRA and Ecological Risk Assessment (ERA) and provided an evaluation of potential current and hypothetical future risks from exposures to constituents detected in surface soil, subsurface soil, sediment, surface water, and groundwater from historical operations at HAA-01. The HHRA evaluated the potential risks to human health at HAA-01 for soil, groundwater, surface water, and sediments. COPCs were identified for soil and sediment by comparing the maximum detected constituent concentrations to the USEPA residential soil Regional Screening Levels (RSLs). Groundwater COPCs were identified by comparing the maximum constituent concentrations to their tap-water RSLs. Surface water data were compared to Georgia In-Stream Water Quality Standards or USEPA National Recommended Ambient Water Quality Criteria and all constituent concentrations were below their screening levels.

HHRA

The following potential receptors and potential exposure pathways were considered in the HHRA:

- Current or hypothetical future site worker contacting surface soil, combined surface and subsurface soil, inhaling vapors migrating from groundwater into indoor air, and potable use of groundwater;
- Current or hypothetical future military personnel training in the area contacting surface soil, combined surface and subsurface soil, inhaling vapors migrating from groundwater into indoor air, and potable use of groundwater (note that this potential receptor was not quantitatively evaluated in the HHRA due to a limited exposure duration as compared to the site worker);
- Hypothetical future construction worker contacting combined surface and subsurface soils;
- Hypothetical future utility worker contacting combined surface and subsurface soils and inhaling vapors migrating from groundwater into a utility trench;

- Hypothetical future adolescent trespasser contacting surface soil or combined surface and subsurface soil and sediment while wading in a drainage ditch; and
- Hypothetical future resident contacting surface soil, combined surface and subsurface soil, inhaling vapors migrating from groundwater into indoor air, and potable use of groundwater.

The individual risks and hazards were calculated by medium and receptor to determine the total site risk and hazard by receptor, as presented in **Table 8-36**. As seen in the table, the risks and hazards for the hypothetical future construction worker and utility worker are below the regulatory benchmarks of $1 \times 10^{-6}$ and 1, respectively. The calculated risks for the hypothetical future adolescent trespasser were at the low end of the target risk range and the non-cancer hazards were well below the benchmark of 1. For the current or hypothetical future site worker, exposure to soil and inhaling vapors migrating from the groundwater to indoor air were also at the low end of the target risk range and the non-cancer hazards were less than the benchmark of 1. Similar results for a hypothetical future resident exposed to soil and inhalation of vapors migrating into a home were within the target risk range of $1 \times 10^{-6}$ to $1 \times 10^{-4}$ and less than or equal to the non-cancer hazard of 1. Only when potable use of the groundwater was considered for either site workers or residents did the calculated risks and hazards exceed the benchmarks. Therefore, it is recommended that groundwater not be used as a potable water supply.

ERA

The ERA presented the results of a Screening-Level Ecological Risk Assessment and Step 3a Baseline Ecological Risk Assessment for ecological receptors based on hazard quotients (HQs). Risks were characterized for ecological receptors by considering direct contact with constituents of potential ecological concern (COPECs) in surface soil (i.e., 0 to 4 feet below ground surface) and through ingestion of prey tissue through a food web model to upper-trophic level wildlife. Overall, the potential ecological risks are considered negligible for exposure to site surface soil. Most COPECs have HQs below 1. While the HQs for exposure to some COPECs in soil (i.e., xylene, high-molecular weight-PAHs and dieldrin) were above 1, population-level effects for terrestrial receptors are not expected because those COPECs are present in areas of the site with low-quality habitat, which is not attractive as a foraging or resting area for mammals and birds. Risks to terrestrial wildlife from exposure to sediment evaluated as soil are also unlikely. The area of the drainage ditches represents a small percentage of the shrew and American robin's average foraging range and less than the *de minimis* (i.e., ecologically insignificant) areal extent typically used in an ERA of 1 to 2 acres (Suter et al. 1995; Henning and Shear 1998; Efroymson et al. 2003). Based on the ERA, potential ecological risks at the site are considered negligible, and no further evaluation is required.

**Remedial Investigation Summary**

This RI for HAA-01 presents physical, analytical, and risk assessment data to support the conclusion that the potential impacts to the environment by past activities at the site have been sufficiently characterized in surface soil, subsurface soil, sediment, surface water, and groundwater. Based on the data provided herein, the following recommendations are submitted for consideration by the USEPA:

- The RI has been completed, and the potential impacts to the environment by past activities at HAA-01 have been fully characterized and delineated where necessary in surface soils, subsurface soils, sediment, surface water and groundwater.

- The vapor intrusion pathway has been evaluated and determined to not present an exposure pathway. The soil and shallow groundwater were conservatively evaluated for the vapor intrusion pathway and the results indicated that the risks were less than or equal to the USEPA Vapor Intrusion Screening Levels. Under current site conditions, vapor intrusion is not a risk. If the site were to undergo redevelopment for residential use, vapor intrusion pathways would need to be reevaluated, however, current vapor intrusion risks will be addressed during remediation of the soil and groundwater impacts.

**Feasibility Study**

The HAA-01 FS was conducted to identify, develop, evaluate, and recommend a remedial alternative that affords protection of human and environmental health for the current and reasonably anticipated future land use at HAA-01. The FS included the development of Remedial Action Objectives (RAOs), an analysis of Applicable or Relevant and Appropriate Requirements (ARARs), and the development of preliminary remediation goals (PRGs) that directly influence the formulation of the remedial alternatives and their evaluation.

Remedial Action Objectives

RAOs are site-specific, initial clean-up objectives established on the basis of the nature and extent of contamination, the resources that are currently and potentially threatened, and the potential for human and environmental exposure.

Various contaminants have been identified in soil and groundwater.

Based on nature and extent of contamination and potential for receptor exposure, the following RAOs were developed for the remediation of groundwater at HAA-01:

1. Reduce potential cancer risk and potential non-cancer health hazards for people (i.e., site workers and construction workers) exposed to contaminated groundwater by reducing the concentrations of or controlling exposure to these COCs in soils;
2. Reduce potential exposure of ecological receptors to COCs in groundwater; and
3. Prevent potential for migration of unacceptable levels of COCs to offsite locations.

Applicable or Relevant and Appropriate Requirements

40 Code of Federal Regulations 300.400(g) includes chemical-specific, action-specific, and location-specific requirements. The FS evaluated these requirements to identify those which are ARARs for HAA-01.

- The potential chemical-specific ARARs identified for remedial action at the site include: USEPA RSLs for soil; and USEPA Maximum Contaminant Levels and USEPA Region 4 Tapwater RSLs for groundwater.
- The potential action-specific standards identified for remedial action at the site are air emission standards for air discharge. Discharge of treated water to proximate canals must be in compliance with National Pollutant Discharge Elimination System and base requirements.

- HAA-01 will remain a commercial/industrial use property requiring that all remedial alternatives address potential residential exposure to COCs through the application of Land Use Controls (LUCs). Residential PRGs and ecological-based PRGs have not been developed for the property. Remediation goals for COCs based on human health endpoints will also address marginal hazards to ecological receptors.

Preliminary Remediation Goals and General Response Actions

Risk-based exposure equations and assumptions were used to calculate site-specific risk-based PRGs. The PRGs were developed for groundwater and surface soil due to unacceptable health hazards from various organic and inorganic compounds to site workers and construction workers. Since this site is never intended for residential use, remediation alternatives will address exposure to site and construction workers. Individual PRGs by COC are presented in Section 10.3.3.

General Response Actions are categories of remedial actions that may be implemented alone or in combination to satisfy PRGs. Appropriate General Response Actions are developed based on the RAOs, site-specific conditions, and contaminant characteristics, and are evaluated based on technical feasibility. The retained options are screened based on effectiveness, implementability, and cost to determine which process options should be used in the development of the remedial alternatives. Based on this analysis, several remedial actions were carried forward to be further evaluated as potential remedial alternatives.

**Remedial Alternatives Evaluation and Selection**

Based on the HHRA, groundwater impacts posing a potential risk to site workers are identified in both the DAACG Area and the former FTA and soil impacts posing a potential risk to site workers are identified in the former FTA, but not the DAACG Area. Therefore, remedial alternatives were developed to address groundwater in the former FTA and DAACG Area and soil in the former FTA. These remedial alternatives were evaluated based on protection of human health and the environment; compliance with ARARs; effectiveness; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; and cost:

- Groundwater:
  - Alternative 1 – No Action;
  - Alternative 2 – Monitoring and LUCs;
  - Alternative 3 - Enhanced Reductive Dechlorination (ERD) with Carbon Substrate Injection, Monitoring and LUCs: and
  - Alternative 4 – In-Situ Chemical Oxidation (ISCO) via Chemical Oxidant, Monitoring and LUCs.
- Soil:
  - Alternative 1 – No Action;
  - Alternative 2 – Capping – Vegetative Cover; and
  - Alternative 3 – Excavation and Disposal.

Groundwater Remedial Alternative Selection

For groundwater, under Alternative 1, no corrective action of any kind would be employed. This alternative would not adequately control the chemical hazard or risks posed by the COCs and is not a viable alternative, but it was evaluated to establish a baseline of comparison regarding future performance and risk for the remaining alternatives. Under Alternative 2, the observation of COC degradation via natural processes would be monitored in groundwater while LUCs would be implemented to restrict groundwater use and exposure until COCs in groundwater degraded to concentrations equal to or less than applicable PRGs. Under Alternative 3, ERD would be employed to establish an in-situ reactive zone that would enhance the rate of plume degradation for chlorinated VOCs, while LUCs would protect against human exposure to groundwater impacts until monitored natural attenuation (MNA) demonstrates that PRGs have been met. Under Alternative 4, ISCO would react with and actively break down high concentrations of organic COCs, while LUCs would protect against human exposure to groundwater impacts until MNA demonstrates that PRGs have been met. Alternative 1 incurs no cost and is feasible to implement; however, it does not protect human health and the environment or meet ARARs and, therefore, is not a viable alternative. For the former FTA groundwater, Alternative 2, Monitoring and LUCs, is selected as the recommended alternative. Due to the localized extent of COC plumes with low level concentrations and the observation of COC degradation via natural processes, these combined alternatives will be effective in meeting RAOs, are implementable, and are reasonable with respect to present-worth cost. For DAACG Area groundwater, Alternative 3 (ERD, MNA and LUCs) is selected as the recommended alternative. This alternative is implementable, effective in meeting the RAOs, and is reasonable with respect to present-worth cost. A full comparison of these groundwater remedial alternatives is detailed in **Section 10**.

Soil (including Sediment) Remedial Alternative Selection

For soil, under Alternative 1, no corrective action of any kind would be employed. This alternative would not adequately control the chemical hazards or risks posed by the COCs and is not a viable alternative, but it was evaluated to establish a baseline of comparison regarding future performance and risk for the remaining alternatives. Under Alternative 2, maintaining the existing vegetative cover at the former FTA would maintain RAOs by limiting exposure to impacted soils while LUCs would protect against human exposure to soil impacts. Under Alternative 3, surface soils and sediments with COCs exceeding PRGs would be excavated and disposed of offsite to prevent potential exposure of site workers to surface soils and of trespassers to sediments. For impacted soil and sediments at the former FTA, Alternative 2, vegetative cover, is selected as the recommended alternative. Due to the low risk factors, low level COC concentrations, and the existing vegetative cover, this alternative will be effective in meeting RAOs, is implementable, and is reasonable with respect to present-worth cost. A full comparison of these soil remedial alternatives is detailed in **Section 10**.

# 1 INTRODUCTION

The United States (U.S.) Army Environmental Command has retained the PIKA/Arcadis U.S., Inc. (Arcadis) joint venture on behalf of Hunter Army Airfield (HAAF) to investigate and remediate impacted soil and groundwater at the former Fire Training Area (FTA) and the Departure/Arrival Airfield Control Group Chlorinated Solvents Area (DAACG Area), collectively identified as HAA-01. This Remedial Investigation (RI)/Focused Feasibility Study (FS) was prepared for HAA-01 using data obtained from site investigations from January 1987 through December 2014. Restoration activities for HAA-01 are primarily regulated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act. This RI/FS follows the methodology provided in *Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA* (U.S. Environmental Protection Agency [USEPA] 1988a).

## 1.1 Purpose of Report

The RI serves as the mechanism for analyzing previously collected data to:

- Characterize site conditions;
- Determine the nature and extent of the impacts;
- Assess risk to human health and the environment; and
- Evaluate the potential performance and cost of the treatment technologies.

The FS serves as the mechanism for the development, screening, and detailed evaluation of alternative remedial actions if site-related contaminants pose an unacceptable risk to human health or the environment. Alternative remedial actions that reduce or eliminate the threat, while complying with applicable or relevant and appropriate requirements (ARARs) and satisfying the other criteria established in CERCLA §121(b)(1), were developed, screened, and evaluated to support risk management decisions for potential future development.

## 1.2 Report Organization

This RI/FS report is organized into ten sections:

- **Section 1.0** provides an **Introduction** to the report.
- **Section 2.0** provides **Site Background Information**, including the site description and history.
- **Section 3.0** describes the **Physical Characteristics** of HAAF and the site, including the physical setting, climate, regional and local geology/hydrogeology, and depositional model.
- **Section 4.0** summarizes the **Previous Investigations** completed at the site, including soil, groundwater, surface water, and sediment investigations.

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- **Section 5.0** summarizes the **RI Program** at the site, including a discussion of delineation of contamination in soil, groundwater, surface water and sediment.
- **Section 6.0** discusses the **Investigation Results** identified at the site, including the nature and extent of constituents.
- **Section 7.0** discusses the **Conceptual Site Model** for contaminants at the site, including potential routes of transport, contaminant persistence, and contaminant migration.
- **Section 8.0** presents a **Human Health Risk Assessment** for the site.
- **Section 9.0** presents an **Ecological Risk Assessment** for the site.
- **Section 10.0** identifies ARARs and presents a **FS/Remedial Alternative Evaluation** evaluating a short list of alternatives and selecting the preferred alternative.
- **Section 11.0** presents the **References** cited herein.

# 2 SITE BACKGROUND INFORMATION

## 2.1 Site Description

HAAF is an active military installation located in Savannah, Georgia, encompassing use as industrial, commercial, and temporary residential property occupied by a variety of administrative, maintenance, and barracks facilities (**Figure 2-1**). The documented history of the installation indicates construction activities began in 1928. The facility includes an active air field and a 10-acre man-made storm water retention pond. The former FTA and DAACG Area (HAA-01) are located in the northwestern portion of HAAF, west of the parking apron and flightline and approximately 800 feet northwest of the air control tower. HAA-01 is maintained as a grassy meadow with areas of mature hardwood and evergreen forest to the north and south. While the FTA section of HAA-01 is inactive, the DAACG area is within the operational footprint of HAA-01 for military maneuver training. There is no documentation of FTA activities conducted at HAA-01 prior to 1967, when the site was acquisitioned by the U.S. Army. A site map depicting the site features and locations of monitoring wells is included as **Figure 2-2**. A topographic map is included as **Figure 2-3**.

## 2.2 Site History

The former FTA consisted of a gravel covered concrete fire training pad (approximately 6,400 square foot area enclosed within a concrete curb), a steel structure utilized as a mock aircraft, a 17,000 gallon aboveground storage tank (AST) used to store fuel, a 1,100-gallon AST used to contain fuel and solvent contaminated water, and associated underground piping. Typical fire training activities included spraying water contaminated fuels (#4 Jet Propulsion Fuel [JP-4] and diesel fuel) on the mock aircraft, igniting the coated structure, and subsequently extinguishing the aircraft. In 1987, the U.S. Army Environmental Hygiene Agency (USAEHA) conducted a preliminary assessment of soils near the former fire training pad. Fire training activities were discontinued at the site in 1991 and all components of the former FTA were removed in 1998 as part of soil remediation activities conducted following prior investigation activities.

While conducting subsequent field investigations at the former FTA in 2000, chlorinated solvents (cis-1,2-dichloroethene [cis-1,2,-DCE] and trans-1,2-dichloroethene [trans-1,2,-DCE] ) were detected in a monitoring well located north of the former FTA. This area was subsequently designated as the DAACG Area. Due to their proximity and history, the FTA and DAACG Area have been treated as one site for investigation and remediation purposes. Additional investigations in this area, as well as historical record searches, have been unsuccessful in identifying potential sources for the chlorinated solvents in the DAACG Area.

## 2.3 Potable Wells Proximate to the Site

There are no potable wells located at the HAA-01 site. Two potable wells are located approximately 6,000 feet northeast of the site, figures depicting the locations of the potable wells are provided as **Appendix A**. HAAF Well #1 and HAAF Well #2 are both public water supply wells located in the cantonment area of HAAF and are the main water supply system at the HAAF installation. HAAF Well #1 and HAAF Well #2 were installed in 1940 and 1942, respectively. HAAF Well #1, located at Building 711

on the corner of Moore Road and Douglass Street, is a 12-inch diameter well with 100-horsepower (hp) turbine pump serving a 100,000-gallon elevated storage tank (Tank #1). Potable well HAAF Well #1 was installed in the upper Floridan Aquifer to a terminal depth of 550 feet below ground surface (bgs) with an open interval from 259 to 504 feet bgs. HAAF Well #2, located at Building 1205 on the corner of Neal Street and Strachan Road, is a 12-inch diameter well with a 100-hp turbine pump that supplies all water towers at HAAF (HAAF, 2015b). Potable well HAAF Well #2 was installed in the upper Floridan Aquifer to a terminal depth of 600 feet bgs with an open interval from 260 to 555 feet bgs. Water from HAAF Well #2 supplies a 200,000-gallon elevated tank (Tank #2) and a 500,000-gallon elevated storage tank (Tank #3). Tank #3 provides potable water to 980 service connections that are used annually by an average of at least 7,500 individuals (HAAF, 2015a). Volatile organic compound (VOC) sampling performed in March 2017 indicates no constituents of concern (COCs) are present in the potable wells (**Appendix A**).

# 3 PHYSICAL CHARACTERISTICS

## 3.1 Physical Setting

HAAF is located on a southwest-northeast trending ridge of about 20 feet to 40 feet elevation above mean sea level (msl) and is surrounded by lower topography of about 10 to 15 feet elevation. The topography at HAA-01 gently slopes toward the Springfield Canal, located 3,600 feet to the west of HAAF. The Springfield Canal flows southwest before emptying into the Little Ogeechee River Floodplain, five and a half miles downstream of HAAF. Two densely vegetated man-made drainage ditches lie to the north and south of the site and periodically contain storm water drainage (**Figure 2-2**). These ditches receive drainage from the parking apron and the site itself. The two ditches join on the western edge of HAA-01 and discharge to the Springfield Canal. The elevation of the HAA-01 site ranges from approximately 35 feet msl at the eastern boundary of HAA-01 (fire training pad) to 14 feet msl along the northwestern boundary of HAA-01 (the northern drainage ditch). HAA-01 site topography is depicted on **Figure 2-3**.

## 3.2 Climate

Savannah, Georgia is classified as humid subtropical with precipitation annually averaging approximately 50 inches. Tropical storms occur between June and November, with rare direct hits from hurricanes. Daytime temperatures may rise to 90 degrees Fahrenheit (°F) between July and August, with overnight lows averaging in the low 70s °F. High relative humidity percentages, coupled with high temperatures, lead to frequent thunderstorms in the summer. Cool daytime temperatures average in the low 60s °F from December through February, with overnight lows averaging in the 40s °F. Snowfall during the short winter season is uncommon.

## 3.3 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 composed of a seaward thickening sequence of unconsolidated sediments deposited from sediments eroded from the Blue Ridge Mountains. Previous regional investigations suggest 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 over 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. The Floridan Aquifer is an approximately 800 feet thick regionally extensive aquifer in the area of Savannah. It is composed 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 part of the Hawthorne Group (Huddlestun 1988). Fossils and sediment samples suggest that these 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 Huddleston is included in **Appendix B**. Lithologic descriptions from Well HAAF #11, which was installed in 2009 during a U.S. Geological Survey (USGS) study at HAAF, indicate the confining unit was encountered from approximately 60 to 285 feet bgs. Due to the thick confining unit that separates the uppermost aquifer system from the underlying Floridan Aquifer, it has been demonstrated that there is minimal potential for shallow groundwater to impact deeper groundwater quality. As previously described, potable wells HAA Well #1 and HAA Well #2 are installed in the upper Floridan Aquifer with open intervals from 259 to 504 feet bgs and from 260 to 555 feet bgs, respectively.

The sediments overlying the Hawthorne Group clays 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 are approximately parallel to the modern barrier island complex. Each barrier system is at a consistent elevation above sea level with about 20 feet of relief above surrounding land.

## 3.4 Local HAA-01 Geology/Hydrogeology

Previous investigations conducted at or near the site indicate that the geologic sections consist of predominantly sand with interbeds of silty sand, and lesser clayey sand deposits to a depth of at least 100 feet bgs. The subsurface soil conditions encountered during previous investigations may be categorized into two general strata based on geologic and engineering characteristics observed. Upper zone soils extend from the surface to approximately 35 feet bgs and consist of gray to brown, medium to coarse-grained, loose to medium-dense silty sand, and interbedded layers of clays, sand, and poorly graded sand. The soil is classified as silty sand (“SM”) according to the Unified Soil Classification System (USCS). The lower zone soils begin at approximately 35 feet bgs and continue to approximately 100 feet bgs and consists of gray, fine to medium-grained, loose to medium-dense, poorly graded sand and is classified as poorly graded sand (“SP”) according to the USCS (Compliance Status Report [CSR] Addendum, SAIC 2005). Based on the deep boring log for HMW-05, the lower zone soils beneath the DAACG Area also include interbedded layers of silty clay and clay throughout. **Figures 3-1a through 3-1d** depict cross sections A-A’, B-B’, C-C’, and D-D’, providing a broad areal coverage of site geology across the FTA and DAACG Area.

Groundwater data was collected from monitoring well gauging to establish groundwater elevations and flow directions in the shallow and deep portions of the upper aquifer. A summary of the monitoring well construction details are presented on **Table 3-1**. Groundwater elevations obtained in December 2014 ranged from 10.36 to 23.38 feet above msl at shallow surficial aquifer wells and 11.90 to 21.74 feet above msl at deep surficial aquifer wells (**Table 3-2**). Historical groundwater elevations range from 10.36 to 26.45 feet above msl at shallow surficial aquifer wells and 11.90 to 24.72 feet above msl at deep surficial aquifer wells (**Table 3-3**). Both shallow and deep surficial groundwater beneath the former FTA and DAACG Area flows toward the northwest, as shown on **Figure 3-2a** and **Figure 3-2b**, respectively. The

average shallow zone horizontal groundwater gradient is approximately 0.042 feet per foot (ft/ft) across the former FTA and 0.017 ft/ft across the DAACG Area. The average deep zone horizontal groundwater gradient is approximately 0.017 ft/ft. The vertical groundwater gradient is measured at the site using three shallow and deep surficial aquifer well pairs within the FTA and three pairs within the DAACG Area, and is summarized in **Table 3-4**. Calculated vertical gradients range from 0.03 to 0.04 ft/ft in a downward direction at FTA vicinity wells. Calculated vertical gradients range from 0.04 to 0.08 ft/ft in an upward direction at DAACG Area vicinity well pairs HA01-MW-12D/HA01-MW-12 and HA01-MW-14D/HA01-MW-14 and are observed as 0.02 ft/ft in a downward direction at DAACG Area well pair HA01-MW-07D/COE-MW-07. These gradients are generally consistent with historical observations.

Slug tests conducted during the 1995 investigations indicated hydraulic conductivities varying from $1.8 \times 10^{-3}$ feet per minute (ft/min) at HMW-03 to $8 \times 10^{-4}$ ft/min at HMW-11, with an average hydraulic conductivity of $1.25 \times 10^{-3}$ ft/min (Law Engineering and Environmental Services, Inc. [Law] 2002). Widely varying hydraulic conductivities in sediments are typical in back barrier sequences and represent the variation from low energy marsh deposits of clays and silts to high energy tidal channel deposits of well sorted sands. The average hydraulic conductivity (K) and average horizontal hydraulic gradient (I) were used to calculate an estimated velocity (V) of horizontal groundwater flow beneath the site. An effective porosity ($n_e$) for the saturated soil was assumed to be 20% (based on sandy soils). The horizontal groundwater flow velocity was calculated using the Darcy velocity equation:

DAACG Area:

$V = KI/n_e$ = [$(1.25 \times 10^{-3}$ ft/min)(0.017 ft/ft) / (0.20)] x (525,600 minutes per year [min/yr]) = 56 feet per year (ft/yr)

Former FTA:

$V = KI/n_e$ = [$(1.25 \times 10^{-3}$ ft/min)(0.042 ft/ft) / (0.20)] x (525,600 min/yr) = 138 ft/yr

## 3.5 Hunter Army Airfield Depositional Model

HAAF is located on a relict beach ridge named the Pamlico Terrace that has current elevations ranging from approximately 20 to 40 feet above msl. This abandoned beach ridge was formed over 10,000 years ago during the late Pleistocene age. The Pamlico Terrace sediments are about 50 feet thick at HAAF. 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; and
- A coarsening-upward sequence of sand with the uppermost portion consisting 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 a 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. Composed of fine- to medium-grained well sorted quartz sand, the beach resides on the highest part of the ridge. The beach itself is primarily 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 that consists of finer sands that were constantly reworked to form well sorted sands that are finer when compared to the beach. Grain size should decrease with increasing water depth due to the limited winnowing in deeper water by reduced wave action with depth.

Marshes and bays developed 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 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.

# 4 PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

Investigations and remedial actions have been conducted at HAA-01 since 1987, with CSR investigation activities beginning in 1999. Investigations at the site have included the installation of numerous soil borings, monitoring wells, and the collection and analysis of soil, sediment, surface water and groundwater samples, as described in the sections below. Monitoring well construction details are summarized in **Table 3-1**. A site map depicting historical soil boring, vertical groundwater profile, and monitoring well locations is presented as **Figure 4-1**. A site map depicting all historical and current sediment and surface water sample locations is presented as **Figure 4-2**. Summaries of the analytical results for historical groundwater samples, soil samples, surface water samples, and sediment samples collected at HAA-01 are provided in **Tables 4-1** through **4-4,** respectively. Available field forms documenting historical field procedures, well installation and development, and soil investigations have been included as **Appendix C.**

## 4.1 HAA-01: 1987 Preliminary Assessment

In March 1987, the USAEHA conducted a preliminary assessment of soils by advancing four soil borings (BH-10 through BH-13) near the former fire training pad to confirm the absence or presence of contaminants. Samples were analyzed for Resource Conservation and Recovery Act (RCRA) 8 metals via USEPA Method 6010 and select semi-volatile organic compounds (SVOCs) by USEPA Method 8270. Metals, polycyclic aromatic hydrocarbons (PAHs), and phthalates were detected in the soil samples. Results were reported in the *Hazardous Waste Study No. 37-26-0127-88 Investigation of Soil Contamination* (USAEHA 1987).

## 4.2 HAA-01: 1990 – 1992 Additional Assessments

Between 1990 and 1992, Environmental Science and Engineering, Inc. (ESE) conducted two additional phases of investigations as a follow up to the 1987 Preliminary Assessment. Activities included completion of additional soil borings, installation and sampling of monitoring wells, and sediment sampling. In February 1990, six monitoring wells were installed in the shallow and deep portions of the uppermost aquifer in the FTA. Shallow wells (HMW-02, HMW-04, and HMW-06) were installed to depths ranging from approximately 13 to 15 feet bgs and deep wells (HMW-01, HMW-03, and HMW-04) were installed to depths ranging from approximately 48 to 49 feet bgs. In addition, six soil borings (HSB-1 through HSB-6) were installed to a maximum depth of 10 feet bgs each and three sediment samples (SD-1 through SD-3) were collected to further define the extent of potential impacts. In March 1992, three monitoring wells (HMW-07 through HMW-09) were installed to depths ranging from approximately 13 to 15 feet bgs at the former FTA. Additionally, seven soil borings (PSB-1 through PSB-7) were advanced to depths ranging from approximately 4 to 9 feet bgs. Four sediment samples (HSD-1 through HSD-4) were also collected at locations PSS-1 through PSS-4.

All samples collected during 1990 and 1992 investigations were submitted for laboratory analysis of VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), and RCRA metals (USEPA Method 6010). Laboratory results identified VOCs (ketones, petroleum compounds) and SVOCs (PAHs) in soils. Drainage ditch sediment samples contained elevated levels of PAHs and metals. Low concentrations of

VOCs, SVOCs, and metals were also identified in the groundwater samples. The results of the 1990 and 1992 investigations were reported in the *Final Significance of Contamination Report, Hunter Army Airfield Fire Training Area, Fort Stewart, Georgia* (ESE 1993). Delineation of contamination was not completed by this investigation.

## 4.3 HAA-01: 1995 Source Removal Design Investigation

A source removal design investigation conducted in 1995 by Law included the installation of four additional monitoring wells (HMW-10 through HMW-13) and 17 additional soil borings (FTASB-01 through FTASB-17) to further define the extent of impacts to soil and groundwater. Groundwater samples were collected from each of the newly installed monitoring wells and two soil samples were collected from 11 of the soil borings during this investigation. Free phase product was identified in monitoring well HMW-07 during this investigation.

All samples collected during the 1995 investigation were submitted for analysis of VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), RCRA metals (USEPA Method 6010), total petroleum hydrocarbons (TPH) as gasoline range organics, and TPH as diesel range organics (USEPA Method SW8015B). Laboratory analysis of both soil and groundwater samples confirmed the presence of VOCs (i.e., benzene, toluene, ethylbenzene, and xylenes [BTEX]) and PAH compounds exceeding the USEPA maximum contaminant levels (MCLs) in the immediate vicinity of the former fire training pad. The horizontal extent of soil contamination was reported as delineated while groundwater contamination was reported as delineated vertically, but not horizontally. The results of this investigation were reported in the 1996 Pre-Final CSR. This report was subsequently withdrawn in order to incorporate the results of additional investigation and soil removal activities. Results were later summarized in the *Soil Remedial Action Report* (Omega Environmental Services, Inc. [Omega] 1998).

## 4.4 HAA-01: 1997 – 2000 Remedial Actions

Remedial actions were initiated in 1997 and continued through 2000 based upon the results of the source removal design investigation conducted by Law in 1995 as well as previously completed investigations. Remedial actions consisted of former FTA equipment removal, soil excavation, free product removal, and confirmation soil sampling activities. Soil excavation activities were performed between November 1997 and March 1998 at the former FTA. Omega along with their subcontractor, Geosciences, Inc. conducted remedial activities including the removal of the former FTA components (simulated aircraft structure, ASTs, underground transmission lines, and fire training pad) and impacted soils in the immediate area that were identified during previous investigations at concentrations exceeding the applicable USEPA screening levels. The excavation depths ranged from 5 to 8 feet bgs, the area of excavation on the former fire training pad was approximately 88 feet wide by 90 feet long, while the former AST bermed area of excavation was 43 feet wide by 70 feet long. Approximately 9,430 tons of soil, 233 tons of concrete debris, and 81,906 gallons of wastewater were removed and disposed of during this phase of remedial activities. Twenty-seven confirmation soil samples were collected from the sidewalls and base of the excavation and were analyzed for select RCRA metals (USEPA Method 6010), BTEX (USEPA Method 8270), pesticides (USEPA Method 8081), polychlorinated biphenyls (PCBs) (USEPA Method 8082), and TPH (USEPA Method SW8015B). Laboratory analytical data from confirmatory soil samples indicated that concentrations of constituents remained above the applicable USEPA screening levels at multiple

locations after removal activities were completed. Details of the remedial activities can be seen in the *Soil Remedial Action Report* (Omega 1998). A summary of the remedial action and the post-remedial action laboratory analytical results, as provided in the Revised Final CSR (Law 2002), has been included in **Appendix D**.

In February 1999, free product removal was initiated in monitoring well HMW-07 using an automated belt skimmer system that operated from February 1999 through October 1999 and removed approximately three gallons of free product. In October, the system was temporarily shut off to allow free product to equilibrate in the well. After one week, 2.4 feet of free product were observed in the well. The system was restarted with a modified operation cycle (i.e., 15 minutes on, 12 hours off) in October. In addition to restarting the system, six product delineation points (slotted well screen installed to 8 feet bgs) were installed in the perimeter around HMW-07. Free product measurements in these points were collected on December 15, 1999, February 24, 2000, March 3, 2000, and March 11, 2000, however, no free product was detected during any of these measurements. The belt skimmer system remained in place after these measurements, but additional recovery data was not recorded.

## 4.5 HAA-01: July 1999 – January 2000 Site Investigations

In July 1999, soil borings SB-18 through SB-29 and monitoring well borings HMW-14 through HMW-17 were installed. Two soil samples, one from the surface (0 to 2 feet bgs interval) and one from just above the water table, were collected from each boring and submitted for laboratory analysis of select VOCs (USEPA Method 8260) and select SVOCs (USEPA Method 8270). Six borings, SB-22 through SB-27, were also analyzed for pesticides (USEPA Method 8081) and PCBs (USEPA Method 8082) in addition to VOCs (USEPA Method 8260) and SVOCs (USEPA Method 8270). Analytical results indicated that delineation was not complete. In January 2000, 11 additional soil borings (SB-30 through SB-40) and four additional monitoring wells (HMW-14R, HMW-18, HMW-19, and HMW-20) were installed. Soil and groundwater samples were collected and submitted for laboratory analysis of select VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), and/or pesticides (USEPA Method 8081). To further define the extent of SVOCs detected in sample SB-38, two additional soil borings (SB-41 and SB-42) were installed on January 31, 2000. One shallow interval (0 to 2 feet bgs) sample and one deep interval (2 to 3 feet bgs or 3 to 5 feet bgs) sample was collected from each boring and submitted for analysis of select VOCs (USEPA Method 8260) and select SVOCs (USEPA Method 8270). Since laboratory analytical results of the shallow interval samples from each of the two borings indicated that the select SVOCs were not present, analysis was not completed on the deeper interval of SB-42. A CSR dated March 31, 2000 was prepared and submitted to the Georgia Environmental Protection Division (GAEPD), however, based on the GAEPD's comments, the report was rescinded to complete additional investigation.

Groundwater investigations conducted in July 1999 included the installation of six temporary piezometers (HMW-14, HMW-15, HMW-16A, HMW-16B, HMW-16C, and HMW-17) and subsequent sampling via low flow sampling techniques using a peristaltic pump and disposable polyethylene tubing. Groundwater samples were submitted for analysis of BTEX (USEPA Method 8260). Based on the laboratory analytical data, locations HMW-14, HMW-15, HMW-16A, and HMW-17 were converted into permanent monitoring wells by overdrilling and removing the temporary piezometers. Well development of HMW-14 indicated it did not have adequate volume for sampling (total well depth of 14 feet bgs) and was, therefore,

abandoned. In January 2000, replacement monitoring well HMW-14R was installed to a depth of 20.37 feet bgs to provide adequate groundwater yield for development and sampling.

Two additional temporary piezometers (SB-38 and SB-40) were installed in January 2000 to fill data gaps identified during the July 1999 groundwater investigation. Samples were collected via low flow sampling techniques using a peristaltic pump and submitted for analysis of VOCs (USEPA Method 8260) and SVOCs (USEPA Method 8270). Based on the laboratory analytical results, permanent monitoring wells HMW-19 and HMW-20 were installed by overdrilling and removing the temporary piezometers at SB-38 and SB-40, respectively. Monitoring well HMW-18 was also installed during this mobilization to delineate the southern boundary of the site. In January 2000, seven monitoring wells (HMW-02, HMW-12, HMW-14R, HMW-17, HMW-18, HMW-19, and HMW-20) were sampled via low flow sampling techniques for analysis of select VOCs (USEPA Method 8260), select SVOCs (USEPA Method 8270), and select metals (arsenic, barium, lead) (USEPA Method 6010), with the exception of HMW-02, which was only analyzed for background evaluation of lead in groundwater.

## 4.6 HAA-01: October – November 2001 Site Investigations

In October and November 2001, two additional monitoring wells were installed to the northwest (HMW-21) and to the east (HMW-22) of monitoring well HMW-14R to delineate VOCs in groundwater. Monitoring wells HMW-14R, HMW-21, and HMW-22 were sampled via low flow sampling techniques and analyzed for VOCs (USEPA Method 8260). Additionally, monitoring well HMW-03 was sampled via low flow techniques and analyzed for VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), and RCRA metals (USEPA Method 6010) to evaluate the deepest portion of the uppermost aquifer, downgradient of the former fire training pad.

On October 31, 2001, six surface water samples (HSW-1 through HSW-6) were collected from the two drainage ditches adjacent to the former FTA and submitted to Accura Analytical Laboratory in Norcross, Georgia for laboratory analysis of VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), and RCRA metals (USEPA Method 6010). Samples were collected by directly filling sample containers from the stream flow at each sample location. The samples were collected as part of the ecological risk assessment (ERA) to evaluate the potential impacts of groundwater discharge to surface water in the drainage ditches. Laboratory analysis of the surface water samples indicated concentrations of BTEX compounds and naphthalene in one sample (HSW-1), however, the concentrations of these compounds were below applicable USEPA screening levels. It was noted that the location of HSW-1 was at the headwall of a pipe that carried storm water from the nearby flightline and most likely represented storm water flow from the flightline, rather than groundwater discharge from the HAA-01 area.

Nine soil borings (SB-43, SB-43A, and SB-44 through SB-50) were also advanced in October 2001 to further investigate the presence of VOCs, SVOCs, barium, and chromium in soils at HAA-01. A background statistical evaluation was completed during this phase of investigation to establish an upper background concentration (UBC) of metals in soils at the site. Results of this investigation, as well as data presented in the original CSR, were documented in the Revised Final CSR (Law 2002). Details of the UBC calculations have been included as **Appendix E**.

## 4.7 HAA-01: 2003 Interim Removal Actions

In November and December 2003, Solutions To Environmental Problems, Inc. (STEP) conducted an Interim Remedial Action to address free product and contaminated soil in the vicinity of HMW-07. Prior to excavation and removal of the free product recovery system, the belt skimmer system was confirmed to be operational and then manually removed from HMW-07. Excavation around monitoring well HMW-07 began by removing the surface soil to a depth of 2 feet bgs. Field screening of the excavated material was conducted using a photoionization detector (PID) in conjunction with visual and olfactory indicators to identify petroleum contamination. The excavated material within 2 feet of ground surface did not exhibit signs of petroleum contamination and was stockpiled next to the excavation to be used as backfill material.

Soil excavation continued to a depth of 8 feet bgs and encompassed an approximately 15-foot by 15-foot area around well HMW-07. Excavated material from 2 to 8 feet bgs was placed inside roll off containers lined with plastic sheeting. HMW-07, the six piezometers surrounding HMW-07, and the associated gravel pad, protective casing, and bollards were considered petroleum contaminated non-hazardous construction debris and were placed in roll off containers. The debris and excavated soil were transported to the Savannah Regional Landfill for disposal.

Once the excavation had reached the dimensions specified in the Work Plan (STEP 2003), soil samples were collected using the bucket of the backhoe from each of the sidewalls and the center of the excavation floor. Samples were collected using EnCore™ samplers from the bucket of the backhoe and submitted to an offsite laboratory for analysis of VOCs (USEPA Method 8260B). Laboratory analytical results of post excavation soil samples identified 12 compounds (2-butanone, acetone, benzene, carbon disulfide, cyclohexane, ethylbenzene, isopropyl benzene, methylcyclohexane, methylene chloride, tetrachloroethene, toluene, and total xylenes) below applicable USEPA screening levels.

Monitoring well HMW-23 was installed using a hollow stem auger (HSA) drill approximately 25 feet downgradient of the completed excavation. The well was installed to a total depth of 15 feet bgs and was constructed of a 2-inch inside diameter, 10-foot length slotted polyvinyl chloride (PVC) screen with a 2-inch solid PVC riser. Monitoring well HMW-24 was installed within the limits of the excavation as a 4-inch inside diameter, 5-foot pre-packed PVC well screen with a bottom end cap and a 4-inch inside diameter solid PVC riser. The well was pre-assembled and placed upright in the open excavation. The excavation was then backfilled with gravel to approximately 1.5 feet above the top of the well screen. The remainder of the excavation was backfilled with stockpiled soil.

In December 2003, monitoring well HMW-23 was purged of three well volumes and allowed to recharge before being sampled via a disposable bailer for VOCs (USEPA Method 8260B). Various VOCs were detected in this sample and again in a sample collected in March 2004. Of the VOCs detected in both sampling events, only benzene and vinyl chloride exceeded their applicable USEPA MCLs.

### 4.7.1 HAA-01: 2002 – 2003 Vertical Profile Investigation

To further investigate the presence of chlorinated solvents in the DAACG Area, the U.S. Army Corps of Engineers (USACE) installed 12 vertical profile borings (DVP-1 through DVP-12) using Geoprobe® direct push technology (DPT) in August 2002. Groundwater samples were collected at 5-foot intervals starting below the groundwater table to a depth of approximately 45 or 50 feet bgs. Approximately eight samples

were collected from each boring and submitted to an offsite laboratory for analysis of VOCs (USEPA Method 8260). Five additional vertical profile borings (DVP-13 through DVP-17) were installed by USACE in December 2002 to further delineate chlorinated solvents in groundwater to the southwest of the previously installed vertical profile borings.

Based on the laboratory analytical results of the vertical profile borings, eight permanent monitoring wells (COE-MW-01 through COE-MW-08) were installed using Geoprobe® DPT for plume delineation purposes in the DAACG Area in June 2003. Wells were constructed of a 1-inch diameter, 5-foot length well screens and 1-inch diameter solid PVC risers. The results of this investigation were presented in the *Data Summary Package for the DAACG Chlorinated Solvents Area (HAA-16)* (SAIC 2004). A summary of the vertical profile boring investigation has been included in **Appendix F**.

## 4.8 HAA-01: 2004 – 2008 Compliance Status Report Groundwater Monitoring Program

Based on the anticipated approval of the Revised Final CSR (Law 2002) and the Addendum to the CSR (SAIC 2005), semi-annual (i.e., every January and July) groundwater monitoring activities were conducted at the former FTA and DAACG Area from July 2004 through January 2008. The FTA portion of the monitoring program included the sampling and analysis of HMW-02, HMW-04, HMW-06, HMW-08 through HMW-11, HMW-13, HMW-23, and HMW-24 for BTEX (USEPA Method 8260), PAHs (USEPA Method 8270), and lead (USEPA Method 6010). The results of groundwater monitoring were to be used in the evaluation of potential corrective actions for the site. In the DAACG Area, monitoring wells COE-MW-01 through COE-MW-08, HMW-14R, and HMW-21 were sampled for laboratory analysis of VOCs via USEPA Method 8260 to track the concentrations of (cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride to provide an adequate basis for potential corrective action evaluation.

Laboratory analytical results for monitoring well samples from the former FTA indicated multiple exceedances of the applicable USEPA MCLs for benzene, naphthalene, and 2-methylnaphthalene. Laboratory analysis of monitoring well samples associated with the DAACG Area indicated multiple exceedances of the applicable USEPA MCLs for cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, and benzene. A summary of groundwater monitoring data is provided in **Table 4-1** and laboratory analytical reports from the CSR monitoring events are provided in **Appendix G**.

Due to a change in contractor, the performance of semi-annual sampling was suspended after January 2008. Details of the monitoring activities, including the laboratory analytical reports, were summarized in Monitoring Only Reports for calendar years 2005, 2006, 2007, and January 2008 (SAIC 2006, 2007, 2008a,b). These Monitoring Only Reports were never submitted to the GAEPD, as the U.S. Army Environmental Command was awaiting approval of the 2002 CSR. All historical groundwater data has been incorporated herein.

# 5 REMEDIAL INVESTIGATION PROGRAM

Field investigations were completed by Arcadis between November 2009 and February 2012 to delineate the source(s) and extent of impacts in soil and groundwater at HAA-01. The primary focus of the investigation was to further delineate the extent of detected compounds including VOCs, SVOCs, metals, pesticides, and herbicides to background and/or non-detect concentrations in soil and groundwater at the former FTA and DAACG Area. Supplemental investigation activities were conducted in December 2014 to evaluate current groundwater and surface water conditions through the collection of representative groundwater, surface water, and sediment samples.

All procedures and techniques utilized for this investigation conformed to USEPA Region 4 Science and Ecosystem Support Division (SESD) Groundwater Sampling Operating Procedure SESDPROC-301-R3 (USEPA 2013a) and the Sampling and Analysis Plan (SAP) for this site (provided in **Appendix H**). Field investigation activities associated with events conducted between 2009 and 2012 were performed in general accordance with the *Compliance Status Report (CSR) Work Plan, Revision 1* (Arcadis 2010), submitted to the GAEPD in May 2010. The CSR Work Plan submitted to GAEPD was subsequently rescinded by the Army and the activities detailed in the CSR Work Plan were not implemented. Field investigation activities conducted in 2014 were performed in general accordance with *Proposed Supplemental Investigation for HAA-01 (Fire Training Site), HAA-15 (MCA Barracks Site), and HAA-17 ([trichloroethene] TCE Groundwater Contamination)* (Arcadis 2014a) submitted to the GAEPD in June 2014. All soil and groundwater samples collected were analyzed by Shealy Environmental Services, Inc., a certified Georgia Laboratory.

## 5.1 Summary of Field Investigations

The Arcadis field investigation events are summarized in **Table 5-1** below.

**Table 5-1. 2009 – 2014 Field Investigation Events Summary**

| Field Investigation | Date | Objective | Area(s) of Investigation |
|---|---|---|---|
| Well Sampling | February 2009 | • Comprehensive groundwater monitoring event including gauging and sampling of shallow surficial aquifer monitoring wells | • Former FTA and DAACG Area |
| CSR Soil Characterization and Well Installation | November 2009 | • Further characterize and/or delineate soil and groundwater contamination<br>• Focused soil sampling of shallow and deep intervals<br>• Installation and development of nine shallow and three deep surficial aquifer monitoring wells | • Former FTA and DAACG Area |
| Well Sampling | December 2009 | • Comprehensive groundwater monitoring event including gauging and sampling new and existing shallow and deep surficial aquifer monitoring wells | • Former FTA and DAACG Area |

| Field Investigation | Date | Objective | Area(s) of Investigation |
|---|---|---|---|
| Supplemental Well Installation and Sampling | January to February 2012 | • Confirmatory groundwater sampling of select monitoring wells<br>• Installation, development, and sampling of one deep surficial aquifer monitoring well for vertical delineation of groundwater contamination | • DAACG Area |
| Supplemental RI Well Sampling and Surface Water and Sediment Characterization | December 2014 | • Supplemental sampling to evaluate current groundwater, surface water, and sediment quality<br>• Comprehensive groundwater monitoring event including gauging and sampling shallow and deep surficial aquifer monitoring wells<br>• Surface water and sediment sampling | • Former FTA and DAACG Area<br>• Drainage ditches in the vicinity of the former FTA |

Detailed descriptions of the Arcadis field activities summarized above are discussed in the following sections.

## 5.2 Groundwater Investigation

**Table 5-2** (below) summarizes the groundwater monitoring wells installed at HAA-01 by date installed, location relative to source area, depth, and associated investigation. The monitoring well locations are shown on **Figure 2-2**.

**Table 5-2. 2009 – 2012 Monitoring Wells Summary**

| Monitoring Well | Location | Date Installed | Depth (feet bgs) | Investigation |
|---|---|---|---|---|
| HA01-MW-09 | Southeast section of DAACG Area | 2009 | 17.0 | CSR Investigation |
| HA01-MW-10 | Northeast section of DAACG Area | 2009 | 12.0 | CSR Investigation |
| HA01-MW-11 | Northern boundary of DAACG Area | 2009 | 12.0 | CSR Investigation |
| HA01-MW-12 | Northwest section of DAACG Area | 2009 | 12.0 | CSR Investigation |
| HA01-MW-13 | Southwest section of DAACG Area | 2009 | 12.0 | CSR Investigation |
| HA01-MW-14 | Southwest of DAACG Area | 2009 | 13.0 | CSR Investigation |
| HA01-MW-15 | South of DAACG Area | 2009 | 14.5 | CSR Investigation |
| HA01-MW-16 | Southeast of DAACG Area | 2009 | 19.0 | CSR Investigation |
| HA01-MW-17 | West of former FTA | 2009 | 14.5 | CSR Investigation |
| HA01-MW-12D | Central section of DAACG Area | 2009 | 50.0 | CSR Investigation |
| HA-01-MW-14D | Southwest of DAACG Area | 2009 | 49.0 | CSR Investigation |
| HA01-MW-18D | Central section of DAACG Area | 2009 | 66.0 | CSR Investigation |

| Monitoring Well | Location | Date Installed | Depth (feet bgs) | Investigation |
|---|---|---|---|---|
| HA01-MW-07D | Southwest section of DAACG Area | 2012 | 60.0 | Supplemental Investigation |

### 5.2.1 Monitoring Well Installation and Development

Prior to initiating intrusive activities, the drilling subcontractor notified Georgia One-Call and a utility clearance survey was conducted by a private utility locator to identify the presence of subsurface structures and utilities within drilling areas using ground penetrating radar, electro-magnetic metal detector, and other appropriate techniques. Under the supervision of an Arcadis field geologist, monitoring wells were constructed in accordance with the Georgia Water Well Standards Act and installed by a certified Georgia driller (ARM Environmental Services, Inc.) via HSA methods or mud rotary drilling methods, as appropriate. Continuous soil samples were collected in 5-foot intervals, screened with a PID meter, and visually classified in accordance with the USCS. Once each monitoring well boring was advanced to its terminal depth, a 10-foot, 2-inch diameter schedule 40, flush-threaded 10-slot PVC screen and 2-inch schedule 40 PVC riser were placed through the inside of the HSA to a depth slightly above the bottom of the boring. Filter pack material consisting of clean 20/40 sand was placed, by tremie, from the bottom of the boring to 2 feet above the top of the well screen. The monitoring well was then surged to allow settling of filter pack material. If necessary, additional filter pack material was added after surging to maintain 2 feet of sand pack above the screened interval. A minimum of 2 feet of bentonite pellets was added on top of the filter pack. The bentonite was hydrated and allowed to set. After sufficient time, neat cement (grout) was placed in the remaining annulus to a depth of 1-foot bgs. Each well was completed using either an 8-inch flush mount manhole or a 3-foot tall steel protective above-ground surface completion.

Once the grout and the concrete pad sufficiently cured no sooner than 24 hours after installation, the monitoring wells were surged for approximately 10 minutes over the entire screened intervals. Water quality field parameters including pH, specific conductivity, temperature, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity were recorded during the development process. Wells were developed using surge blocks and bailers or pumps until the following occurred:

- The suspended sediment content of the water was less than 0.75 milliliters per liter, as measured in an Imhoff cone;
- The turbidity remained within a 10-nephelometric turbidity unit (NTU) range for at least 30 minutes; and
- Other stabilization criteria for temperature (±1 degrees Celsius °C), pH (±0.1 units), specific conductivity (±5%), and DO (±10%), were met for successive measurements.

All wells were developed prior to groundwater sampling in accordance with the Georgia Water Well Standards Act and the GAEPD-approved SAP and Quality Assurance Project Plan (QAPP) for Hunter Army Airfield (Arcadis 2014b). Monitoring well boring logs, construction logs, and development logs can be found in **Appendix I**. Monitoring well construction details are summarized in **Table 3-1**.

#### 5.2.1.1 November 2009 Monitoring Well Installation

Groundwater investigation activities performed in December 2009 included the installation of 12 new monitoring wells, in accordance with the CSR Work Plan (Arcadis 2010), to complete the delineation of detected compounds in groundwater to background and/or non-detect concentrations based on the results of the February 2009 groundwater monitoring event. As shown on **Figure 2-2**, installed wells included nine shallow surficial aquifer monitoring wells (HA01-MW-09 through HA01-MW-17) and three deep surficial aquifer monitoring wells (HA01-MW-12D, HA-01-MW-14D, and HA01-MW-18D).

Shallow surficial aquifer monitoring wells were installed such that the screened interval of each well adequately centers seasonal fluctuations of the groundwater table. Deep surficial aquifer monitoring wells were installed as well pairs to vertically delineate shallow surficial aquifer groundwater impacts. At the request of the GAEPD, monitoring well HA01-MW-18D was installed downgradient of monitoring well COE-MW-03 to enhance the vertical delineation at a depth of 65 feet bgs in the vicinity of the highest groundwater concentrations (GAEPD 2010).

#### 5.2.1.2 February 2012 Monitoring Well Installation

In February 2012, a deep surficial aquifer monitoring well (HA01-MW-07D) was installed at the request of the GAEPD in order to provide additional vertical delineation in the vicinity of existing monitoring well COE-MW-07 (**Figure 2-2**). Monitoring well HA01-MW-07D was installed as a double cased well by a certified Georgia driller (ARM Environmental Services, Inc.) via HSA and mud rotary methods under the supervision of an Arcadis field geologist. Initially, a Geoprobe® 7822 was used to advance 7 and 7/8-inch outer diameter augers to a depth of 45 feet bgs. A 4-inch outer steel casing was installed from ground surface to 45 feet bgs. Once the grout had sufficient time to cure, the well was installed and constructed within the outer casing to a total depth of 60 feet bgs and developed following the same procedure described in **Section 5.2.1**.

### 5.2.2 Groundwater Sampling

Monitoring wells were sampled in accordance with the USEPA Region 4 Operating Procedure for Groundwater Sampling (USEPA 2007c) using low flow sampling techniques to minimize disturbance of any sediment remaining in the wells after development and to reduce the volume of investigation derived waste (IDW) generated. Prior to the collection of groundwater samples during each event, static water level measurements were collected at each monitoring well using an electric water level probe. Water level measurements were taken at least once within a single 24-hour period and were recorded to the nearest 0.01 foot. Static water level measurements and groundwater elevations for the February 2009, December 2009, and December 2014 groundwater monitoring events are summarized in **Table 3-3**.

Groundwater samples were collected using a peristaltic pump and disposable Teflon® tubing. During the well purging process, water quality parameters including pH, specific conductance, temperature, ORP, DO and turbidity were collected and recorded on field forms. Field sampling data sheets for the February 2009, December 2009, January 2012, February 2012, and December 2014 groundwater monitoring events are included in **Appendix I**. A minimum of three sets of readings were recorded until two consecutive sets of readings stabilized. The following information was recorded each time a well was purged and sampled:

- Depth to water before and after purging;
- Well bore volume calculation;
- Total depth of the monitoring well;
- The condition of each well; and
- Water quality field parameters including pH, temperature, specific conductance, DO, ORP, and turbidity.

Groundwater samples were submitted to Shealy Environmental Services, Inc. in West Columbia, South Carolina for analysis. Analytical results for groundwater samples collected between 2009 and 2012 are summarized in **Table 5-3** and analytical results for groundwater sampled collected in 2014 are summarized in **Table 5-4**.

#### 5.2.2.1 February 2009 through December 2014 Groundwater Sampling

Based on comments received from the GAEPD on the CSR Addendum (SAIC 2005), additional groundwater investigation activities were recommended and conducted between February 2009 and December 2009. In February 2009, groundwater samples were collected from 10 shallow surficial aquifer monitoring wells in the former FTA and 10 shallow surficial aquifer monitoring wells in the DAACG Area. Deep surficial aquifer monitoring wells were not gauged or sampled as part of the February 2009 groundwater monitoring event. Groundwater samples were analyzed for an expanded list of compounds based on GAEPD comments on the Revised Final CSR (SAIC 2002) and the Addendum to the CSR (SAIC 2005) to include VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), metals (USEPA Method 6010), pesticides (USEPA Method 8081), and herbicides (USEPA Method 8151). Groundwater elevation data was used to construct a potentiometric map for the shallow surficial aquifer that was included in the CSR Work Plan (Arcadis 2010).

In December 2009, groundwater samples were collected from the 12 new monitoring wells installed in November 2009 and 20 existing monitoring wells in the former FTA and DAACG Area. Groundwater samples collected from DAACG Area monitoring wells were analyzed for metals (USEPA Method 6010), pesticides (USEPA Method 8081), and VOCs (USEPA Method 8260). Groundwater samples collected from the former FTA were analyzed for VOCs (USEPA Method 8260). Eight wells selected based on historical detections from both the DAACG Area and the former FTA were analyzed for SVOCs (USEPA Method 8270).

In January 2012, in response to GAEPD comments on the CSR submitted in September 2011, monitoring wells HA01-MW-12 and HA01-MW-14 were re-sampled and analyzed for VOCs to verify detections of select VOCs (i.e., acetone in HA01-MW-12 and toluene in HA01-MW-14) identified during the December 2009 groundwater monitoring event. Groundwater samples were analyzed for VOCs (USEPA Method 8260). In February 2012, a groundwater sample was collected from newly installed well HA01-MW-07D and analyzed for metals (USEPA Method 6010), VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), pesticides (USEPA Method 8081B), and herbicides (USEPA 8151A).

In December 2014, groundwater samples were collected from 26 shallow surficial aquifer monitoring wells and two deep surficial aquifer monitoring wells at the former FTA and DAACG Area to evaluate current

groundwater conditions at the site. Groundwater samples were analyzed for one or more of the following: VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), RCRA metals (USEPA Method 6010), hexavalent chromium (USEPA Method 7196A), and pesticides (USEPA Method 8081). To evaluate the potential of emerging contaminant 1,4-dioxane in groundwater, one sample from the monitoring well with the highest VOC concentrations (COE-MW-03) was additionally analyzed for 1,4-dioxane (USEPA Method 8260) in accordance with *Proposed Supplemental Investigation for HAA-01 (Fire Training Site), HAA-15 (MCA Barracks Site), and HAA-17 (TCE Groundwater Contamination)* (Arcadis 2014a).

### 5.2.3 Survey

Monitoring wells were surveyed by a Georgia Registered Surveyor relative to the North American Vertical Datum. Horizontal control surveying (X- and Y-coordinates) was performed at the ground surface of each sampling location. Vertical control surveying (Z-coordinates) was performed at the top of casing and the ground surface of each monitoring well location. Survey data with a Site Map is provided in **Appendix J**.

## 5.3 Soil Investigation

**Table 5-5**, below, summarizes the soil investigation activities conducted at HAA-01 in 2009 by location relative to source area and depth. The soil boring locations are shown on **Figure 4-1**.

**Table 5-5. 2009 Soil Investigation Summary**

| Soil Boring | Location | Date | Depth (feet bgs) | Investigation |
|---|---|---|---|---|
| HA01SB001 | Northeast of former FTA | 2009 | 8-10 | CSR Investigation |
| HA01SB002 | East of former FTA | 2009 | 6-6.5 | CSR Investigation |
| HA01SB003 | Southeast of former FTA | 2009 | 8-10 | CSR Investigation |
| HA01SB004 | Southwest of former FTA | 2009 | 2-4 | CSR Investigation |
| HA01SB005 | West of former FTA | 2009 | 0-2 | CSR Investigation |
| HA01-MW-09 | Southeast section of DAACG Area | 2009 | 1-2 and 9-10 | CSR Investigation |
| HA01-MW-10 | Northeast section of DAACG Area | 2009 | 1-2 and 3-4 | CSR Investigation |
| HA01-MW-11 | Northern boundary of DAACG Area | 2009 | 1-2 and 2-3 | CSR Investigation |
| HA01-MW-12 | Northwest section of DAACG Area | 2009 | 1-2 and 3-4 | CSR Investigation |
| HA01-MW-13 | Southwest section of DAACG Area | 2009 | 1-2 and 4-5 | CSR Investigation |
| HA01-MW-14 | Southwest of DAACG Area | 2009 | 1-2 and 3-4 | CSR Investigation |
| HA01-MW-15 | South of DAACG Area | 2009 | 1-2 and 5-6 | CSR Investigation |
| HA01-MW-16 | Southeast of DAACG Area | 2009 | 1-2 and 10-11 | CSR Investigation |
| HA01-MW-17 | West of former FTA | 2009 | 1-2 and 6-7 | CSR Investigation |

### 5.3.1 Utility Locate

Prior to initiating intrusive activities, the drilling subcontractor notified Georgia One-Call and a utility clearance survey was conducted by a private utility locator to identify the presence of subsurface structures within drilling areas. Ground penetrating radar, electro-magnetic metal detector, and other appropriate techniques were employed by a private underground utility locator to identify subsurface structures and underground utilities within each area.

### 5.3.2 November 2009 Soil Sampling

Soil investigation activities, as detailed in the CSR Work Plan (Arcadis 2010), were completed as part of delineation activities in both the former FTA and DAACG Area. In November 2009, focused soil sampling was performed within the former FTA, with soil samples collected at five soil borings (HA01SB001 through HA01SB005) at targeted intervals to complete delineation of previously detected compounds (**Figure 4-1**). In addition to samples collected from the soil borings, soil samples were collected from shallow (0 to 2 feet bgs) and deep intervals (2 feet above groundwater table) during the installation of nine new monitoring wells (HA01-MW-09 through HA01-MW-17) to further characterize and/or delineate detected compounds in soils within the DAACG Area (**Figure 4-1**). No additional samples were collected from the deep wells installed as well pairs (HA01-MW-12D, HA01-MW-14D, and HA01-MW-18D).

Soil borings near the former FTA (HA01SB001 through HA01SB005 and HA01-MW-17, **Figure 4-1**) were completed by a certified Georgia driller (ARM Environmental Services, Inc.) via Geoprobe® DPT drilling methods under the supervision of an Arcadis field geologist. Continuous soil samples were collected in 5-foot intervals, screened with a PID meter, and visually classified in accordance with the USCS. A summary of analytical results for soil samples collected at HAA-01 near the former FTA area in November 2009 is provided in **Table 5-6.**

Soil samples collected from the monitoring well borings near the DAACG Area (HA01-MW-09 through HA01-MW-16) were completed during monitoring well installation activities (refer to **Section 5.2.1.1** above). A summary of analytical results for soil samples collected at HAA-01 near the DAACG Area in November 2009 is provided in **Table 5-7.** Two soil samples from intervals including 0 to 2 feet bgs and 2 feet above the groundwater table were collected from each well boring using a split spoon sampler or hand auger. The shallow soil samples collected from the monitoring well borings were analyzed for metals (USEPA Method 6010), VOCs (USEPA Method 8260), and pesticides (USEPA Method 8081). The deep soil samples collected from the monitoring well borings were analyzed for metals (USEPA Method 6010) and VOCs (USEPA Method 8260).

Soil borings HA01SB001 through HA01SB005 were surveyed in the field using global position system technology. Upon completion, the temporary soil borings were grouted with cement from total depth to approximately 6 inches from land surface. The temporary soil boring locations were restored at the surface with concrete, asphalt, or topsoil, consistent with the surrounding material. The monitoring well borings were surveyed as monitoring well locations according to the procedures detailed in **Section 5.2.3** above. A site map and survey data for the temporary soil borings and monitoring well borings can be found in **Appendix J**.

## 5.4 Surface Water Assessment

In December 2014, six surface water and six sediment samples were collected from the drainage canal west of the former FTA. The location of surface water and sediment samples is provided on **Figure 4-2**. A summary of the location, depth, and analyses for surface water and sediment samples collected at HAA-01 in December 2014 is provided in **Table 5-8** and **Table 5-9**, respectively. Surface water samples and sediment samples were analyzed for VOCs (USEPA Method 8260), SVOCs (USEPA Method 8270), RCRA metals (USEPA Method 6020/7470/7471), hexavalent chromium (USEPA Method 7196A), and pesticides (USEPA Method 8081).

## 5.5 Investigation-Derived Waste

IDW generated included soil cuttings, decontamination fluids, development water, purge water, packaging materials, and disposable personal protective equipment. Waste characterization samples were collected and analyzed to determine proper disposal requirements. Soil cuttings, purge water, and decontamination water from soil sampling, well installation, well development, and groundwater sampling activities were containerized in U.S. Department of Transportation-approved 55-gallon drums, sealed, and stored in the onsite waste storage area. IDW was transport for off-site disposal by A&D Environmental Services, LLC to the licensed A&D facility in Macon, Georgia. Waste Manifests are provided as **Appendix K**.

# 6 INVESTIGATION RESULTS

## 6.1 Screening Criteria

Background metals concentrations in soil were obtained from the Revised Final CSR (Law 2002). The background concentrations were approved by GAEPD in a letter dated May 8, 2001 (GAEPD 2001). A description of the procedures used to determine background metals concentrations in soils and the GAEPD approval letter have been included as **Appendix E**. Background values, in milligrams per kilogram (mg/kg), are listed below:

- Arsenic: 2.6
- Barium: 28
- Cadmium: 2.6
- Chromium: 7.7
- Lead: 53
- Mercury: 0.39
- Selenium: 1.9
- Silver: 2.6

The UBCs are provided on the applicable soil sample summary tables as a comparative reference. The analytical results for each media were screened against the following standards to determine where additional delineation was required.

- Groundwater: USEPA MCL (USEPA 2017a) and USEPA Region 4 Tapwater Regional Screening Level (RSL). If an MCL has not been established for a constituent, the Tapwater RSL was used;
- Surface Soil (0 to 2 feet bgs): USEPA Residential Soil RSL (USEPA 2017a);
- Subsurface Soil (> 2 eeft bgs): USEPA Industrial Soil RSL (USEPA 2017a);
- Surface Water: Georgia In-Stream Water Quality Standards (IWQS; GAEPD 2015); and,
- Sediment: USEPA Region 4 Residential Soil RSL (USEPA 2017a).

## 6.2 Sources and Target Constituents

### 6.2.1 Former FTA

Multiple regulated compounds have been detected in both soil and groundwater at the former FTA. Most of these compounds are associated with historical fire training activities conducted in the area. These activities included the storage of petroleum fuels in ASTs and transmission of these fuels through

underground pipelines. Releases may have occurred from components of the former FTA fuel application system that may not have been structurally sound, resulting in releases of fuels to soils and/or groundwater. In addition, the application of these fuels to the simulated aircraft structure and the poor containment of excess water and foam generated during fire training exercises may also have contributed to constituents detected in surrounding soils, groundwater, and in surface water and sediment in the adjacent drainage ditches. The COCs detected greater than screening levels in the former FTA include:

- Groundwater – Chlorinated VOCs (1,1,2,2-tetrachloroethane and vinyl chloride) and petroleum related hydrocarbons (benzene, ethylbenzene, and naphthalene), based on 2014 analytical results;
- Soil – Chlorinated VOCs (chloromethane), petroleum related hydrocarbons (benzene, ethylbenzene, naphthalene, and xylenes), PAHs (1-methylnaphthalene, 2-methylnaphthalene, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, indeno[1,2,3-cd]pyrene, and dibenz[a,h]anthracene), pesticides (dieldrin), and metals (arsenic), based on historical soil sampling results;
- Surface Water – Lead, based on 2014 analytical results; and
- Sediment – PAHs (benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, and indeno[1,2,3-cd]pyrene) and metals (arsenic and hexavalent chromium), based on 2014 analytical results.

### 6.2.2 DAACG Area

While conducting field investigations at the former FTA in 2000, chlorinated solvents (cis-1,2-DCE and trans-1,2-DCE) were detected in a monitoring well located north of the former FTA. This area was subsequently designated as the DAACG Area. There is no documentation of activities conducted at HAA-01 prior to 1967. Additional investigations in this area, as well as historical record searches (no records were available for the area prior to the 1967 acquisition of the site by the Army), have been unsuccessful in identifying any potential sources of the chlorinated solvents in the area. Additionally, investigations performed to date have not identified a clear source of the chlorinated compounds. Aerial imagery from 1951 from a USGS online database (**Appendix L**), showed a grassy clearing in what is now the wooded portion of the DAACG Area. Investigation in the DAACG Area has identified construction and demolition debris within the DAACG Area, although it cannot be confirmed as a source for the chlorinated solvents. The COCs detected greater than screening levels in the DAACG Area include:

- Groundwater – Chlorinated VOCs (cis-1,2-DCE and vinyl chloride), benzene, pesticides (aldrin, dieldrin, heptachlor epoxide, alpha-hexachlorocylcohexane, and beta-hexachlorocylcohexane), and metals (total chromium and lead), based on 2014 analytical results; and
- Soil – PAHs (benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, indeno[1,2,3-cd]pyrene, and dibenz[a,h]anthracene) and metals (arsenic), based on historical soil sampling results.

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## 6.3 Nature and Extent of Constituents

### 6.3.1 Soil

Historically, multiple phases of investigations and remedial actions were conducted at the site to evaluate, delineate, and excavate soil impacts between 1987 and 2001 (**Table 4-2**). In November 2009, focused soil investigation activities were completed as part of additional delineation and characterization efforts (**Table 5-6** and **Table 5-7**). Laboratory analytical data packages for samples collected during the November 2009 soil investigation are provided in **Appendix G**. Soil investigation activities, soil remedial actions, and results are summarized in the following sections.

#### 6.3.1.1 Soil Investigation Summary

Based on comments received from the GAEPD on the CSR Addendum (SAIC 2005), additional soil investigation activities were recommended to complete delineation of detected compounds to background and/or non-detect concentrations. In November 2009, a focused soil investigation was performed within the former FTA including six soil borings (HA01SB001 through HA01SB005 and HA01-MW-17) installed to complete delineation of previously detected compounds. Additionally, shallow and deep subsurface soil samples were collected from eight monitoring well borings (HA01-MW-09 through HA01-MW-16) during the installation of 12 new monitoring wells to further characterize and/or delineate previously detected compounds present in soils within the DAACG Area.

- At borings completed near the former FTA, shallow soil samples contained concentrations greater than the laboratory method detection limit (MDL) for 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, toluene, total xylenes, and metals; concentrations in deep soil samples were greater than the laboratory MDL for acetone, 1-methyl benzene, carbon tetrachloride, chloromethane, toluene, naphthalene, PAHs, and metals.
- At borings completed in the DAACG Area, shallow soil samples contained concentrations greater than the laboratory MDL for chloromethane, total xylenes, dichlorodiphenyltrichloroethane (DDT), and metals; concentrations in deep soil samples were greater than the laboratory MDL for carbon tetrachloride, carbon disulfide, 1,2-dichlorobenzene, 2-hexanone, total xylenes, and metals.

#### 6.3.1.2 Extent of Impacts in Soil

Soil results are compared against the USEPA Residential Soil and Industrial Soil RSLs to provide a quantitative comparison for the evaluation of the magnitude and significance of the detected concentrations. Historical soil investigations completed at the site have detected 65 compounds at concentrations above the laboratory MDL. Of these compounds, 13 were detected at concentrations exceeding their respective screening levels and are summarized in **Table 6-1**, below.

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**Table 6-1. 1987 – 2009 Summary of Soil Impacts in Exceedance of Screening Levels**

| Compound | Exceedance Frequency | Depth of Impacts | Maximum Result (Surface/ Subsurface) | Location of Impacts | Screening Level Exceedance (Bold) | Delineation Status |
|---|---|---|---|---|---|---|
| Benzene | 2 / 48 | Subsurface | --<br>18 | Former FTA | **Res. RSL: 1.2**<br>**Ind. RSL: 5.1** | Horizontal: Yes<br>Vertical: No |
| Ethylbenzene | 8 / 50 | Subsurface | --<br>120 | Former FTA | **Res. RSL: 5.8**<br>**Ind. RSL: 25** | Horizontal: Yes<br>Vertical: No |
| Xylenes (total) | 2 / 52 | Subsurface | --<br>310 | Former FTA | **Res. RSL: 58**<br>**Ind. RSL: 250** | Horizontal: Yes<br>Vertical: No |
| Benz(a)anthracene | 25 / 40 | Surface<br>Subsurface | 34<br>18 | Former FTA, DAACG Area | **Res. RSL: 0.16**<br>**Ind. RSL: 2.9** | Horizontal: No<br>Vertical: No |
| Benzo(a)pyrene | 32 / 35 | Surface<br>Subsurface | 26<br>20 | Former FTA, DAACG Area | **Res. RSL: 0.016**<br>**Ind. RSL: 0.29** | Horizontal: No<br>Vertical: No |
| Benzo(b)fluoranthene | 29 / 38 | Surface<br>Subsurface | 28<br>13 | Former FTA, DAACG Area | **Res. RSL: 0.16**<br>**Ind. RSL: 2.9** | Horizontal: No<br>Vertical: No |
| Benzo(k)fluoranthene | 7 / 17 | Surface<br>Subsurface | 27<br>13 | Former FTA, DAACG Area | **Res. RSL:1.6**<br>Ind. RSL: 29 | Horizontal: No<br>Vertical: No |
| Chrysene | 2 / 39 | Surface<br>Subsurface | 33<br>20 | Former FTA | **Res. RSL: 16**<br>Ind. RSL: 290 | Horizontal: Yes<br>Vertical: No |
| Dibenzo(a,h)anthracene | 11 / 12 | Surface<br>Subsurface | 3.9<br>4.2 | Former FTA, DAACG Area | **Res. RSL: 0.016**<br>**Ind. RSL: 0.29** | Horizontal: Yes<br>Vertical: No |
| Indeno(1,2,3-cd)pyrene | 17 / 26 | Surface<br>Subsurface | 16<br>11 | Former FTA, DAACG Area | **Res. RSL:0.16**<br>**Ind. RSL: 2.9** | Horizontal: No<br>Vertical: No |
| Naphthalene | 6 / 44 | Subsurface | --<br>79 J | Former FTA | **Res. RSL: 3.8**<br>**Ind. RSL: 17** | Horizontal: No<br>Vertical: No |
| Dieldrin | 2 / 4 | Surface | 0.043<br>-- | Former FTA | **Res. RSL: 0.034** | Horizontal: Yes |

| Compound | Exceedance Frequency | Depth of Impacts | Maximum Result (Surface/ Subsurface) | Location of Impacts | Screening Level Exceedance (Bold) | Delineation Status |
|---|---|---|---|---|---|---|
| | | | | | Ind. RSL: 0.14 | Vertical: Yes |
| Arsenic | 24 / 79 | Surface<br>Subsurface | 13.9<br>3.94 | Former FTA, DAACG Area | **Res. RSL: 0.68**<br>**Ind. RSL: 3** | Horizontal: No<br>Vertical: No |

Notes:

J = Approximate concentration of the analyte in the sample.

Soil data posted in mg/kg.

Res. = Residential

Ind. = Industrial

Isocontour maps for each compound in exceedance of soil screening levels are provided as **Figures 6-1 through 6-16**. Petroleum related VOC and SVOC impacts (i.e., benzene, ethylbenzene, xylenes, 1-methylnaphthalene, 2-methlynaphthalene, and naphthalene) are primarily located in the vicinity and beneath the base of the 1997 excavation area of the former FTA. Most of the petroleum related impacts exceed USEPA residential RSLs, with a few exceedances of USEPA industrial RSLs. PAH impacts (i.e., benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene) have been detected across the extent of the former FTA and extend to locations SB-030 and HMW-14 in subsurface soil in the southeast portion DAACG Area. The majority of PAH impacts exceed residential RSLs, with industrial RSL exceedances observed for compounds benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene) to the south near the southern drainage ditch in the former FTA. Arsenic impacts were detected above the residential RSL throughout the former FTA and near the southern and eastern perimeter of the DAACG Area and above the industrial RSL and the UBC at four sample locations near the former fire training pad. Dieldrin impacts were observed at isolated areas in the former FTA south of the 1997 excavation and near the southern drainage ditch.

Historically, 52 compounds were detected in soils at concentrations below the RSLs but above the laboratory MDL. These compounds are summarized below and presented in **Table 4-2**, **Table 5-6**, and **Table 5-7**.

- VOCs: 1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2-Butanone, 2-Hexanone, Acetone, 1-methylethyl benzene, Carbon disulfide, Carbon tetrachloride, CFC-11, Chlorobenzene, Chloromethane, cis-1,2-DCE, Methyl acetate, Methylene chloride, Styrene, Tetrachloroethene, Toluene, and trans-1,2-DCE;

- SVOCs: 1-Methylnaphthalene, 2-Methylnaphthalene, 2,4,6-Tribromophenol, 2,4-Dinitrotoluene, 2-Fluorobiphenyl, 2-Fluorophenol, 4-Bromofluorobenzene, 4-Bromophenyl phenyl ether, Acenaphthene, Acenaphthylene, Anthracene, Benzo(g,h,i)perylene, Benzoic acid, Bis(2-ethylhexyl)phthalate, Butyl benzyl phthalate, Dibenzofuran, Di-n-octylphthalate, Fluoranthene, Fluorene, N-Nitrosodiphenylamine, Phenanthrene, and Pyrene;
- Metals: Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver;
- Pesticides: Dichlorodiphenyldichloroethane (DDD), Dichlorodiphenyldichloroethylene (DDE), DDT, Methoxychlor; and
- PCBs (as Aroclor 1254).

Compounds that have been detected regularly in soil samples collected across the former FTA and/or DAACG Area are presented on **Figures 6-1** through **6-16** and are summarized below.

- VOCs: CFC-11, Benzene, Ethylbenzene, Total Xylenes, Methylene Chloride, and Toluene;
- SVOC PAHs: Acenaphthylene, Anthracene, Benzo(g,h,i)perylene, Fluoranthene, Fluorene, Phenanthrene, and Pyrene;
- Other SVOCs: 1- Methylnaphthalene, 2- Methylnaphthalene, Benzo(anthracene), Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, Ideno(1,2,3-cd)pyrene, Naphthalene, Bis(2-ethylhexyl)phthalate and Dibenzofuran;
- Metals: Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver; and
- Pesticides: Aroclor 1254, DDD, DDE, DDT, and Dieldrin.

Additional compounds presented in **Table 4-2**, **Table 5-6**, and **Table 5-7** that are not listed above were sporadically detected below the applicable RSLs and are broadly delineated by perimeter samples. Based on the cumulative results of the historical and recent soil investigation activities, impacts in soils have been adequately delineated both horizontally and vertically.

### 6.3.2 Groundwater

Multiple phases of investigations, including temporary piezometer installations, permanent monitoring well installations, vertical profile boring installations, and groundwater monitoring events were conducted at the site to evaluate, delineate, and routinely monitor groundwater impacts between 1990 and 2008. In 1999, remedial actions were implemented because of free product detected in groundwater at a single well in the former FTA. Focused groundwater investigation activities, including groundwater monitoring and well installation activities, were completed at the site as part of delineation activities between February 2009 and February 2012. Supplemental groundwater investigation activities and a comprehensive site wide groundwater monitoring event were conducted at the site to evaluate current groundwater conditions in December 2014.

**Table 3-1** includes a summary of monitoring well construction details from well installation activities. **Table 4-1** provides analytical results of historical groundwater samples collected between 1990 and 2008,

and **Table 5-3** provides results for samples collected between 2009 and 2012. **Table 5-4** provides the results of groundwater samples collected as part of supplemental sampling activities conducted in December 2014. Laboratory analytical data packages for samples collected in December 2014 are provided in **Appendix G**. Groundwater investigation activities, remedial actions, and analytical results are summarized in the following sections.

### 6.3.2.1 General Groundwater Quality

Groundwater quality field parameters were measured at each monitoring well location sampled during groundwater monitoring events. The parameters collected included pH, ORP, specific conductivity, DO, and turbidity. The groundwater quality field measurements collected during the December 2014 groundwater monitoring event are provided in **Table 6-2**. A summary of these parameters and concentration ranges collected during the December 2014 groundwater monitoring event are provided in **Table 6-3**, below.

**Table 6-3. December 2014 Range of Water Quality Measurements in Groundwater**

| Parameter | Range of Measurements | | | Units |
|---|---|---|---|---|
| | Minimum | Median | Maximum | |
| pH | 4.18 | 5.80 | 7.17 | standard units |
| ORP | -173.7 | 6.20 | 300.4 | millivolts (mV) |
| Specific Conductivity | 33.4 | 234.3 | 873 | micromhos per centimeter (µmhos/cm) |
| DO | 0.2 | 0.39 | 7.37 | milligrams per liter (mg/L) |
| Turbidity | 0 | 10.89 | 413 | NTU |

Site groundwater pH conditions, based on December 2014 monitoring well sampling measurements, are slightly acidic to neutral. Wells exhibiting a pH lower than 5 standard units included one shallow surficial aquifer well within the former FTA (HA01-MW-17) and three shallow surficial aquifer wells (HMW-14R, HA01-MW-10, HA01-MW-14) located within the DAACG Area. The ORP for groundwater across the site is variable. Consistent with groundwater observations of the shallow sandy surficial aquifer across HAAF, specific conductivity observations in groundwater at the former FTA and DAACG Area are low in ionic strength and exhibit a low buffering capacity. This low ionic strength and buffering capacity is a significant contributor to the low pH observed across the site. Groundwater temperature ranged from 16.86 $^{0}$C to 23.00 $^{0}$C (62.34 °F to 73.40 °F) during the December 2014 event and DO measurements were predominantly less than 1 mg/L across the site. The low concentrations of DO in the shallow surficial aquifer may influence speciation of metal ions in the groundwater. Turbidity was generally low (less than 50 NTU) across the site, with elevated concentrations observed at two samples collected from shallow surficial aquifer wells (HMW-02 and HA01-MW-17) located within the former FTA and three samples collected from shallow surficial aquifer wells (COE-MW-08, HMW-21, and HA01-MW-14) located within

the DAACG Area.

### 6.3.2.2 Groundwater Investigation Summary

Based on comments received from the GAEPD on the CSR Addendum (SAIC 2005), additional groundwater investigation activities were recommended and conducted between February 2009 and December 2009. A comprehensive groundwater monitoring event was completed in February 2009 with samples collected from 10 former FTA monitoring wells and 10 DAACG Area monitoring wells. VOCs (primarily petroleum related hydrocarbons), SVOCs (primarily petroleum related hydrocarbons), pesticides, and metals were detected at the former FTA wells. VOCs (chlorinated VOCs and petroleum related hydrocarbons), pesticides, and metals were detected at the DAACG Area wells.

In December 2009, groundwater samples were collected from 12 newly installed monitoring wells and 20 existing monitoring wells within the former FTA and DAACG Area. VOCs (primarily petroleum related hydrocarbons), SVOCs (primarily petroleum related hydrocarbons), and metals were detected at the former FTA wells. VOCs (chlorinated VOCs and petroleum related hydrocarbons), pesticides, and metals were detected at the DAACG Area wells. Results of this event were reported in the CSR Revision 1 (Arcadis 2012).

Between January and February 2012, monitoring wells HA01-MW-12, HA01-MW-14, and HA01-MW-07D were sampled. Analytical results confirmed the absence of previously detected VOCs in wells HA01-MW-12 (acetone) and HA01-MW-14 (toluene) and identified no detected compounds greater than the laboratory MDL at well HA01-MW-07D.

As part of supplemental RI activities conducted in December 2014, a comprehensive groundwater sampling event was performed to assess groundwater conditions across the former FTA and DAACG Area. Groundwater samples were collected from 28 shallow and two deep surficial aquifer monitoring wells. The COCs targeted per area included: VOCs and SVOCs (former FTA) and VOCs, pesticides, and metals (DAACG Area). Monitoring well COE-MW-03 was also sampled for 1,4-dioxane and found to be non-detect for this compound. The extent of groundwater impacts based on this event are discussed in **Section 6.3.2.3** below.

### 6.3.2.3 Extent of Impacts in Groundwater

Groundwater results were compared against the relevant screening levels (USEPA Region 4 Tapwater RSLs and MCLs) to provide a quantitative comparison for the evaluation of the magnitude and significance of the detected concentrations. During December 2014 groundwater monitoring activities, 42 compounds were detected in groundwater at concentrations above the laboratory MDLs. Of these compounds, 14 were detected at concentrations exceeding their respective screening levels, as summarized in **Table 6-4** below.

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**Table 6-4. Summary of December 2014 Groundwater Impacts Above Screening Levels**

| Compound | Exceedance Frequency | Depth of Impacts | Maximum Result | Location of Impacts | Screening Level Exceedance (Bold) | Delineation Status |
|---|---|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | 2 / 30 | Shallow | 0.34 J | Former FTA | **RSL: 0.076**<br>MCL: -- | Horizontal: Yes<br>Vertical: Yes |
| Benzene | 8 / 30 | Shallow | 30 | Former FTA, DAACG Area | **RSL: 0.46**<br>**MCL: 5.0** | Horizontal: Yes<br>Vertical: Yes |
| cis-1,2-DCE | 10 / 30 | Shallow | 2,300 | DAACG Area | **RSL: 36**<br>**MCL: 70** | Horizontal: Yes<br>Vertical: Yes |
| Ethylbenzene | 4 / 30 | Shallow | 27 | Former FTA | **RSL: 1.5**<br>MCL: 70 | Horizontal: Yes<br>Vertical: Yes |
| Vinyl chloride | 10 / 30 | Shallow | 120 | Former FTA, DAACG Area | **RSL: 0.019**<br>**MCL: 2.0** | Horizontal: Yes<br>Vertical: Yes |
| Naphthalene | 4 / 7 | Shallow | 120 | Former FTA | **RSL: 0.17**<br>MCL: -- | Horizontal: Yes<br>Vertical: Yes |
| Aldrin | 3 / 7 | Shallow | 0.008 J | DAACG Area | **RSL: 0.00092**<br>MCL: -- | Horizontal: Yes<br>Vertical: Yes |
| Delta BHC | 2 / 7 | Shallow | .013 J | DAACG Area | **RSL: 0.0072**<br>MCL: -- | Horizontal: Yes<br>Vertical: Yes |
| Dieldrin | 1 / 7 | Shallow | 0.0032 J | DAACG Area | **RSL: 0.0018**<br>MCL: -- | Horizontal: Yes<br>Vertical: Yes |
| Heptachlor epoxide | 2 / 7 | Shallow | 0.0043 J | DAACG Area | **RSL: 0.0014**<br>MCL: 0.20 | Horizontal: Yes<br>Vertical: Yes |
| Alpha-Hexachlorocyclohexane | 1 / 7 | Shallow | 0.021 J | DAACG Area | **RSL: 0.0072**<br>MCL: -- | Horizontal: Yes<br>Vertical: Yes |
| Beta-Hexachlorocyclohexane | 1 / 7 | Shallow | 0.079 | DAACG Area | **RSL: 0.025**<br>MCL: -- | Horizontal: Yes<br>Vertical: Yes |
| Chromium | 1 / 10 | Shallow | 250 J | DAACG Area | RSL: --<br>**MCL: 100** | Horizontal: Yes<br>Vertical: Yes |

| Compound | Exceedance Frequency | Depth of Impacts | Maximum Result | Location of Impacts | Screening Level Exceedance (Bold) | Delineation Status |
|---|---|---|---|---|---|---|
| Lead | 1 / 10 | Shallow | 23 | DAACG Area | **RSL: 15**<br>**MCL: 15** | Horizontal: Yes<br>Vertical: Yes |

Notes:

J = Approximate concentration of the analyte in the sample.

Groundwater data posted in micrograms per liter (µg/L).

December 2014 groundwater results for compounds in exceedance of screening levels at the former FTA and the DAACG Area are depicted on **Figure 6-17**. Based on the frequency of detection above screening levels, distribution, and significance based on historical site operations and other known site-related impacts in the vicinity (e.g., VOCs and SVOCs), the primary COCs are identified as benzene, cis-1,2-DCE, ethylbenzene, vinyl chloride, and naphthalene. These compounds, with the exception of naphthalene, are depicted on **Figures 6-18** through **6-21**, respectively. As shown on **Figure 6-17**, detections of naphthalene above the USEPA Region 4 Tapwater RSL are localized to three locations in the former FTA, limiting the effectiveness of representing naphthalene via isocontours. To evaluate the potential of 1,4-dioxane in groundwater, one sample was collected from monitoring well COE-MW-03, which historically had the highest VOC concentrations at the site. The sample from COE-MW-03 was found to be non-detect for 1,4-dioxane. All samples analyzed for total chromium were also analyzed and found to be non-detect for hexavalent chromium. Based on the cumulative results of the historical and recent groundwater investigation activities in the former FTA and DAACG Area and vicinity, impacts in groundwater have been adequately delineated both horizontally and vertically.

Former Fire Training Area

Benzene, ethylbenzene, and naphthalene are the most frequently detected compounds above their screening levels in the former FTA. The highest concentrations are observed in shallow surficial aquifer wells HMW-10 (benzene), HMW-23 (naphthalene), and HMW-24 (ethylbenzene) to the south and HMW-13 (benzene, ethylbenzene, and naphthalene) to the north. Chlorinated VOC (1,1,2,2-tetrachloroethane and vinyl chloride) impacts in the former FTA are also present above their respective screening levels and are collocated with petroleum hydrocarbon impacts at all locations except shallow surficial aquifer well HMW-11, located to the south of the former FTA (**Figure 6-17**). Most compounds exceeded USEPA Region 4 Tapwater RSLs only, however, benzene impacts exceeded MCLs at three locations (HMW-10, HMW-13, and HMW-24). Groundwater constituent concentrations for benzene and ethylbenzene appear to be decreasing over time, while concentrations for naphthalene appear to be stable to slightly decreasing over time. A summary of statistical analysis of groundwater analytical data for select monitoring wells is provided as **Table 6-5**.

Eleven compounds – including 1,1,1-trichloroethane, 1,2-dichlorobenzene, 2-butanone, acetone, chlorobenzene, chloroethane, chloromethane, cis-1,2-DCE, toluene, xylenes (total), and 2-methylnaphthalene – were detected in groundwater samples collected from shallow surficial aquifer

monitoring wells at concentrations below screening levels but above the laboratory MDL. These compounds were detected in few samples and were all co-located with other groundwater impacts that exceeded RSLs.

DAACG Chlorinated Solvents Area

Benzene, cis-1,2-DCE, and vinyl chloride are the most frequently detected compounds above their applicable screening levels in the DAACG Area and are most commonly observed within the central portion with the highest concentrations detected in shallow surficial aquifer wells COE-MW-03 (benzene and vinyl chloride) and HMW-21 (cis-1,2-DCE). Pesticide (aldrin, dieldrin, heptachlor epoxide, alpha- and beta-hexachlorocyclohexane) impacts were analyzed for and detected slightly above their respective screening levels at select wells within the central to southeast portion of the DAACG Area (**Figure 6-17**). Chromium and lead were detected above their respective screening levels in monitoring well HA01-MW-14, located outside of the DAACG Area to the southwest (**Figure 6-17**). Most compounds exceeded USEPA Region 4 Tapwater RSLs only, however, cis-1,2-DCE, vinyl chloride, chromium, and lead exceeded MCLs at 8 of 16 locations. Concentrations are generally consistent with historical observations and appear to be stable to slightly decreasing at the majority of locations. Concentrations of primary COCs (benzene, cis-1,2-DCE and vinyl chloride) exhibit an increasing trend at downgradient monitoring wells COE-MW-05, COE-MW-06, and COE-MW-08, however are bounded by additional downgradient wells HA01-MW-11, HA01-MW-12, and HA-01-MW-13, as shown on **Figure 6-17**. A summary of statistical analysis of groundwater analytical data for select monitoring wells is provided as **Table 6-5**.

Additionally, 19 compounds – including 1,1-dichloroethene, 2-hexanone, toluene, trans-1,2-DCE, trichloroethene, alpha-chlordane, DDD, DDT, delta BHC, endosulfan I, endosulfan II, endosulfan sulfate, endrin, gamma-chlordane, lindane, methoxychlor, barium, mercury, and silver – were detected in groundwater samples collected from shallow surficial aquifer monitoring wells at concentrations below applicable screening levels but above the laboratory MDLs. These compounds were detected in few samples and were collocated with other impacts that exceeded RSLs and/or with detections of primary COCs below screening levels. No constituents were detected above the laboratory MDLs in deep surficial aquifer monitoring well samples collected during December 2014.

### 6.3.3 Surface Water and Sediment

As part of initial site characterization activities, three sediment samples were collected in 1990 and four sediment samples were collected in 1992 from locations within the two drainage ditches adjacent to the former FTA. In 2001, as part of CSR investigation activities, six surface water samples were collected from the two drainage ditches. Results from these historical investigations identified elevated detections of VOCs (primarily petroleum related hydrocarbons), SVOCs (primarily PAHs), and metals in sediment samples and detections of VOCs, SVOCs (primarily petroleum related hydrocarbons), and metals in surface water samples. Results for surface water and sediment samples collected during these investigations are provided on **Figure 4-2**. Historical surface water and sediment analytical results are provided in **Table 4-3** and **Table 4-4**, respectively.

As part of supplemental RI activities conducted in December 2014, six collocated surface water and sediment samples were collected from the drainage ditch adjacent to the former FTA to evaluate current

surface water and sediment quality. Analytical results from the supplemental RI activities for surface water and sediment samples are provided on **Figure 6-22** and summarized in **Table 5-8** and **Table 5-9**, respectively. Laboratory analytical reports for the December 2014 event are provided in **Appendix G**. Surface water results indicated detections of VOCs (primarily petroleum related hydrocarbons), pesticides, and metals above MDLs. Results indicated detections of VOCs (acetone and 1-methlyethyl benzene), SVOCs (primarily PAHs), pesticides, and metals (including hexavalent chromium) above MDLs for sediment samples. As presented on **Figure 6-22**, elevated concentrations of compounds above their respective screening levels are identified at upgradient surface water and sediment sampling locations.

In surface water, lead was the only compound detected greater than the screening level at one upgradient location in the northern drainage ditch and two upgradient locations in the southern drainage ditch. Lead is delineated in surface water at both drainage ditches by downgradient samples. Seven additional compounds, including petroleum related hydrocarbons (benzene, ethylbenzene, total xylenes), and pesticides (endrin aldehyde, beta-hexachlorocyclohexane, lindane and methoxychlor), were detected in surface water samples collected from northern drainage ditch location HA01-SW-01 and southern ditch location HA01-SW-04 at concentrations below screening levels but above the laboratory MDL. Additional metals were also detected at concentrations above their respective laboratory MDLs in all surface water samples. The footprint of impacts is consistent with historical observations, with VOC detections primarily confined to the upgradient area of the northern drainage ditch and metals detections throughout the sample area.

In sediment, PAHs were detected at concentrations greater than their respective screening levels at samples collected from northern drainage ditch location HA01-SD-01 and southern drainage ditch location HA01-SD-06 and HA01-SD05. Arsenic was detected above the screening level in samples collected from southern drainage ditch locations HA01-SD-06 and HA01-SD05. PAHs and arsenic are delineated in sediment for both drainage ditches by downgradient samples. Hexavalent chromium was detected above the screening level at samples collected from all northern drainage ditch locations. Thirty-four additional compounds were detected in sediment samples at concentrations below screening levels but above the laboratory MDL:

- Petroleum-related hydrocarbons: acetone and 1-methylethyl benzene;
- SVOCs: acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, bis(2-ethylhexyl)phthalate, carbazole, chrysene, dibenzofuran, fluoranthene, fluorene, phenanthrene, phenol, and pyrene;
- Pesticides: Aldrin, alpha-chlordane, DDD, DDT, delta BHC, dieldrin, endosulfan I, endosulfan II, endosulfan sulfate, endrin, endrin aldehyde, endrin ketone, gamma-chlordane, and methoxychlor; and
- Metals: barium, cadmium, total chromium, lead and selenium.

Apart from pesticides, which were not analyzed historically, the footprint of impacts is generally consistent with historical observations, with VOC and SVOC detections prevalent in the upgradient area of the northern and southern drainage ditches and detections of metals observed throughout the sample area.

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Upgradient PAH concentrations in both drainage ditches have decreased over time between over an order of magnitude to non-detect concentrations. Downgradient sediment samples collected in December 2014 were non-detect for PAHs.

# 7 CONCEPTUAL SITE MODEL

The following conceptual site model (CSM) presents a detailed understanding of current site conditions and the processes that resulted in the distribution of environmental impacts at the site. The primary objective of the CSM is to provide a clear and concise description of site conditions and the extent of site media impacted by historical site operations.

## 7.1 Site Geology

Previous investigations conducted at or near the site indicate that geologic sections consist predominantly of sand with interbeds of silty sand, and lesser clayey sand deposits to a depth of at least 100 feet bgs. The subsurface soil conditions may be categorized into two general strata based on geologic and engineering characteristics. The upper zone soils extend from the surface to approximately 35 feet bgs and consist of gray to brown, medium to coarse-grained, loose to medium-dense silty sand, with interbedded layers of clays, sand, and poorly graded sand. The lower zone soils consist of gray, fine to medium-grained, loose to medium-dense, poorly graded sand to approximately 60 feet bgs where the soils transition to silty clay and clay.

## 7.2 Hydrogeology

Groundwater flow beneath the site occurs within two hydrostratigraphic units, the shallow surficial aquifer unit that includes silty sand with interbedded units of clay and sand and the deep surficial aquifer that includes primarily sands beneath the former FTA and sand with interbedded layers of silty clay and clay beneath the DAACG Area. The water table occurs within the shallow unconsolidated unit at depths ranging from 5.55 feet bgs to 16.45 feet bgs, based on December 2014 measurements. The groundwater gradient in both units flows primarily to the northwest, consistent with historical observations. Groundwater movement is likely controlled by higher permeability sand lenses interbedded within a generally lower hydraulic conductivity aquifer matrix. There is a vertical component of flow from the shallow surficial aquifer to the deep surficial aquifer in the former FTA, as demonstrated in **Table 3-4** by the downward vertical groundwater gradients at the three shallow/deep well pairs in the area. In contrast, an upward vertical groundwater gradient is observed at the DAACG Area, as demonstrated at two shallow/deep well pairs in that area.

## 7.3 Hydraulic Conditions

The hydrology at HAA-01 has been characterized by groundwater monitoring wells installed across the site at two different intervals (the shallow and deep surficial aquifer). The shallow surficial aquifer monitoring wells range from a total depth of 11.5 to 20.5 feet bgs, while the deep surficial aquifer monitoring wells have total depths ranging from 48 to 65 feet bgs. Typically, groundwater flow in both shallow and deep surficial aquifers is northwest across the DAACG Area, with a horizontal groundwater gradient of approximately 0.017 ft/ft. The groundwater flow direction at the former FTA is also to the northwest, with an average horizontal groundwater gradient of approximately 0.042 ft/ft. The vertical

groundwater gradient has been historically measured in a downward direction based on well pairs in the former FTA.

The horizontal hydraulic conductivity was calculated for six wells using slug tests. Slug tests were conducted on wells HMW-03 and HMW-04 in 1992 and on wells HMW-10 through HMW-13 in 1995. Hydraulic conductivities, based on the Bouwer and Rice Method, ranged from $1.8 \times 10^{-3}$ ft/min (HMW-03) to $8 \times 10^{-4}$ ft/min (HMW-11), with an average hydraulic conductivity of $1.25 \times 10^{-3}$ ft/min, as reported in the Revised Final CSR (Law 2002). Calculations of the hydraulic conductivity have been provided in **Appendix M**.

The average hydraulic conductivity (K) and average horizontal hydraulic gradient (I) were used to calculate an estimated velocity of horizontal groundwater flow beneath the site. An effective porosity ($n_e$) for the saturated soil was assumed to be 20% (based on sandy soils). The horizontal groundwater flow velocity was calculated using the Darcy velocity equation:

DAACG Area:

$V = KI/n_e = [(1.25 \times 10^{-3}\ ft/min)(0.017\ ft/ft) / (0.20)] \times (525{,}600\ min/yr) = 56\ ft/yr$

Former FTA:

$V = KI/n_e = [(1.25 \times 10^{-3}\ ft/min)(0.042\ ft/ft) / (0.20)] \times (525{,}600\ min/yr) = 138\ ft/yr$

## 7.4 Former FTA

Based on the frequency of detections above screening levels, distribution, and significance based on historical site operations, the following compounds of interest identified at the former FTA are summarized in **Table 7-1**, below.

**Table 7-1. Former FTA Key Detections Above Screening Levels**

| Media | Parameter Group | Key Compounds of Interest |
|---|---|---|
| Soil | VOCs, SVOCs | Petroleum related hydrocarbons: benzene, ethylbenzene, xylenes, and naphthalene<br>PAHs: benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene |
| Groundwater | VOCs, SVOCs | Petroleum related hydrocarbons: benzene, ethylbenzene, naphthalene |
| Surface Water | None | -- |
| Sediment | SVOCs, Metals | PAHs, Hexavalent Chromium |

Previous investigations have concluded that historical fire training activities are the most likely source of petroleum related hydrocarbon compounds in soil and groundwater near the former FTA. Releases have potentially occurred from components (underground pipelines) of the former FTA fuel application system that may not have been structurally sound, resulting in releases of fuels to soils and/or groundwater. In addition, the application of these fuels to the simulated aircraft structure and the poor containment of

excess water and foam generated during fire training exercises may also have contributed to constituents detected in soils, groundwater, and surface water and sediment in the immediately adjacent drainage ditches. PAHs commonly form from incomplete combustion of organic matter. The prevalence and distribution of PAHs in surrounding soils is consistent with the practice of fire training exercises at the former FTA. Multiple remedial measures have been completed to address these contaminants, including soil excavations and free phase recovery activities.

Soil and Groundwater Impacts

Petroleum related VOC and SVOC impacts in soil and groundwater in exceedance of screening levels predominately occur at two distinct areas of the FTA site: in the northern and southern portions of the site within and adjacent to the 1997 excavation area (**Figure 4-1**). The distribution of impacts to these two portions are consistent with drainage due to topographic relief and the positioning of the northern and southern drainage ditches, as shown on **Figure 2-3**. Soil impacts above screening levels are observed in subsurface soil at depths that extend to 10.4 feet bgs. Groundwater impacts above screening levels are observed within the shallow surficial aquifer zone at depths up to 15 feet bgs. Geologic cross section D-D' depicts the lateral and vertical extent of soil and groundwater impacts north to south through the former FTA (**Figure 3-1d**). Geologic cross section C-C' depicts the lateral and vertical extent of soil and groundwater impacts east to west in the southern portion of the former FTA (**Figure 3-1c**). The highest concentrations of petroleum related hydrocarbons in soils are distributed between the northern and southern portions of the former fire training pad footprint. The highest concentrations of petroleum related hydrocarbons in groundwater have been measured in the northern portion of the former FTA at shallow surficial aquifer well HMW-13. Concentrations of petroleum related hydrocarbons in groundwater in the southern portion are lower level concentrations relative to the northern portion and are distributed between three shallow surficial aquifer wells (HMW-10, HMW-23, and HMW-24).

The observed distribution of petroleum-related impacts is consistent with historical releases due to fuel storage, fire training application, and poorly contained drainage of impacted media from the former fire training pad to surrounding soil and groundwater. Whereas petroleum-related impacts in both soil and groundwater are concentrated near the former fire training pad footprint, PAHs impacts above and below screening levels have only been observed in vadose zone soil and over a broader area within and surrounding the former fire training pad. This wider distribution is consistent with the generation of PAHs due to incomplete combustion of organic fuels and the resultant widespread transport of such impacts due to wind and fire extinguishing activity.

Sediment Impacts

PAHs were detected at concentrations greater than their respective screening levels at samples collected from both the northern and southern drainage ditches, with the highest concentrations observed at sample location HA01-SD05 (**Figure 6-22**). PAHs are delineated in sediment at both drainage ditches by downgradient samples. The prevalence of PAHs in sediment in the more upgradient sample locations that are closer to the former fire training pad is consistent with topographic relief and surface drainage pathways, as shown on **Figure 2-3**. Hexavalent chromium was detected at concentrations greater than the respective screening level at samples collected from all northern drainage ditch locations.

Surface Water Impacts

Lead was detected at concentrations greater than the respective screening level for surface water from both the northern and southern drainage ditches, with the highest concentrations observed at the southern drainage ditch at sample locations HA01-SW05 and HA01-SW06 (**Figure 6-22**). However, results most likely represented storm water flow from the flight line, not groundwater discharge from the HAA-01 area. Methoxychlor was also detected at concentrations greater than the respective screening level for surface water from both the northern and southern drainage ditches, with the highest concentration observed at the southern drainage ditch at sample location HA01-SW06 (**Figure 6-22**).

Based on the frequency of detection above screening levels, distribution, and significance based on historical site operations, the compounds of interest identified at the DAACG Area are summarized in **Table 7-2**, below.

**Table 7-2. DAACG Area Key Detections Above Screening Levels**

| Media | Parameter Group | Key Compounds of Interest |
|---|---|---|
| Soil | SVOCs | PAHs: benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene |
| Groundwater | VOCs | Chlorinated VOCs: cis-1,2-DCE and vinyl chloride |

There is no documentation of activities conducted at HAA-01 prior to 1967 and additional investigations in this area, as well as historical record searches, have been unsuccessful in identifying any potential sources of the chlorinated solvents. Currently a wooded area, the DAACG Area was previously a grassy clearing without any tree cover, based on a USGS online database search of aerial imagery from 1951 (**Appendix L**); the date of cessation of vegetation clearing activities is unknown. Investigations in the DAACG Area have been successful in identifying the compounds present and the extents of these compounds, primarily cis-1,2-dichloroethene and associated degradation products.

SVOCs in Soil

PAH impacts in soil above screening levels occur at a discrete area in the southeastern portion of the DAACG Area in subsurface soil at depths between 6 to 8 feet bgs at two locations (SB-030 and HMW-14) (**Figures 6-4 through 6-11** and **Figure 6-15**). Surface soil concentrations for SVOCs at these locations were non-detect for SVOCs. Additionally, groundwater samples collected from shallow surficial aquifer wells in the area (COE-MW-01, HA01-MW-09, and HMW-14R) were last sampled for SVOCs in 2009 and were non-detect for SVOCs.

VOCs in Groundwater

Cis-1,2-DCE and vinyl chloride impacts in groundwater above screening levels are located up to 20 feet bgs in the shallow surficial aquifer within the central portion of the DAACG Area, as shown on **Figure 6-19** and **Figure 6-21**. Geologic cross sections A-A' and B-B' depict the lateral and vertical extent of groundwater impacts through the DAACG Area (**Figure 3-1a** and **Figure 3-1b**). The highest concentrations of cis-1,2-DCE are distributed throughout four wells (COE-MW-03, COE-MW-04, COE-MW-07, and HMW-21), with maximum concentrations detected at HMW-21 within the center of the

plume. The highest concentrations of vinyl chloride are present at the eastern portion of the cis-1,2-DCE plume, with maximum concentrations detected at upgradient well COE-MW-03. Vinyl chloride concentrations are non-detect in the western portion of the cis-1,2-DCE plume. As of December 2014, the footprint of the chlorinated VOC plume is consistent with historical observations. VOC concentrations are consistent with historical observations and appear to be stable to slightly decreasing at the majority of locations. Concentrations of cis-1,2-DCE and vinyl chloride appear to be increasing at downgradient monitoring wells COE-MW-05, COE-MW-06, and COE-MW-08.

## 7.5 Conceptual Site Model Summary

Multiple phases of soil and groundwater investigations completed at the site have concluded that previous fire training activities are the source of BTEX and PAH compounds in soil and groundwater near the former FTA. Multiple remedial measures have been completed to address residual contaminants in this area, including soil excavations and light non-aqueous phase liquid recovery activities. The introduction of BTEX compounds to environmental media was a result of fuel application and burning in the fire training pad during historical fire training exercises. Poor surface drainage and BTEX storage conditions resulted in soil and groundwater impacts over time. PAH compounds were produced by incomplete combustion of organic fuels and were distributed over a broad area due to open air burning exercises and runoff related to fire extinguishing exercises. Delineation activities related to the former FTA resulted in the identification of compounds in the DAACG Area to the north. The horizontal and vertical extent of these compounds in the DAACG Area has been established, although a specific source of these compounds has not been successfully identified to date.

# 8 HUMAN HEALTH RISK ASSESSMENT

## 8.1 Introduction

This section presents the human health risk assessment (HHRA) for HAA-01. The purpose of the risk assessment is to evaluate the potential current and hypothetical future risks and hazards to human health associated with exposure to constituents detected in soil, groundwater, surface water and sediment collected at HAA-01. The HHRA generally followed methods recommended by the GAEPD (1996), the USEPA Region 4 HHRA Supplemental Guidance (USEPA 2018a), as well as general USEPA guidance for risk assessments (USEPA 1989, 2003a, 2004a, 2009, 2014).

Typically, an HHRA consists of several elements:

- Constituent characterization, which includes a discussion of the data and the selection of constituents of potential concern (COPCs);
- Exposure Assessment, which identifies the exposure pathways, potentially exposed populations, and exposure assumptions;
- Toxicity Assessment, which identifies the toxicity values used to characterize risk from exposure to the COPCs;
- Risk Characterization, which combines the exposure assessment and toxicity assessment to characterize risk;
- Development of Health-based Goals, if necessary, which presents the derivation of constituent concentrations that are protective of potential receptors and are used to support the development of remedial strategies;
- Uncertainty Analysis, which discusses the uncertainties associated with the risk evaluation; and
- Summary and Conclusions, which summarizes the results of the HHRA.

## 8.2 Constituent Characterization

The first step of the HHRA process consists of compiling and evaluating the data to select the COPCs. The objective of this evaluation is to identify the most toxic, persistent, and prevalent COPCs at the site that are expected to contribute the majority of potential exposure and risk, consistent with USEPA (1989) guidance. COPC identification constitutes a conservative, risk-based screening evaluation. Under USEPA (1989) guidelines, COPCs can be identified based on criteria such as frequency of detection, toxicity, comparison with background concentrations, or whether a constituent can be considered a common laboratory contaminant (e.g., acetone, 2-butanone, methylene chloride, phthalates).

### 8.2.1 Data Evaluation

Data considered useable and representative of the site were compiled into risk assessment datasets. These data are presented in **Tables 4-1 through 4-4**, **Table 5-3**, **Table 5-4**, and **Tables 5-6 through 5-9**.

The methods used to evaluate the data acquired during site investigational activities and to identify risk assessment datasets are summarized in the sections below.

#### 8.2.1.1 Data Quality

Quality assurance and quality control procedures were routinely used during investigation activities to evaluate analytical data quality. Analytical data from the laboratory was validated to evaluate the sample preservation and shipping methods, holding times, laboratory blanks, laboratory control samples, and matrix spikes.

#### 8.2.1.2 Data Usability

The available data from all investigations were evaluated for use in the risk assessment consistent with the data usability guidance (USEPA 1992). The following were considered in the data evaluation: sample date, sample type (e.g., primary or duplicate), data qualifications, and the vertical and spatial distribution of the data.

#### 8.2.1.3 Sample Date

Soil data have been collected at the site starting in 1990 and the most recent data were collected in 2009. All soil data regardless of age were used in the risk assessment. This could lead to uncertainty as concentrations from old data may not be reflective of current site conditions due to constituent transformation and transport processes such as degradation and volatilization. Due to the size of the site, the inclusion of all these data should provide a complete picture of what constituents may have been present at the site. Any samples that were in areas excavated previously were removed from the database and not included in the risk assessment.

Groundwater data have been collected at the site since 2004. Typically, groundwater data from the last two years are used in risks assessments because they reflect current conditions. However, groundwater data from 2009 on were used in the evaluation to ensure that groundwater data that is most representative of current site conditions were included in the risk assessment dataset.

Six surface water and sediment samples were collected in 2014. These data represent the surface water and sediment data used in the risk assessment.

#### 8.2.1.4 Sample Type

Where there are duplicate results due to duplicate samples, the maximum detected concentration or the minimum detection limit for non-detected constituents was used as the concentration utilized in determining the summary statistics.

#### 8.2.1.5 Data Qualifications

All qualified data, with the exception of rejected data, were assessed for inclusion in the risk assessment

dataset. Laboratory-qualified data with the following data qualifiers were retained within the dataset:

- J – Concentration is estimated.
- B – For organic constituents, analyte was also detected in the blank, and for metals, analyte concentration is estimated.
- U – Analyte was not detected at the reporting limit.

### 8.2.2 Identification of Constituents of Potential Concern

For the selection of COPCs, the available data were summarized to include the frequency of detection, the range of detection limits, and the range of detected concentrations, as presented in **Table 8-1 through Table 8-5** for surface soil, combined surface and subsurface soil, groundwater, sediment and surface water, and discussed separately by media in the following sections. COPCs were identified for each of the datasets by comparing maximum detected concentrations to the health-based screening levels. If the maximum detected concentration for a given constituent was greater than the screening level, the constituent was identified as a COPC and quantitatively evaluated in the HHRA. Health-based screening levels for noncarcinogenic endpoints were adjusted by a factor of 10 to account for cumulative effects consistent with USEPA Region 4 guidance (USEPA 2018a). Inorganic constituents were also compared to background concentrations (Law 2002) and if the maximum detected concentration was below the established background concentration or the residential screening level, then it was not selected as a COPC (USEPA 2018b).

If a constituent was detected in all of the samples considered in a dataset, the detection limits would not be provided or used to select a constituent as a COPC since actual concentration data were reported. As previously discussed, only constituents with maximum detected concentrations of greater than the screening level were identified as COPCs following USEPA (1989) guidance which recommends focusing the HHRA on those constituents present at the highest concentrations and with the greatest toxicity. In the case where the maximum detection limit for a constituent exceeded the screening level, the potential risks and hazards for these constituents were calculated separately using the maximum detection limit and are discussed in the Uncertainty Section 8.7.4. Because these constituents were screened using the maximum detection limit provided by an analytical laboratory, these constituents were not carried through the forward-risk calculation of this HHRA.

The following screening levels were used:

- USEPA RSLs (2018b): The non-carcinogenic soil and tap water RSLs were adjusted assuming a hazard quotient (HQ) of 0.1 in order to account for potential constituent additivity, while soil and tap water RSLs based on carcinogenic effects (using a target cancer risk of $1 \times 10^{-6}$) were used without adjustment. RSLs adjusted as described are referred to as “adjusted RSLs” in the remainder of this report;
- USEPA MCL-based Soil Screening Levels (SSLs), or in the absence of the MCL-based SSL, the tap water-based SSLs (USEPA 2018b);

- USEPA Vapor Intrusion Screening Levels (VISLs; USEPA 2018c) based on a target hazard quotient of 0.1 and a target cancer risk of $1 \times 10^{-6}$;
- Georgia Instream Water Quality Standards (GAEPD 2015) were used to identify surface water COPCs; and
- USEPA National Recommended Ambient Water Quality Criteria (AWQC; USEPA 2015a) were used to identify surface water COPCs in the absence of Georgia IWQS.

Chromium was reported as total chromium by the laboratory for all samples but sediment; and even though it was unlikely that hexavalent chromium would be detected at the site, detected levels of chromium were conservatively compared to chromium VI screening levels. Similarly, detected mercury concentrations were compared to the RSLs for elemental mercury as a conservative measure to screen total mercury. Finally, the lead RSLs for soil were used in their original form (not adjusted), since risk from lead is evaluated differently than other constituents (i.e., by estimating blood-lead levels rather than carcinogenic risk or non-carcinogenic hazard). The federal drinking water action level for lead was used as the screening level for groundwater. As recommended by GAEPD, naphthalene was evaluated using the noncancer-based screening levels.

The following sections discuss the samples for each medium-specific dataset, including the constituents analyzed, constituents detected, and a comparison of constituent concentrations and detection limits with the appropriate screening criteria.

#### 8.2.2.1 Soil

Surface soil data (i.e., collected from 0 to 2 feet bgs) were compared to established background inorganic concentrations and the adjusted residential soil RSLs to identify COPCs for the current exposure scenario and the hypothetical future exposure scenario that assumes no soil redistribution. Although USEPA (2018a) currently recommends surface soil be identified as the 0- to 1-foot bgs soil profile, historically surface soil was identified as 0- to 2-feet bgs. Surface soil data were collected in both the 0- to 1-foot bgs range and 0- to 2-foot bgs range over a number of years of site investigation activities at HAA-01 conducted following GAEPD approved work plans to provide a more complete understanding of surface soil impacts. This approach was discussed with GAEPD on 2 October 2019, and GAEPD agreed with this approach. When comparing the number of samples collected within the first two feet of soil vs. the number of samples collected in the top one foot of soil, it was determined that a more robust dataset would be available to evaluate potential surface soil exposures if both the 0 to 1 foot bgs and the 0 to 2 feet bgs datasets were used, especially for the evaluation of pesticides, which were analyzed mostly in the 1- to 2-foot bgs surface soil sample range. **Table 8-1** presents the list of detected constituents and the results of the COPC identification for surface soil.

The combined surface and subsurface soil data collected from 0- to 10-feet bgs were compared to established background inorganic concentrations and the adjusted residential RSLs to identify COPCs for the future exposure scenario that assume soil redistribution. COPCs were used to evaluate hypothetical future construction scenarios. Finally, the combined surface and subsurface soil data were compared to SSLs for the protection of groundwater. **Table 8-2** summarizes the results of the COPC identification step

for combined surface and subsurface soil. Several constituents were also identified as having a maximum detection limit above the background inorganic concentrations and the adjusted residential RSLs, including: chlorobenzene, 1,2-dichlorobenzene, trans-1,2-dichloroethene, styrene, 1,2,4-trichlorobenzene, benzoic acid, arsenic and selenium. Because these constituents were screened using the maximum detection limit provided by an analytical laboratory, these constituents were not carried through the forward-risk calculation of this HHRA. Rather, the potential exposures to these constituents were separately calculated using the maximum detection limit (see **Appendix O**)and are discussed in the Uncertainty Section, **Section 8.7.4**, as the results for these COPCs ultimately do not have a significant impact on the results of the HHRA and would not change the overall conclusions of the HHRA.

#### 8.2.2.2 Groundwater

Maximum detected concentrations in the groundwater dataset were compared to the adjusted tap-water RSLs to identify COPCs for groundwater exposure pathways, as seen in **Table 8-3**. These COPCs are used to evaluate exposure of a resident and site worker through use of groundwater as a potable water supply. All the volatile constituents detected in the groundwater also were compared to USEPA VISLs (USEPA 2018c) to identify COPCs for the vapor intrusion pathway evaluated for a hypothetical future resident and a site worker. The VISLs and the vapor intrusion COPCs in groundwater are identified in **Table 8-3**. Several constituents were also identified as having a maximum detection limit above the adjusted tap-water RSLs or the USEPA VISLs, including: chlorobenzene, chloromethane, 1,1-dichloroethene, methyl tert-butyl ether, benzo(b)fluoranthene and benzo(k)fluoranthene. Because these constituents were screened using the maximum detection limit provided by an analytical laboratory, these constituents were not carried through the forward-risk calculation of this HHRA. Rather, the risk for these constituents were calculated using the maximum detection limit (see **Appendix O**) and are discussed in the Uncertainty Section, **Section 8.7.4**, as the results for these COPCs ultimately do not have a significant impact on the results of the HHRA nor would they change the conclusions of the HHRA.

#### 8.2.2.3 Sediment

Sediment COPCs were identified by comparing the sediment concentrations to the adjusted residential soil RSLs. The data summary and screening levels are presented in **Table 8-4**. The results of the COPC identification are included in **Table 8-4**.

Two constituents were also identified as having maximum detection limits above the adjusted residential RSLs (dieldrin and aldrin). Because these constituents were screened using the maximum detection limit provided by an analytical laboratory, these constituents were not carried through the forward-risk calculation of this RA. Rather, the risk for these constituents were separately calculated using the maximum detection limit (see **Appendix O**), and are discussed in the Uncertainty Section, **Section 8.7.4**, as the results for these COPCs ultimately do not have a significant impact on the results of the HHRA, nor would they change the conclusions of the HHRA.

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#### 8.2.2.4 Surface Water

The data summary and surface water screening are presented in **Table 8-5**. The surface water data were compared to the Georgia IWQS (GAEPD 2015). If an instream standard was not available, then the USEPA AWQC (2015a) was used in the screening evaluation. Finally, if the Georgia instream standard was based on protection of aquatic life, as was the case for methoxychlor and lead, then the measured concentration was compared to the tap-water RSL and MCL or the federal action level, respectively, although there is not enough water in the ditch to provide a habitat for aquatic life or a potable water supply. Based on this comparison, no COPCs were identified for surface water.

## 8.3 Exposure Assessment

Exposure assessment is the process of measuring or estimating the intensity, frequency, and duration of human exposure to substances present in the environment. The purpose of the exposure assessment is to evaluate the ways receptors might be exposed to COPCs at HAA-01. Exposure can only occur when the potential exists for a receptor to contact COPCs or when there is a mechanism for COPCs to be transported to a receptor. Without exposure, there is no risk; therefore, the exposure assessment is a critical component of the HHRA. The assessment of exposure includes characterization of the physical environment, identification of exposure pathways (including migration pathways, exposure points, and exposure routes), and identification of potentially exposed individuals and populations.

An exposure pathway is defined by the following four elements:

1. A source and mechanism of constituent release to the environment;
2. An environmental transport medium for the released constituent;
3. A point of potential contact by the receptor with the medium containing the constituent (the exposure point); and
4. A route of exposure to the receptor at the exposure point (i.e., ingestion, inhalation, or dermal contact).

The purpose of the exposure assessment is to identify and evaluate the ways a population may be exposed to COPCs. This typically involves estimating concentrations along potential pathways between sources and receptors. This usually is accomplished using site-specific data and, when necessary, mathematical modeling. The exposure assessment is a critical component of the HHRA process, as it qualitatively and quantitatively describes potential contact between COPCs and the potential receptors. In accordance with USEPA exposure assessment and risk characterization guidance (USEPA 1992, 1995a), doses and risks were calculated for the reasonable maximum exposure (RME) scenarios. The RME scenario describes individuals at the upper end of the population distribution (greater than 90$^{th}$ percentile, but not above the distribution). The following sections present a conceptual site exposure model, detailing the potential receptors and exposure pathways; methods used to calculate exposure point concentrations (EPCs); and methods used to estimate intake.

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### 8.3.1 Conceptual Site Exposure Model

The conceptual site exposure model provides the framework of a human health risk assessment. It characterizes the primary and secondary potential sources and release mechanisms and identifies the media of concern (exposure points), potential receptors, and their potential exposure routes. Exposure points are places or “points” where exposure could potentially occur, and exposure routes are the means by which constituents of interest may be taken up by the receptor (ingestion, inhalation, and dermal contact).

### 8.3.2 Potential Human Receptors

HAA-01 has not been actively utilized since 1991. Like many military bases, access to the site is restricted. Thus, trespassers are not expected at the site under current conditions. Since HAA-01 has been unoccupied since 1991, portions of the site are overgrown. Workers charged with periodically mowing or using the bush-hog to clear the site are the most likely potential human receptors. Similarly, this site has been used for non-residential uses, and it is unlikely that the site will be used for permanent, residential housing. HAAF has a master plan (U.S. Army 2017) that indicates the nearest family housing is over one mile to the southeast of HAA-01. Nonetheless, exposure of hypothetical future residents and site workers is evaluated in this risk assessment. Additionally, exposure of utility and construction workers is considered in this risk assessment. Soldiers could access this area of the base for training and other purposes. However, soldiers are not present at the base for extended periods of time. Therefore, exposure of a site worker would provide a conservative (i.e., health protective) evaluation of potential risk for this receptor.

Surface water features are unlikely to be accessed from HAA-01. The ditch banks are steeply sloped and heavily vegetated, thus precluding contact with surface water and sediments. However, potential exposure of a trespasser to surface water and sediment is evaluated in the risk assessment. Three water supply wells were identified within 1 mile of the site (as identified on Table 5.1 of the Revised Final CSR [Law 2002]) during completion of a water well survey [Clarke and Painter 2010]). Water use from these wells is identified as commercial, agricultural, or military usage. 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 three water supply wells identified are upgradient of the site. Potential exposure of hypothetical future residents and site workers to constituents in groundwater through the potable use of the shallow groundwater is evaluated in the risk assessment. Finally, should the site be redeveloped, volatile constituents in groundwater could migrate from groundwater into a building; therefore, the vapor intrusion pathway is evaluated in the risk assessment.

### 8.3.3 Exposure Pathways

An exposure pathway is a mechanism by which receptors may come into contact with site-related constituents. There must be a complete exposure pathway from the source of constituents in the environment (i.e., from soil, air, groundwater) to human receptors for constituent intake to occur. HAA-01 is not used at the present time. There are no plans to redevelop the site or to use it for residential purposes. However, land use could change sometime in the future; therefore, both hypothetical future

residential and industrial land uses are evaluated in the HHRA.

The exposure pathways and the associated exposure medium identified for the receptors at the site are described below. Groundwater exposure when used as a potable water supply is an incomplete pathway under current conditions because potable water does not come from a well at HAA-01. It is assumed that groundwater would never be used as a potable water supply; nonetheless, potential future use of groundwater as a potable water supply is assumed to be a complete exposure pathway. Soil contact may occur if the site were used in the future. Either workers or residents could contact the soil and be exposed through incidental ingestion, dermal contact, and inhalation of vapors or dust. If construction were to occur at HAA-01, construction workers or utility workers could contact the soil as well. Finally, VOCs were detected in soil and groundwater. Therefore, potential inhalation exposure of VOCs migrating from the subsurface into a hypothetical building will be evaluated in the HHRA.

The exposure pathways and associated exposure medium identified for the receptors at the site are summarized below by receptor and are included on **Figure 8-1**.

- Hypothetical future adult and child residents potentially exposed to surface and subsurface soil through direct contact, groundwater used as a potable water supply, and if appropriate, inhalation of vapors migrating to indoor air;
- Hypothetical future commercial/industrial workers potentially exposed to surface and subsurface soil through direct contact, ingestion of groundwater used as a potable water supply, and if appropriate, inhalation of vapors migrating to indoor air;
- Hypothetical future construction/utility workers potentially contacting soil and shallow groundwater; and
- Adolescent trespassers contacting soil, surface water, and sediments.

### 8.3.4 Exposure Point Concentrations

The EPC is the representative concentration of a constituent in an environmental medium that is potentially contacted by the receptor (USEPA 1989). The EPC is defined as, “the arithmetic average of the concentration that is contacted over the exposure period” (USEPA 1989). A statistical approach was used to identify the most appropriate representative concentrations for the COPCs in most cases. Consistent with USEPA methodology, the lower of the maximum concentration and the 95% upper confidence level (95 UCL) on the mean (assuming a one-tailed distribution) was identified as the EPC (USEPA 2002a). The 95 UCLs were calculated, where possible, using the latest ProUCL software available from the USEPA (version 5.1.002; USEPA 2016a). Non-detected values were treated following the ProUCL software technical guide (USEPA 2016b). When duplicate samples were collected, the maximum concentration detected in the parent sample or duplicate sample was used. If both samples were non-detected values, the lowest reporting limit was used in the derivation of the UCL. The UCLs were selected using the output from the ProUCL software, unless a greater than 95 percent UCL was recommended by the ProUCL software, in which case the 95 percent UCL for that method was selected. The UCL is a statistical number calculated to represent the mean concentration with 95% confidence that the true arithmetic mean concentration for the site will be less than the UCL. The high level of confidence

(i.e., 95%) is used to compensate for the uncertainty involved in representing site conditions with a finite number of samples. In accordance with USEPA guidance, if the 95 percent UCL is greater than the maximum detected concentration, the maximum detected concentration was identified as the EPC. The ProUCL inputs and outputs for the COPCs are provided in **Appendix N**. The EPCs used in the HHRA were the calculated 95 UCL, or maximum detected concentration, and are presented in **Table 8-6**.

### 8.3.5 Receptor Exposure Assumptions

Exposure parameters are receptor- and scenario-specific values that are used in risk calculations. They include, for example, such receptor-specific characteristics as body weight and ingestion rates and such scenario-specific items as the total period a receptor is exposed to COPCs and the frequency with which exposure occurs. Receptor-specific exposure assumptions were obtained from USEPA guidance (USEPA 1989, 1997, 2002a, 2004a,b, 2011a, 2014, 2018a). Receptor exposure assumptions were selected so that risk calculated will be for the RME scenario. Receptor-specific exposure parameters are presented on **Table 8-7**.

### 8.3.6 Quantification of Exposure

The equations used to calculate potential risk from exposure to constituents in soil are presented in **Table 8-8** for passive exposure (i.e., residential and commercial/industrial scenario), and **Table 8-9** for a soil invasive exposure scenario (i.e., construction worker exposure). **Table 8-10** presents the equations used to estimate inhalation risk from exposure to water that may pond as in a utility trench or a construction site that might intersect the groundwater. **Table 8-11** presents the equations used to calculate potential risk from exposure to groundwater used as potable water, while **Table 8-12** presents the equations used to evaluate exposure to sediment.

#### 8.3.6.1 Physical and Chemical Properties

The environmental fate and transport of the COPCs are dependent on their physical and chemical properties, the environmental transformation processes affecting them, and the media through which they are migrating. The physical and chemical properties that were used to evaluate potential exposure to the COPCs detected in environmental media were compiled for each of the COPCs. The physical and chemical properties of the COPCs, including molecular weight, water solubility, Henry's law constant, diffusivity in air and water, and the organic-carbon partition coefficient for COPCs are presented in **Table 8-13**.

#### 8.3.6.2 Volatilization Factor for Soil

To evaluate emission of volatiles from soil, constituent-specific volatilization factors (VFs) were calculated using USEPA (2002b) guidance. The VF equation can be broken into two separate models: a model to estimate the emissions and a model to estimate the dispersion (reduced to the term Q/C) that simulates the dispersion of volatile constituents in ambient air. USEPA default parameters were used to estimate the VF, using the equations in **Table 8-8** and **Table 8-9**, respectively, for passive and invasive exposure scenarios. Input parameters and the resulting VFs can be found in **Table 8-14**.

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### 8.3.6.3 Volatilization Factor for Groundwater

Emissions via volatilization from groundwater migrating into a trench were estimated following USEPA (1988b) and Virginia Department of Environmental Quality (VDEQ 2018) guidance. The groundwater VF equation can be found in **Table 8-11**. The VF was calculated assuming that there was a mass transfer from the groundwater to the soil at the bottom of the trench and then into the air in the trench. The mass transfer of the constituent is assumed to be driven by molecular diffusion. Per VDEQ guidance, because the average depth to groundwater at the site is less than 15 feet, it was assumed that the depth of the trench will be equal to the average depth to groundwater of around 10 feet. It should be noted that this represents an unlikely evaluation since the depth to utilities is typically 3 feet bgs and therefore it is unlikely that a trench this deep would be constructed at the Site. The results of the VF calculations are presented in **Table 8-15**.

### 8.3.6.4 Particulate Emissions from Soil

Soil concentrations (direct measurement data) were used to estimate ambient air concentrations based on the emission of particulates from the site. The equations for particulate emission factors (PEF) for fugitive dust under passive conditions are presented in **Table 8-8** for current and hypothetical future site worker and hypothetical future resident exposures. **Table 8-9** shows invasive conditions for the hypothetical future construction worker exposures. The USEPA (2002b) default input parameters were used for the fraction of vegetative cover, and equivalent threshold value of wind speed and function dependent upon wind speed. The mean annual wind speed of 3.6 meters per second for Savannah, Georgia was used (National Oceanic and Atmospheric Administration 2016). Input parameters and the resulting PEF values can be found in **Table 8-16**.

### 8.3.6.5 Vapor Intrusion into Buildings

The evaluation of the vapor intrusion exposure pathway was accomplished using the USEPA vapor intrusion model, which was developed based on equations derived by Johnson and Ettinger (1991). The USEPA model (2017) was used to evaluate potential migration of COPCs from groundwater. The USEPA spreadsheets were used with the standard default assumptions for all of the parameters except for those identified below.

- Depth below grade was assumed to be 10 feet, or 302.4 centimeters, because this is the average depth to groundwater.
- An average subsurface soil temperature of 19.5 °C was estimated based on USEPA (2004a) guidance.
- A soil type of silty clay loam was selected to represent site soils.
- The scenario used in the model was for a slab on grade construction style.
- Groundwater concentrations input in the model were based on maximum or UCL values in the source area groundwater dataset (from **Table 8-6**).

#### 8.3.6.6 Dermal Absorption of Constituents of Potential Concern in Soil

Dermal absorption efficiencies (ABSd) are used to reflect desorption of the constituent from soil and sediment and the absorption of the constituent across the skin. The ABSd terms are constituent-specific, however, general factors for classes of compounds have been recommended by USEPA (2004b). The constituent-specific ABSd values are provided in **Table 8-17**.

#### 8.3.6.7 Dermal Absorption of Constituents of Potential Concern in Water

USEPA (2004b) recommends that a dermally absorbed dose from water (e.g., groundwater) be evaluated for the COPCs. The absorption of COPCs from water through the skin is a function of the constituent-specific permeability coefficient, the thickness of the skin, and the duration of exposure. The constituent-specific permeability coefficient is included in **Table 8-17**.

## 8.4 Toxicity Assessment

The toxicity assessment describes the relationship between the administered and/or the absorbed dose of a constituent and the magnitude or likelihood of adverse health effects (USEPA 1989). Toxicity values for potential non-carcinogenic and carcinogenic effects were obtained consistent with the recommended USEPA hierarchy (USEPA 2003a) and the latest USEPA guidance (USEPA 2004b, 2009). Therefore, the following sources were used to obtain toxicity values, in the order in which they are presented below.

- USEPA's Integrated Risk Information System (USEPA 2019a);
- USEPA's Provisional Peer Reviewed Toxicity Values (USEPA 2019b);
- The USEPA Superfund Program Health Effects Assessment Summary Tables (USEPA 2011b);
- Toxicity values from the Agency for Toxic Substances and Disease Registry (2019); and
- The California Environmental Protection Agency, Office of Environmental Health Hazard Assessment's Toxicity Criteria Database (CalEPA 2019).

### 8.4.1 Non-carcinogenic Effects

For many non-carcinogenic effects, protective mechanisms must be overcome before an effect is manifested. Therefore, a finite dose (threshold), below which adverse effects will not occur, exists for non-carcinogens. Depending on the dose, a single compound might elicit several adverse effects in the exposure route, the duration of exposure, and the susceptibility of the individual. Constituents may exhibit their toxic effects at the point of application or contact (local effect) or at other sites (systemic effects) after they have been distributed throughout the body. Most constituents can produce more than one type of toxic effect, depending on the dose and the susceptibility of the exposed individual, or receptor. The goal of toxicity studies for application in risk assessment is to identify the most sensitive toxic effect and the exposure levels that are expected to be safe. The potential for non-carcinogenic effects is estimated by comparing a calculated exposure dose with a reference dose (RfD) for each individual constituent. The RfD represents a daily exposure level that is designed to be protective of human health, even for

sensitive individuals or subpopulations. The reference concentration (RfC) is a comparable level that represents an air concentration designed to be protective of human health, including sensitive individuals and subpopulations. RfDs and RfCs are generally calculated by determining the highest dose at which there are no observed adverse effects (NOAEL) and by adjusting this dose using a series of uncertainty factors and modifying factors. The uncertainty factors are intended to conservatively account for: the variation in sensitivity within the human population; uncertainty in extrapolating from animals to humans; uncertainty in extrapolating from short-term animal studies to chronic exposures in humans; and/or the inability of the toxicological database to address all possible adverse outcomes in humans. The modifying factors may be applied to address specific scientific uncertainties or overall database quality. For studies in which a NOAEL cannot be identified, the lowest observable adverse effect level (LOAEL) is used and an additional uncertainty factor is applied to account for the uncertainty of using LOAEL data rather than NOAEL data.

RfDs and RfCs represent a daily exposure level that is not expected to cause adverse non-carcinogenic health effects. Chronic RfDs and RfCs are used to assess long-term exposures ranging from 7 years to a lifetime. Subchronic RfDs and RfCs are used to evaluate the potential for adverse health effects associated with exposure to constituents over a period of 2 weeks to 7 years. Subchronic RfDs and RfCs were used to assess the risk assumed by the construction worker while chronic RfDs and RfCs were used for receptors under the commercial and residential use scenarios. Non-carcinogenic toxicity values for the COPCs were obtained consistent with the recommended USEPA hierarchy (USEPA 2003a) and the latest USEPA guidance (USEPA 2004b, 2009). If a subchronic toxicity value is not available, then the chronic toxicity value was used to evaluate potential exposure and noncancer hazard. This approach has typically been followed (and accepted by GAEPD) in order to estimate hazards for subchronic exposures when toxicity values are not available (USEPA 1989).

**Table 8-18** presents the RfDs used to assess oral and dermal exposure, and **Table 8-19** presents the RfCs used to assess inhalation exposure. **Table 8-18** and **Table 8-19** also present the target sites associated with the non-carcinogenic toxicity values for each constituent varying with the exposure route. USEPA confidence values and uncertainty factors associated with the RfDs and RfCs also are listed. The uncertainty factor represents areas of uncertainty inherent in the extrapolation from the available data. The confidence levels (low, medium and high) assess the degree of confidence in the extrapolation of available data.

### 8.4.2 Carcinogenic Effects

Cancer induction in humans and animals by constituents proceeds through a complex series of reactions and processes. Carcinogenic constituents may produce tumors at the point of application or contact, or they may produce tumors in other tissues after they have been distributed throughout the body. Some constituents are associated only with one or two tumor types while others may cause tumors at many different sites. Constituents are classified as known, probable, or possible human carcinogens based on a USEPA weight-of-evidence scheme in which they are systematically evaluated for their ability to cause cancer in humans or laboratory animals. The USEPA classification scheme (1986) contains five classes based on the weight of available evidence, as follows:

A: Known human carcinogen.

B: Probable human carcinogen.

B1: Probable human carcinogen—limited evidence in humans.

B2: Probable human carcinogen—sufficient evidence in animals and inadequate data in humans.

C: Possible human carcinogen—limited evidence in animals.

D: Inadequate evidence to classify.

E: Evidence of non-carcinogenicity.

The USEPA 2005a classification scheme contains six classes, as follows:

H: Carcinogenic to humans.

L: Likely to be carcinogenic to humans.

L/N: Likely to be carcinogenic above a specified dose but not likely to be carcinogenic below that dose because a key event in tumor formation does not occur below that dose.

S: Suggestive evidence of carcinogenic potential.

I: Inadequate information to assess carcinogenic potential.

N: Not likely to be carcinogenic to humans

USEPA's Cancer Guidelines (USEPA 2005a) recommend a conservative default approach in which it is assumed that any level of exposure could cause cancer when data are not adequate to understand the mode of action. Although the 2005a guidelines recommend that USEPA consider both linear and nonlinear dose-response models, USEPA generally relies on the default approach. This method extrapolates from either the lowest dose or point of departure from laboratory animal data using a mathematical model that plots a line through the zero point and, based on the slope of this dose-response line, assigns a risk level for increasingly smaller doses of a particular compound. While constructing the linear extrapolation from animal or human data, USEPA uses values that are based on a 95 UCL of the dose/response slope. The UCL for the slope of this line is called the cancer slope factor (CSF) for oral and dermal exposure. The inhalation unit risk (IUR) factor for inhalation exposure is derived in a similar manner.

Both the CSF and IUR are used to assess carcinogenic risk and are derived from the conservative assumption that any dose level has a possibility of causing cancer. Therefore, any risk estimates derived from the model are based on values higher than those reported in the underlying studies and not the most likely estimates generated by applying the mathematical model to the actual study data. The cumulative dose, regardless of the particular exposure period, determines the risk; therefore, separate CSFs and IURs are not derived for subchronic and chronic exposure periods. **Table 8-20** and **Table 8-21** present the carcinogenic toxicity values for oral and dermal exposure and for inhalation exposure, respectively, to the COPCs at the site.

USEPA has evaluated cancer risks from early-life exposure as compared with those from exposures

occurring later in life. Some constituents cause cancer by a mutagenic mode of action (MOA); for those constituents, it is especially important to consider life stage differences in both exposure and dose-response when assessing potential excess lifetime cancer risk resulting from early-life exposures (USEPA 2005b). It is postulated that exposure to constituents with a mutagenic MOA early in life may cause irreversible changes in deoxyribonucleic acid (DNA) which would have a greater effect than exposure to the same constituent later in life. USEPA supplemental guidance (USEPA 2005b) recommends that, when carcinogens have a mutagenic MOA and appropriate constituent-specific data are not available on susceptibility from early life exposures, then it is appropriate to apply a default safety factor called an age-dependent adjustment factor (ADAF) to risk calculations when evaluating cancer risk associated with exposure for children 0 to 16 years old. For children ages 0 to 2 years, the default ADAF is 10. For children ages 2 to 16 years, the default ADAF is 3. Hexavalent chromium was identified as a constituent with mutagenic MOA, and the default ADAFs were used based on the unavailability of chemical-specific data on the susceptibility and differential potency during early-life exposure. In this HHRA, COPCs considered mutagenic (identified in **Table 8-20** and **Table 8-21**) were assessed using ADAFs to account for carcinogenic potency during dose estimation, as presented above and recommended by USEPA (2005b).

### 8.4.3 Dermal Toxicity Values

USEPA has not yet developed toxicity values for dermal exposures. For this reason, the oral toxicity values ($RfD_o$ and $CSF_o$) and the oral absorption efficiency were used to derive adjusted toxicity values ($RfD_a$ and $CSF_a$) (adjusted to the absorbed dose) for use in assessing dermal exposure (USEPA 1989):

$$RfD_a = RfD_o \times \text{Oral Absorption Efficiency}$$

$$CSF_a = CSF_o / \text{Oral Absorption Efficiency}$$

The adjusted toxicity values represent the theoretical toxicity of the orally absorbed dose of the constituent secondary to dermal exposure. USEPA guidance recommends that the oral toxicity values for organic constituents and many inorganic constituents should not be adjusted to assess dermal exposure (i.e., oral absorption efficiency = 1) and presents recommended oral absorption efficiencies for a few inorganics (USEPA 2004b). The oral absorption efficiency values and the $RfD_a$ used to assess risk for the dermal exposure route are presented in **Table 8-18** for noncarcinogens and **Table 8-20** for carcinogens. Uncertainty is associated with the adjusted toxicity values and with the dermal risks derived using these values, due to the uncertainty in the oral toxicity values combined with the uncertainty in the oral absorption efficiency default and constituent-specific values. However, the calculated dermal risks are expected to be very conservative and, therefore, will overestimate human health risks.

## 8.5 Risk Characterization

Risk characterization is the integration of the results of the data evaluation, exposure assessment, and toxicity assessment to yield a quantitative measure of cancer risk and non-cancer hazard. Potential risks to human health are evaluated quantitatively by combining calculated exposure levels and toxicity data. Risk calculations are presented in **Tables 8-22 through 8-35** and are summarized in **Table 8-36**.

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### 8.5.1 General Concepts

A distinction is made between noncarcinogenic and carcinogenic endpoints and, therefore, two general criteria are used to describe risk: the HQ for noncarcinogenic effects, and excess lifetime cancer risk (ELCR) for constituents evaluated as human carcinogens.

#### 8.5.1.1 Hazard Quotient for Non-Cancer Hazard

Exposure doses are averaged over the expected exposure period to evaluate non-carcinogenic effects. The HQ is the ratio of the estimated exposure dose and the RfD. Thus, an HQ greater than 1 indicates that the estimated exposure level for that constituent exceeds the RfD or RfC. This ratio does not provide the probability of an adverse effect. Although an HQ less than 1 indicates that health effects should not occur, an HQ that exceeds 1 does not imply that health effects will occur, but that health effects are possible.

The sum of the HQs is the hazard index (HI). A limitation with the HI approach is that the assumption of dose additivity is applied to compounds that may induce different effects by different mechanisms of action. Consequently, the summing of HIs for a number of compounds that are not expected to induce the same type of effects or that do not act by the same mechanism, may overestimate the potential for toxic effects. Consistent with USEPA risk assessment guidelines for chemical mixtures, in the event that the total HI for an exposure scenario exceeds 1, it is incumbent on a risk assessor to segregate HQs by target organ/critical effect (USEPA 1989). Therefore, if the calculated HI exceeds 1 as a consequence of summing several HQs for constituents not expected to induce the same type of effects, or that do not act by the same mechanism, the HIs may be segregated by effect and mechanism of action to derive separate HIs for each target-organ/critical-effect group (USEPA 1989).

#### 8.5.1.2 Excess Lifetime Cancer Risk

Potential cancer risks are estimated as the incremental increased probability of an individual developing cancer over a lifetime, as a result of pathway-specific exposure to carcinogenic constituents, or the ELCR. To calculate the ELCR, the estimated daily intake of a carcinogen averaged over a lifetime is multiplied by a constituent-specific slope factor. Consideration is given to exposure to multiple constituents, as well as multiple exposure pathways, when calculating the risk of an individual developing cancer. This is accomplished by summing ELCRs for each constituent within a given pathway and across pathways within a scenario.

When evaluating potential individual cancer risks, USEPA has established an acceptable risk range of 1 in 1,000,000 ($1 \times 10^{-6}$) to 1 in 10,000 ($1 \times 10^{-4}$) (USEPA 1989). In establishing this range, USEPA accepted the policy that a risk range, rather than a single risk value, adequately protects public health (USEPA 1989). The GAEPD uses a target ELCR of $1 \times 10^{-5}$ as an acceptable risk benchmark; however, following USEPA guidance, the GAEPD requires that health based remedial goals be developed for constituents with ELCRs that exceed $1 \times 10^{-6}$ or HQ results exceeding 1. The risk calculations are discussed in detail below.

### 8.5.2 Risk Characterization Results

Risk and hazard estimates were calculated using the equations presented in **Table 8-8** for exposure to soil by a hypothetical future resident. Risk and hazard estimate equations presented in **Table 8-8** were also used to estimate risks and hazards for a current or future site worker. Risk and hazard estimates were calculated using the equations presented in **Table 8-9** for exposure to soil by a hypothetical future construction worker and in **Table 8-10** to evaluate exposure to vapor migration from groundwater by a hypothetical future construction worker, **Table 8-11** presents the equations used to evaluate exposure to groundwater used as a potable water supply. **Table 8-12** presents the equations to evaluate exposure to sediment by a trespasser. Risk and hazard calculations are presented in **Tables 8-22** through **8-35** and are summarized in **Table 8-36**. Constituents whose ELCRs were above $1 \times 10^{-6}$ or whose HQs were above 1 are indicated in the risk summary table (**Table 8-36**). Risk characterization results are discussed by receptor in the following sections.

#### 8.5.2.1 Current or Hypothetical Future Site Worker

Exposure to COPCs by a site worker is evaluated using the equations presented in **Table 8-8**. The results of the intermediate calculations are presented in **Table 8-14** for the VF and in **Table 8-16** for the PEF. The EPCs are presented in **Table 8-6**, receptor parameters presented in **Table 8-7**, and the toxicity values are presented in **Tables 8-18** through **8-21**. The risk calculations for the site worker contacting surface soil (0 to 2 feet bgs) are presented in **Table 8-22**. The ELCR and HI were calculated to be $4 \times 10^{-6}$ and 0.03, respectively. If the soils are redistributed, the site worker could contact soil from 0 to 10 feet bgs. The risks and hazards are presented in **Table 8-23**; the calculated ELCR is $3 \times 10^{-6}$ and the HI is 0.1.

Exposure to vapors migrating from the groundwater was evaluated using the USEPA spreadsheets of the Johnson and Ettinger model. The model was run using the EPC and the results are presented in **Table 8-24**. The calculated ELCR and HI were $6 \times 10^{-8}$ and 0.0006, respectively.

If groundwater were used as a potable water supply, then the site worker could ingest the groundwater while at work. The equations used in the calculations are presented in **Table 8-11**; the EPCs are presented in **Table 8-6**, and the receptor parameters are included in **Table 8-7**. The results of the risk and hazard calculations are presented in **Table 8-25**. The calculated ELCR was $6 \times 10^{-4}$ and the calculated HI was 12. The ELCR is above the upper end of the USEPA target risk range while the HI exceeds the benchmark of 1. These results indicate that potable use of groundwater is not recommended.

The risk and hazards by medium are summed to calculate a total risk for the current or hypothetical future site worker are summarized in **Table 8-36**. The total risks and hazards are presented assuming exposure to surface soil and soil from 0 to 10 feet bgs. As seen in the table, the total ELCR was calculated to be $6 \times 10^{-4}$ and the non-cancer hazard was calculated to be 12, with the risks and hazards primarily dominated by the hypothetical use of groundwater as a potable water supply. The risks from soil or vapor exposure are all at the low end of the target risk range and the non-cancer hazards are all less than 1 (when excluding groundwater exposures).

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#### 8.5.2.2 Hypothetical Future Construction Worker

COPCs associated with combined surface and subsurface soil (0 to 10 feet bgs) were evaluated for the hypothetical future construction worker. Exposure to COPCs associated with soil was evaluated for the hypothetical future construction worker. The EPCs are presented in **Table 8-6** and the receptor parameters are presented in **Table 8-7**. The equations used to calculate the risks and hazards from exposure to soil are presented in **Table 8-9**. Finally, the results of the intermediate calculations are presented in **Table 8-14** and **Table 8-16** for the VF and PEF. Risk and hazard from direct exposure to soil for the construction worker receptor are calculated in **Table 8-26**. The ELCR is $4 \times 10^{-7}$ and the HI is 0.1. The results are below the regulatory benchmarks of an ELCR of $1 \times 10^{-6}$ and an HI of 1.

#### 8.5.2.3 Hypothetical Future Utility Trench Worker

Utilities are installed to a depth of about 3 feet bgs. However, it was assumed that the utility worker could contact soil and inhale vapors migrating from the subsurface into a utility trench as deep as 10 feet bgs. The EPCs are presented in **Table 8-6** and the receptor parameters are presented in **Table 8-7**. The equations used to calculate the risks and hazards from exposure to soil are presented in **Table 8-9**. Finally, the results of the intermediate calculations are presented in **Tables 8-14** and **Table 8-16** for the VF and PEF. Risk and hazard from direct exposure to soil for the utility trench worker receptor are calculated in **Table 8-27**. The ELCR is $3 \times 10^{-8}$ and the HI is 0.1. The results are below the regulatory benchmarks of an ELCR of $1 \times 10^{-6}$ and an HI of 1.

Risk and hazard from exposure to vapors inside a trench emanating from groundwater for the utility trench worker receptor are calculated in **Table 8-28**. The ELCR is $1 \times 10^{-6}$ and the HI is 67. The results are at the regulatory benchmarks of an ELCR of $1 \times 10^{-6}$ and above the HI of 1. The total risk and hazard for a hypothetical future utility trench worker is presented in **Table 8-36**. The total ELCR was calculated to be $1 \times 10^{-6}$ and the non-cancer hazard was calculated to be 68, with the risks and hazards primarily dominated by the hypothetical inhalation of vapors migrating from ponded groundwater in a utility trench.

#### 8.5.2.4 Hypothetical Future Adolescent Trespasser

Calculated risks and hazards of a hypothetical youth or adolescent trespasser ages 6 to 16 from exposure to surface soil (under current conditions) and both surface and subsurface soil (assuming post re-grading conditions) were evaluated. The equations used to evaluate this pathway are presented in **Table 8-8**. Risk characterization for exposure to surface soil (0 to 2 feet bgs) is presented in **Table 8-29** and the calculated ELCR and HI are $9 \times 10^{-7}$ and 0.005, respectively. Risk characterization for exposure to surface and subsurface soil (0 to 10 feet bgs) is presented in **Table 8-30**. The results are an ELCR of $6 \times 10^{-7}$ and an HI of 0.006.

Finally, a trespasser might attempt to walk along the drainage ditches; and if this were to occur, the adolescent trespasser could contact the sediment and surface water. No COPCs were identified for surface water and, therefore, risk and hazards were only calculated for COPCs identified in sediment. The calculated ELCR and HI for exposure to sediment for the hypothetical future trespasser receptor $4 \times 10^{-6}$ and 0.02, respectively, as seen in **Table 8-31**. The total risks and hazards for the hypothetical future trespasser are presented in **Table 8-36**. The risks are at the low end of the USEPA target risk

range and the HIs are all below the benchmark of 1.

#### 8.5.2.5 Hypothetical Future Resident

Exposure to COPCs associated with surface soil, combined surface and subsurface soil, indoor air, and groundwater were all evaluated for the hypothetical future resident. Under future land use conditions, a hypothetical future resident might be exposed to current surface soil. In addition, the subsurface soil could be excavated and be moved to the ground surface as part of excavation activities. This could result in the current subsurface soil becoming surface soil in the future, thus resulting in exposure of the hypothetical future resident to subsurface soil under current conditions. Consequently, the EPC for this scenario was based on data for soil collected between 0 to 10 feet bgs.

Risk characterization for the hypothetical future resident from exposure to surface soil and combined surface and subsurface soil are presented in **Table 8-32** and **Table 8-33**, respectively. The calculated risk from exposure to surface soil is $8 \times 10^{-5}$ and the HI is 0.3, as seen on **Table 8-32**. Exposure to combined surface and subsurface soil could result in an ELCR of $5 \times 10^{-5}$ and an HI of 1, as seen in **Table 8-33**. The ELCRs are within the USEPA target risk range while the HIs are all less than or equal to the benchmark of 1. If groundwater were used as a potable water supply, the calculated risks and hazards were both above the regulatory benchmarks, as seen on **Table 8-34**. Groundwater at the site is currently not used as a potable water supply nor are there plans to develop the groundwater as a potable water supply.

Exposure to vapors migrating from the groundwater was evaluated using the USEPA spreadsheets of the Johnson and Ettinger model, as seen in **Table 8-35**. The results are an ELCR of $5 \times 10^{-6}$ and an HI of 0.01. The ELCR is within the USEPA target risk range while the HI is below the regulatory benchmark. The total site risk and hazard for a hypothetical future resident is presented in **Table 8-36**. As seen in the table, the risk and hazard associated with hypothetical groundwater exposure dominates the calculation.

## 8.6 Health-based Goal Calculations

Per USEPA guidance (2018a), health-based goals (HBGs) are site-specific remedial goals that are developed based on the results of the baseline risk assessment and are calculated only for constituents whose ELCRs were above $1 \times 10^{-6}$ or whose HQs were above 1 as indicated in the risk summary table (**Table 8-36**), HBGs are concentrations that correspond to an acceptable target ELCR of $1 \times 10^{-6}$ for site workers and future hypothetical residents and a target HQ of 1 for both site workers and future hypothetical residents.

HBGs were calculated iteratively using the equations below. HBGs based on cancer effects were calculated for COCs to verify that final HBGs selected would be protective of cancer endpoints. The HBGs based on a cancer endpoint were calculated using the following equation:

$$HBG_c = \frac{EPC_i \times TCR}{ELRC_i}$$

Where:

$HBG_c$ = Health Based Goal based on carcinogenic effects (mg/kg or mg/L);

$EPC_i$ = Exposure point concentration used to calculate the ELCR (mg/kg or mg/L);

TCR = Target cancer risk ($1 \times 10^{-6}$; unitless); and

$ELCR_i$ = Calculated ELCR for each constituent (unitless).

HBGs based on non-cancer effects were also calculated for COCs to verify that final HBGs selected would be protective of non-cancer endpoints. The HBGs for COCs based on non-cancer endpoints were calculated using the following equation:

$$HBG_{nc} = \frac{EPC_i \times THQ}{HQ_i}$$

Where:

$HBG_{nc}$ = Health Based Goal based on non-carcinogenic effects (mg/kg or mg/L);

$EPC_i$ = Exposure point concentration used to calculate the Hazard Quotient in the HHRA (mg/kg or mg/L);

THQ = Target hazard quotient (unitless); and

$HQ_i$ = Calculated hazard quotient for each constituent (unitless).

HBGs for soil are based on exposure of a site worker and a hypothetical future resident as well as HBGs for groundwater used as a potable water supply were calculated as seen in **Table 8-37**. If an MCL is available then the MCL will be the remedial goal.

## 8.7 Uncertainty Analysis

The risk estimates presented here are conservative estimates of potential risks associated with exposure to constituents detected in the site subsurface. Uncertainty is inherent in the risk assessment process, and a discussion of these uncertainties is presented in this section. Each of the three basic building blocks for risk assessment (data evaluation, exposure assessment, and toxicity assessment) contributes uncertainties. Each of the uncertainties is accounted for by using conservative assumptions wherever specific data are unavailable.

### 8.7.1 Data Evaluation

The data evaluation step can lead to uncertainty in the risk estimates as discussed below.

#### 8.7.1.1 Sample Location and Collection

This risk assessment is based on the assumption that the available monitoring data adequately describe the occurrence of constituents in media at the site. Environmental sampling itself introduces uncertainty.

This source of uncertainty can be reduced through a well-designed sampling plan, use of appropriate sampling techniques, and implementation of laboratory data validation and quality assurance and quality control. The risk assessment assumes the site is appropriately characterized by the sampling plans used. Further, the data used in this report meet quality assurance and quality control requirements and are appropriate for use in a risk assessment.

Uncertainty is also present in the definition of depth ranges for the surface soil (0 to 2 ft bgs) and combined surface and subsurface soil (0 to 10 ft bgs) datasets, which may impact on the identification of COPCs and the calculation of EPCs. Because of the way soil samples were collected during the soil investigation activities, a few samples were collected from a depth interval extending beyond the surface soil depth range but were retained in the dataset. For example, the surface soil dataset had 6 samples with depth ranges that extended deeper than the 0 to 2 ft bgs depth range, and were retained in the surface soil dataset because part of the sample was captured in the depth range, that is a sample collected from 0.5 to 2.5 ft bgs was included in the surface soil dataset even though the final depth of the boring was outside of the 0 to 2 ft bgs definition of surface soil for this HHRA. Similarly, 4 samples with depth ranges that extended beyond the 0 to 10 ft bgs depth range (for example FTASB-10 was collected from 9 to 10.4 ft bgs), and were retained in the combined surface and subsurface soil dataset. This could dilute impacts that may be confined at the surface and underestimate constituent concentrations in the soil or it could result in an overestimate of constituent concentrations in soil by including data resulting from deeper impacts.

#### 8.7.1.2 Screening of Constituents of Potential Concern

Uncertainty is inherent in the selection of COPCs for the risk assessment. Eliminating constituents in the COPC screening process can lead to lower estimates of potential health effects than inclusion of all analytes. The screening concentrations used for the human health screening were accepted standards and very conservative values. COPCs based on residential screening values were used for both commercial and residential exposure scenarios. Because of the conservative way in which screening was done, the possibility of overlooking a significant constituent is considered minimal.

#### 8.7.1.3 Exposure Point Concentrations

Uncertainty is inherent in the calculation of the EPC, which is defined as, “the arithmetic average of the concentration that is contacted over the exposure period” (USEPA 1989). To minimize uncertainty, a statistical approach was used to identify the most appropriate representative concentrations for the COPCs in most cases. Consistent with USEPA methodology, the lower of the maximum concentration and the 95 UCL on the mean (assuming a one-tailed distribution) was identified as the EPC (USEPA 2002a). The 95 UCL is a statistical number calculated to represent the mean concentration with 95% confidence that the true arithmetic mean concentration for the site will be less than the UCL. The high level of confidence (i.e., 95%) is used to compensate for the uncertainty involved in representing site conditions with a finite number of samples. The 95 UCLs were calculated, where possible, using the latest ProUCL software available from USEPA (version 5.1.002; USEPA 2016a) and the data were treated following the ProUCL software technical guide (USEPA 2016b), as detailed in Section 8.4.3. The UCLs were selected using the output from the ProUCL software, unless a greater than 95 percent UCL was

recommended, in which case the 95 percent UCL was selected based on the same method. In accordance with USEPA guidance, if the 95 percent UCL is greater than the maximum detected concentration, the maximum detected concentration was identified as the EPC.

### 8.7.2 Toxicity Assessment

The toxicity values and other toxicological information used in this report likewise are associated with significant uncertainty. Many toxicity values are developed using results of studies in which laboratory animals are exposed to massively high doses of particular constituents over an entire lifetime. As such, these studies do not represent realistic examples of environmental exposures. In addition, humans are different than laboratory animals. Many, if not most, animals used for laboratory studies are genetically designed to be more sensitive than humans to specific compounds. In addition, the effects shown by the animals in the high-dose studies are often very different than effects reported by humans in parallel epidemiological studies. This is because a particular compound may have a different mechanism of action in laboratory animals than it does in humans. Even epidemiological studies, which are generally preferable to animal toxicity studies, are characterized by several uncertainties, such as differential exposures and unknown (and uncontrolled) doses.

Toxicity values are not available for dermal exposure. The USEPA-recommended approach to derivation of dermal toxicity values based on available oral toxicity values and oral absorption efficiencies contributes considerable uncertainty to the risk assessment. In addition, toxicity values were not available for all of the COPCs. Therefore, exposure and risk could not be evaluated quantitatively. This results in an underestimate of overall risk at the site. Uncertainty is also associated with constituent mixtures. Information on the toxicity of specific mixtures is rarely available. The procedure generally applied to a potential event of simultaneous exposure to multiple constituents from a variety of sources assumes dose additivity; although it is possible that the interaction of multiple constituents could be synergistic or antagonistic.

### 8.7.3 Exposure Assessment

The exposure assessment contributes uncertainty to the risk assessment, as well. The exposure scenarios with the greatest estimated risks were hypothetical future scenarios with little likelihood of ever occurring (residential use of the site). In addition, based on the COPC screening, it was concluded that exposure to groundwater through the potable use pathway would pose a risk to human health. Although uncertainty is inherent in the exposure assessment, exposure scenarios, EPCs, and receptor, exposure assumptions were chosen to err on the side of conservatism potentially leading to an overestimation of potential risk.

### 8.7.4 Non-detected Constituents of Potential Concern

As discussed in Section 8.2.2, several constituents were identified as having a maximum detection limit above the screening levels. In analytical chemistry, detection limits are calculated values that represent the lowest concentration at which the analytical laboratory has demonstrated that target analytes can be reliably measured and reported with a certain degree of confidence. Detection limits can vary depending

on the technique used to estimate the detection limit, sample matrix, sample dilution, interferences, model accuracy and data quality objectives.

Because these constituents were screened using the maximum detection limit that was estimated by an analytical laboratory, these constituents were not carried through the forward-risk calculation of this HHRA along with the other COPCs that were identified based on maximum detected concentrations. This could result in an underestimate of overall risk and hazard since it is unknown if the constituent was detected in the sample at a concentration below the detection limit. However, it is unlikely that this occurred since the risks and hazards are driven by a group of constituents detected at concentrations well above their screening levels and detection limits. Rather, the risk and hazard estimates for these constituents were calculated using the maximum detection limit and the RSL calculator (USEPA 2018b). Risks were conservatively calculated for a hypothetical resident for each scenario because a hypothetical future resident is the most sensitive receptor and it can be assumed that the risk and hazards for other receptors considered in this RA would be lower than that of the resident. The results are shown in **Appendix O**, and are discussed separately by media below.

The following constituents were identified for combined surface and subsurface soil as having a maximum detection limit above both the background inorganic concentration and the adjusted residential RSLs: chlorobenzene, 1,2-dichlorobenzene, trans-1,2-dichloroethene, styrene, 1,2,4- trichlorobenzene, benzoic acid, arsenic and selenium. As shown in **Appendix O**, the total carcinogenic risk was calculated to be $4 \times 10^{-6}$ and the total noncarcinogenic hazard was calculated to be 0.03. The risk and hazard results calculated using the maximum detection limits do not significantly change the conclusions of the HHRA.

The following constituents were identified for groundwater as having a maximum detection limit above the adjusted tap-water RSLs or the USEPA VISLs: chlorobenzene, chloromethane, 1,1-dichloroethene, methyl tert-butyl ether, benzo(b)fluoranthene and benzo(k)fluoranthene. As shown in **Appendix O**, the total carcinogenic risk was calculated to be $5 \times 10^{-5}$ and the total noncarcinogenic hazard was calculated to be 0.7. The risk and hazard results calculated using the maximum detection limits do not change the calculated results since the calculated ELCR was $8 \times 10^{-3}$ and the calculated HI was 125.

The following constituents were identified for sediment as having a maximum detection limit above the adjusted residential soil RSLs: aldrin and dieldrin. As shown in **Appendix O**, the total carcinogenic risk was calculated to be $3 \times 10^{-6}$ and the total noncarcinogenic hazard was calculated to be 0.05. The calculated HI would still be less than the benchmark of 1. The risk results calculated using the maximum detection limits do not significantly change the conclusions of the HHRA since the calculated risks are still within the USEPA target risk range.

## 8.8 Summary and Conclusions

An HHRA was completed to evaluate the potential risks to human health at HAA-01 for soil, groundwater surface water and sediments. COPCs were identified for soil and sediment by comparing the maximum detected constituent concentrations to the USEPA residential soil RSLs. Groundwater COPCs were identified by comparing the maximum constituent concentrations to their tap-water RSLs. Surface water data were compared to the Georgia IWQS or USEPA AWQC and all constituent concentrations were below their screening levels.

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Potential receptors were identified, and potential exposure pathways considered:

- Current or hypothetical future site worker contacting surface soil, combined surface and subsurface soil, inhaling vapors migrating from groundwater into indoor air, and potable use of groundwater.
- Hypothetical future construction worker contacting combined surface and subsurface soils.
- Hypothetical future utility worker contacting combined surface and subsurface soils and inhaling vapors migrating from groundwater into a utility trench.
- Hypothetical future adolescent trespasser contacting surface soil or combined surface and subsurface soil and sediment while wading in a drainage ditch.
- Hypothetical future resident contacting surface soil, combined surface and subsurface soil, inhaling vapors migrating from groundwater into indoor air, and potable use of groundwater.

The individual risks and hazards were calculated by medium and receptor. The total site risk and hazard by receptor is presented in **Table 8-36**. As seen in the table, the risks and hazards for the hypothetical future construction worker and utility worker are below the regulatory benchmarks of $1 \times 10^{-6}$ and 1, respectively. The calculated risks for the hypothetical future adolescent trespasser were at the low end of the target risk range and the non-cancer hazards were less than the benchmark of 1. For the current or hypothetical future site worker, exposure to soil and inhaling vapors migrating from the groundwater to indoor air were also at the low end of the target risk range and the non-cancer hazards were less than the benchmark of 1. Similar results for a hypothetical future resident exposed to soil and inhalation of vapors migrating into a home were within the target risk range of $1 \times 10^{-6}$ to $1 \times 10^{-4}$ and less than or equal to the non-cancer hazard of 1. Only when potable use of the groundwater was considered for either site workers or residents did the calculated risks and hazards exceed the benchmarks. Therefore, it is recommended that groundwater not be used as a potable water supply.

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# 9 ECOLOGICAL RISK ASSESSMENT

This section presents the ERA for HAA-01. 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. The ERA was conducted in a manner consistent with the approaches presented in the following guidance:

- Georgia Environmental Protection Division *Guidance for Selecting Media Remediation Levels at RCRA Solid Waste Management Units* (GAEPD 1996);
- Region 4 Ecological Risk Assessment Supplemental Guidance (USEPA 2018d);
- *Ecological Risk Assessment for Superfund: Process for Designing and Conducting Ecological Risk Assessments* (USEPA 1997); and
- *Ecological Risk Assessment and Risk Management Principles for Superfund Sites* (USEPA 1999a).

The approach used to assess ecological hazards associated with HAA-01 is based on the USEPA eight-step process (USEPA 1997, 2000a, 2001a), as summarized on **Figure 9-1**. An expanded view of the USEPA eight-step process is provided on **Figure 9-2**. Under the USEPA paradigm, Steps 1 and 2 comprise a Screening-Level Ecological Risk Assessment (SLERA), while Step 3a is the first step in a Baseline Ecological Risk Assessment (BERA). This SLERA ended at Step 3a, consistent with USEPA recommendations for the submittal of the results of Steps 1 through 3a as a single deliverable document where a SLERA proceeds beyond Step 2 (USEPA 2000a); USEPA states, “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 HAA-01 ERA are described in the sections below.

A SLERA was previously conducted for HAA-01 and submitted with revisions per GAEPD comments as part of a CSR Revision 1 (Arcadis 2012). This updated SLERA incorporates new data collected from the site in 2015 and is conducted consistent with the methods used in the most recent SLERA (Arcadis 2012) and with GAEPD comments on the exposure CSM presented in the SAP and QAPP for Hunter Army Airfield (Arcadis 2014b).

## 9.1 Screening Level Ecological Risk Assessment

This SLERA conservatively estimates potential hazards 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 hazards are not posed to receptors, or that further assessment is warranted. Consistent with USEPA (1997) guidance, the SLERA for HAA-01 is comprised of the following steps:

1. Screening-Level Problem Formation;
2. Screening-Level Ecological Effects Evaluation;

3. Screening-Level Exposure Estimate and Risk Calculation; and
4. Scientific Management Decision Point (SMDP).

### 9.1.1 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, as well as information regarding the sources and effects of the potential chemicals (USEPA 1998b). This information is used to develop a 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; and
- Assessment and Measurement Endpoints.

#### 9.1.1.1 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 and August 2014. Photographs of the site are presented in **Appendix P**. The principal habitat types present at the former FTA are managed grassland and neighboring forestland. Managed grasslands are found at the former FTA and extend north and south to the drainage ditch in either direction. Managed grasslands are typified by planted grass of one or more species maintained by mowing, application of fertilizers, and so forth. Common fauna include earthworms and other soil-dwelling invertebrates, birds such as robins, and mammals such as shrews, rabbits, and raccoons. Forestland within and neighboring the former FTA consists mainly of mixed hardwood bottomland forest with a few interspersed pines. Characteristic flora of this habitat type includes long-leaf pine (*Pinus palustris*), loblolly pine (*P.taeda*), sweetgum (*Liquidambar styraciflua*), blackgum (*Nyssa sylvatica*), 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*).

The principal surface water body receiving drainage from the former FTA are the drainage ditches to the north and south, which flow to the west toward Springfield Canal located 3,600 feet to the west. The ditches originate on the former FTA site and are fed by underground culverts from the flightline area. The

ditches assist in draining the northern and southern end of the runways, which are located just across Lightning Road. These drainage ditches have concrete and asphalt waste lining both sides of the banks to prevent erosion (**Appendix P**). Flow in the ditches is governed by precipitation runoff. The ditches remain dry during periods of drought and swell during rain events. As a result, the ditches are considered to be intermittent drainage conveyances, and any ponded areas of water provide essentially no viable aquatic habitat. To support this conclusion, vegetation growing in the ditches appears to be terrestrial, not wetland or emergent aquatic vegetation (**Appendix P**). This indicates that the ditches are at best an extremely marginal habitat for aquatic life and only during sporadic, temporary periods when they do contain water. Both sets of ditches are maintained by "bush hog" and are comprised predominantly of terrestrial grasses. The two ditches join on the western edge of the site and discharge to the Springfield Canal.

Areas of mature hardwood and evergreen forest are located north and south of the two drainage ditches. Topography at the site gently slopes toward the Springfield Canal that is located approximately 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" (GAEPD 2015). Additional drainage swales were identified along the northern portion of the site. These drainage swales were noted to receive waters from culverts originating from the airfield. Drainage appears to be governed by precipitation runoff and flow is in a northern direction.

#### 9.1.1.2 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 (Sample et al. 1996a; USEPA 2001b). The mechanisms of ecotoxicity for chemicals detected at the site are presented below without consideration of concentrations; 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, and surface water due to 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. The VOCs or their metabolites may also cause neurological damage, and many are mutagenic or carcinogenic. Additionally, some VOCs are fetotoxic and/or teratogenic (USEPA 2005c; Sample et al. 1997).

Polycyclic Aromatic Hydrocarbons

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).

Herbicides and Organochlorine Pesticides

While some herbicides and organochlorine pesticides (e.g., aldrin, dieldrin, endrin) may exhibit acute toxicity, the most toxicity is due to long-term, chronic effects. These effects may include reduced fecundity, chronic lethality, neurological effects, cessation of feeding, and bone degeneration (Nimmo and McEwen 1994; Fontenot 1999a,b). The mode of action for herbicides and organochlorine pesticides is not well understood, but they generally disrupt electrolyte balance in neurons and prevent them from conducting nerve impulses normally. This manifests neurological effects such as reduced mobility, tremors, loss of equilibrium, convulsions, abnormal flexure, and lethargy or prostration. In addition, pesticides are well-known for causing eggshell thinning in birds, thereby reducing reproductive success (Newman 1998; Sample et al. 1996). In general, the organochlorine pesticides have very low water solubility and are considered insoluble (Nimmo 1985). However, they are soluble in polar solvents, and will preferentially move into fatty tissues. This fact, combined with the very slow breakdown rates, indicates that they will bioconcentrate into organisms in the lower levels of the food chain (such as worms) and will biomagnify into organisms in the higher levels of the food chain (such as raptors).

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 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).

Trace metals such as 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. 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).

#### 9.1.1.3 Media of Concern

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 9.1.1**, the drainage ditches only temporarily hold surface water and, for the most part, they are covered with terrestrial grass with a few small areas where cattails are present, see the foreground of Photo No. 4 in **Appendix P**. The available information indicates that the water regime in the ditches is intermittent. The periodic lack of water in an intermittent drainage feature, such as the two ditches at the site, prevents the establishment and maintenance of an aquatic community. Therefore, the ditches are not expected to provide suitable habitat for aquatic life (i.e., fish and benthic invertebrates), and as such would not represent a viable aquatic foraging area for upper-trophic level birds or mammals. As a result, exposure to 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. However, based on comments from the GAEPD on previous versions of the SLERA, the sediment was evaluated as soil in this ERA to assess potential exposure by terrestrial receptors.

Historic soil data collected from the 0- to -1 foot depth interval were used in the SLERA to evaluate potential exposure to surface soil by non-burrowing wildlife, and historic soil data within the 0- to 4-foot depth interval were used in the SLERA to evaluate potential exposure by borrowing animals and plant roots. While GAEPD recommended using soil in the 0 to 3-foot depth interval in its comments on the Quality Assurance Project Plan, many samples were just slightly deeper than 3 feet bgs (e.g., 3.24 feet bgs) or were obtained from the 2 to 4-foot depth interval; therefore, data from samples in the 0- to 4-foot interval were used in the ERA to evaluate potential exposure by burrowing animals and plants, including root systems. Sediment data used as soil in the SLERA were obtained in 2014. Data for individual PAH compounds were summed based on their molecular weight into one of two categories: low molecular weight PAHs (LMW-PAHs), and high molecular weight PAHs (HMW-PAHs). Likewise, data for DDT, DDE, and DDD were summed to obtain total DDTs. A proxy concentration of one half the reporting limit for non-detects was used in the summations for LMW-PAHs, HMW-PAHs and total DDTs. Summary statistics of the surface soil data (i.e., from 0 to 1 feet bgs), combined surface and subsurface soil data (i.e., from 0 to 4 feet bgs) and sediment data are provided in **Table 9-2, Table 9-3** and **Table 9-4**, respectively. These tables present the number of detected samples, number of samples analyzed, frequency of detection, the minimum and maximum detected samples, and a range of the detection limits.

#### 9.1.1.4 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 9.1.2.1** 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 species, as well as tracked, rare, and unusual species, were obtained from the Georgia Department of Natural Resources (2015) and the U.S. Fish and Wildlife Service (2015) 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 for Chatham County is presented in **Table 9-1**.

#### 9.1.1.5 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. Potential exposure routes for each ecological community at the site are summarized below and illustrated in the CSM (**Figure 8-1**).

- **Terrestrial wildlife (i.e., birds and mammals)** – Possible exposure routes include: incidental ingestion of surface soil (and subsurface soil by burrowing animals), direct contact of surface soil (and subsurface soil by burrowing animals), and ingestion of prey tissue;
- **Terrestrial soil invertebrates (i.e., earthworms)** – Possible exposure routes include: direct contact of surface and subsurface soil and ingestion of surface and subsurface soil; and
- **Terrestrial plants** – Possible exposure routes include: direct contact of surface and subsurface soil.

#### 9.1.1.6 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 (1998b) guidance, two elements are required to define an assessment endpoint: the specific valued ecological entity and the characteristic about 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 1999a). Thus, the first management principle for conducting an ERA 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 1999a). The USEPA (1999a) guidance also notes, as an exception to this rule, that threatened and endangered species may be evaluated on an individual basis. In concept, 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 HAA-01 include the following:

- Sustainability of mammal populations;
- Sustainability of avian populations;
- Sustainability of terrestrial plant communities; and
- 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 1998b). HQs serve as the measurement endpoints for the SLERA. The HQ is the ratio of the EPC of a given constituent to its ecological screening value (ESV). EPCs in the SLERA are identified as the maximum concentrations of chemicals.

ESVs are chemical concentrations in environmental media below which there is negligible hazard to receptors exposed to those media (USEPA 2000a). 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, as 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.

### 9.1.2 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 in this step of the SLERA represent only highly conservative ESVs, as is appropriate for a SLERA (USEPA 1997, 1998b, 2000a). These ESVs do not represent the range of ESVs that are available from a variety of other regulatory and scientific sources. The ESVs used for this SLERA were identified from the USEPA Region 4 ESVs (USEPA 2018d).

### 9.1.3 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, hazard 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. The exposure estimates for the SLERA were identified using the maximum detected concentrations for each constituent (USEPA 1997, 2001a). This conservative approach is appropriate for a SLERA. Exposure estimates are presented in **Table 9-2** for surface soil (0 to 1 ft bgs), Table 9-3 for combined surface and subsurface soil (0 to 4 ft bgs), and **Table 9-5** for sediment assessed as soil.

Potential hazards to ecological receptors are calculated by dividing the exposure estimates (i.e., the maximum detected concentrations are used at this stage of the ERA) 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 9.1.2.6**. 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.

#### 9.1.3.1 Surface Soil

Results of the SLERA for surface soil are presented in Table 9-2 and indicate 6 constituents in surface soil (0 to 1 ft bgs) had maximum HQs greater than 1 and, therefore, were identified as COPECs: bis(2-ethylhexyl)phthalate, HMW-PAHs, cadmium, chromium, lead, and mercury.

#### 9.1.3.2 Combined Surface and Subsurface Soil

Results of the SLERA for combined surface and subsurface soil are presented in **Table 9-3** and indicate 18 constituents in surface and subsurface soil (0 to 4 feet bgs) had maximum HQs greater than 1 and, therefore, were identified as COPECs: acetone, benzene, ethylbenzene, toluene, xylenes, benzoic acid, bis(2-ethylhexyl)phthalate, dibenzofuran, HMW-PAHs, LMW-PAHs, dieldrin, methoxychlor, Aroclor 1254, cadmium, chromium lead, mercury and selenium. One constituent in surface soil lacks an ESV and was, therefore, also identified as a COPEC (**Table 9-3**): chloromethane.

#### 9.1.3.3 Sediment as Soil

Results of the SLERA for sediment that was assessed as soil from a terrestrial perspective are presented in **Table 9-4** and indicate 15 constituents in sediment had maximum HQs greater than 1 and, therefore, were identified as COPECs for sediment as soil: HMW-PAHs, LMW-PAHs, bis(2-ethylhexyl)phthalate, carbazole, dibenzofuran, alpha-chlordane, total DDD/DDE/DDTs, dieldrin, endosulfan I, endosulfan II, endosulfan sulfate, endrin, methoxychlor, hexavalent chromium and lead. Four constituents detected in sediment did not have ESVs and were, therefore, also identified as COPECs (**Table 9-4**): caprolactam, delta-BHC, endrin aldehyde, and endrin ketone.

### 9.1.4 Scientific Management Decision Point

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

- Whether the available information is adequate to conclude that ecological hazards are negligible and, therefore, there is no need for remediation to mitigate ecological hazards;
- Whether the available information is not adequate to make a decision at this point, and the ERA process should continue; and
- 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 HAA-01 identified several COPECs, therefore, the possibility of adverse effects to ecological receptors cannot be ruled out, and the initial step of a BERA is warranted.

## 9.2 Baseline Ecological Risk Assessment

The BERA is designed to more realistically identify the nature and extent of ecological hazards to support informed risk management decision-making (USEPA 1997, 2000a). 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 hazard. 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, 2000a).

The USEPA process shows that the BERA begins with Step 3, the Problem Formulation (**Figure 9-1**). A more detailed look at the 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 hazard estimates from Steps 1 and 2. For the majority of sites, ERA activities will cease after Step 3a" (USEPA 2000a). Step 3a provides a "reality check" so that "sites that do not warrant further study are not carried forward" (USEPA 2000a). 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 HAA-01 and is consistent with the following ERA guidance and guidelines:

- Region 4 Ecological Risk Assessment Supplemental Guidance (USEPA 2018d)
- *ECO-Update: Role of Screening-level Risk Assessments and Refining Contaminants of Concern in Baseline Ecological Risk Assessments* (USEPA 2001b)
- *Ecological Risk Assessment for Superfund: Process for Designing and Conducting Ecological Risk Assessments* (USEPA 1997)
- *Guidelines for Ecological Risk Assessment* (USEPA 1998b)

Step 3a of the BERA is a refinement of the Step 2 exposure estimates and hazard 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). Hazards were recalculated using these refined assumptions to further eliminate the number of COPECs

that are retained for further evaluation in the BERA process.

Risk characterization in Step 3a is based on HQs generated for direct contact COPECs using ASVs and for bioaccumulative COPECs based on food chain modeling. The calculated HQs are considered within the context of weight-of-evidence and ecological significance of the hazard estimates. A weight-of-evidence approach is a means to evaluate the value of the information provided by measurement endpoints and observations made about a site (Menzie et al. 1996; Barnthouse 2008). This approach is particularly useful when conflicting predictions of hazard are obtained. The weight-of-evidence provided by the HQs and field observations are evaluated to make conclusions regarding hazard characterization. Step 3a involves the following:

- Refinement of Media of Concern;
- Refinement of COPECs;
- Refinement of EPCs;
- ASVs;
- Risks to Upper-Trophic Level Wildlife;
- Hazard Characterization;
- Uncertainties; and
- Summary and Conclusions.

### 9.2.1 Refinement of Media of Concern

The process of refining media of concern helps focus the BERA on the media that may be associated with potentially significant ecological exposure pathways and, therefore, potentially contribute to significant ecological risks. This methodology is consistent with the concepts addressed in ASTM International (ASTM) *Standard Guide for Risk-Based Corrective Action for Protection of Ecological Resources* (Eco-RBCA Guidance) (ASTM 2014), which was developed in partnership with the USEPA. Several states have a component of their ERA guidance that allows for refinement of media of concern based on specified criteria. The process for refining the media of concern results in a detailed discussion of how key practical considerations are incorporated into the decision-making process. Some of these considerations can include: the presence of disturb ground and the spatial scale of the impacted area.

#### 9.2.1.1 Disturbed Ground

Disturbed ground is considered first in the decision logic for soil and sediment. Disturbed areas are generally not attractive to wildlife and do not serve as valuable habitat, foraging area, or refuge for ecological communities. Disturbed ground usually consists of pavement, buildings, landscaped area, a functioning landfill cap, roadways, equipment storage areas, manufacturing or process areas, or other surface cover or structure. Impacted areas in the vicinity of the former FTA have maintained grass cover and are considered disturbed ground (**Figure 2-2**).

#### 9.2.1.2 Spatial Scale

The spatial extent of the impacted area is also considered in the decision logic. The size or space of an affected area is directly related to the potential for ecological exposure if ecological habitat is present. Spatial scale can be useful as a screening criterion if used in conjunction with other considerations, such as the valued ecological resources that may be present, current and future land use, the likelihood for COPEC migration from the site, and the proximity to a valued or sensitive ecological habitat.

Spatial scale screening criteria are used widely in ERAs. Although GAEPD does not provide guidance on spatial scale criteria, several states' guidance addresses the importance of spatial scale in ecological assessments, as does the Eco-RBCA guidance (ASTM 2014). For example, the following spatial scale screening criteria are used by the following states: 1 to 2 acres for Minnesota (the smaller scale for bioaccumulative compounds); 1 acre for Texas, and Mississippi; 2 acres for Pennsylvania; and 5 acres for Louisiana (Minnesota Pollution Control Agency 1998; Texas Commission on Environmental Quality 2017; Mississippi Department of Environmental Quality 2002; Louisiana Department of Environmental Quality 2003; Pennsylvania Department of Environmental Protection [PADEP] 2002). The Massachusetts Department of Environmental Protection Stage I screening (1996) recommends evaluating the size of the terrestrial habitat and the extent to which it is connected with other habitats: no action recommended for less than 2 acres (and some considerations for affected areas greater than 2 acres but less than 6 acres, dependent on an evaluation of "significant exposure pathways"). Pennsylvania provides rationale for the criteria, discussing how population-level exposures are unlikely to occur at small spatial scales such as less than 2 acres (PADEP 2002). This criterion has often been referred to as *de minimis* because it is not expected to cause adverse impacts to the population, community, or ecosystem, providing other conditions are met (Suter et al. 1995; Henning and Shear 1998; Efroymson et al. 2003). A 1-acre screening criterion may be used at a site to refine the media of concern, providing the following additional *de minimis* criteria are met:

- Similar but unimpacted habitat must be available adjacent to the impacted area;
- Sensitive habitat must not be present within ¼ mile if the COPECs will migrate offsite; and
- COPEC fate and transport must be unlikely to increase the spatial extent to greater than 1 acre.

### 9.2.2 Refinement of COPECs

The refinement of COPECs identified in the SLERA is necessary to help focus and streamline further risk assessment activities on the constituents that pose the greatest potential hazard 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 involved the following steps (USEPA 2001a):

1. Comparison with background and upgradient concentrations – This is applicable for inorganic constituents, and is not applicable for organic constituents, under most circumstances, unless the organic constituent(s) occurs in background or upgradient media that are unaffected by the site. Soil background levels for inorganics were identified from the Revised Final CSR (Law 2002) and were incorporated into the BERA screen.
2. Frequency of detection – Constituents detected in greater than 5% of the samples in a given medium are typically retained as COPECs and considered in the next step of the refinement process.

Refined screening is presented in **Table 9-5, Table 9-6** and **Table 9-7** for surface soil, combined surface and subsurface soil, and sediment evaluated as soil, respectively.

### 9.2.3 Refinement of Risk Calculations for Direct-Contact COPECs

Refined risk characterization for direct contact is also presented in **Table 9-5, Table 9-6** and **Table 9-7** for surface soil, combined surface and subsurface soil, and sediment evaluated as soil, respectively. Constituents with refined HQs greater than one and analytes for which ESVs are not available, are retained for further consideration in the refinement process. Refinement of the SLERA risk calculations typically consists of recalculation of the HQs using the refined exposure estimates and ASVs.

#### 9.2.3.1 Refinement of Exposure Point Concentrations

In this step of the ERA, the mean concentration was used as the EPC for mobile receptors, as recommended by USEPA Region 4 (2018). In the SLERA (Section 9.1), the maximum detected constituent concentrations were used as the exposure estimate, as this approach is appropriate for sessile receptors (e.g., infaunal sediment invertebrates), which have limited to no ability to move across an area for foraging or other activities. For mobile receptors (e.g., mammals, birds), using the maximum detected constituent concentration as the exposure estimate is considered conservative, and it is appropriate to establish refined exposure estimates for these receptors that are protective of local ecological populations. Therefore, the 95% UCL on the mean concentration was used as the EPC in the refinement.

The UCLs used were calculated by the ProUCL statistical software provided by USEPA. ProUCL calculates the UCLs based on different statistical assumptions and then selects the most representative statistic based on characteristics of the dataset such as sample size, measures of variance, and frequency of detection. The most recent available version of the ProUCL software (version 5.1, USEPA 2013b) was utilized to calculate UCLs for each COPEC. UCLs were calculated for datasets with a minimum of eight samples and five detected results. In this ERA, the EPCs for combined surface and subsurface soil were based on the lower of the maximum or UCL, while the EPCs for surface soil and sediment were based on the maximum concentrations (since the dataset size is not adequate to estimate a UCL). Output and input files from ProUCL are presented in **Appendix N**.

#### 9.2.3.2 Alternative Screening Values

An expanded list of ecological screening values (i.e., ASVs) was used to screen the refined EPCs

(UCLs). There are several reasons to include ASVs, and the methodology is consistent with the approach for, "incremental iteration of exposure, effects, and risk characterization" (USEPA 2001a, 1997). For example, some constituents may not have screening values in the guidance used in the SLERA. Also, an expanded list of ASVs may provide insight into the type or likelihood of impacts (e.g., acute vs. chronic effects, threshold effects levels, severe effects levels, median effects levels, probable effects levels).

ASVs used for this BERA were selected from the same sources that were used to develop the Region 4 soil ESVs (USEPA 2018d) and include the following:

- USEPA EcoSSLs (2005c);
- USEPA Region 5 Ecological Screening Levels (ESLs; USEPA 2003b); and
- Los Alamos National Laboratory (LANL) ESLs (LANL 2017).

The USEPA EcoSSLs provide a range of soil screening values for a variety of avian and mammalian receptors representing different trophic levels (e.g., herbivore, insectivore, carnivore). The USEPA EcoSSLs were developed to account for exposure through direct contact and through bioaccumulation pathways (trophic transfers through the receptor's food chain). The USEPA Region 5 ESLs for soil are generally based on exposure to an insectivorous mammal (i.e., masked shrew), and were developed assuming soil exposure occurs through direct contact (e.g., incidental soil ingestion) and bioaccumulation (e.g., ingestion of food/prey items) pathways. The LANL ESLs are receptor-specific screening levels that were derived assuming direct contact exposures and indirect/food-chain exposures that account for bioaccumulation for various wildlife receptors (e.g., American robin, American kestrel, Montane shrew, Deer mouse) (LANL 2017). There are No Effect ESLs and Low Effect ESLs in the LANL database. The No Effect ESLs are intended to be used as NOAEL-based screening levels, and the Low Effect ESLs are LOAEL-based screening levels. The LANL ESLs used were the minimum No Effect ESLs reported for all receptors. Refined HQs based on ASVs are presented in **Table 9-5** for surface soil, **Table 9-6** for combined surface and subsurface soil, and **Table 9-7** for sediment assessed as soil. A summary of the refined HQs and their likelihood for adverse impacts based on direct contact with surface soil and with sediment assessed as soil is discussed in **Section 9.2.5**.

### 9.2.4 Risks to Upper-Trophic Level Wildlife

Preliminary ingestion-based food chain modeling is used in Step 3a of the BERA to evaluate potential adverse effects to upper-trophic level wildlife from bioaccumulative COPECs. The remainder of this section provides general information regarding the following components of the model:

- Wildlife Receptors and Exposure Parameters;
- Bioconcentration Factors and Regression Equations;
- Food Chain Ingestion Modeling;
- TRVs; and

- Wildlife Dose Models.

#### 9.2.4.1 Wildlife Receptors and Exposure Parameters

Indicator species were chosen to represent a cross-section of feeding guilds for selected assessment endpoints. Feeding guild and indicator species are as follows:

- Invertivorous bird - American robin (*Turdus migratorius*); and
- Invertivorous mammal - Short-tailed shrew (*Blarina carolinensis*).

The shrew and robin were selected because these species are known to be susceptible to food chain exposures. Earthworms comprise a major component of the shrew and robin diets and accumulate persistent compounds (USEPA 1993). As a conservative measure, the diet of both the shrew and the robin were assumed to consist of 100% earthworms. As such, if hazards are not predicted for these species, then hazards would not be expected for species with lesser exposures to bioaccumulative constituents (e.g., herbivores). In addition, dietary and toxicological information is available for these species (e.g., USEPA 1993; Sample et al. 1996), making food chain modeling feasible.

The short-tailed shrew is one of the most common mammals in North America and may be present in the site vicinity (Genoways et al. 1998; Trani et al. 2007). The short-tailed shrew also represents a conservative species for use in the BERA because it has a very high ingestion rate, and it consumes a high percentage of earthworms in its diet as compared with other mammalian species. If hazards are not predicted for this species, then hazards should not be expected for species with lesser exposures to bioaccumulative constituents (e.g., herbivorous mammals).

The American robin is prolific throughout the United States, with a home range that includes Georgia. This bird is likely to forage in open areas and the ecotone between woodlands and open areas (i.e., edge habitat), and thus may be exposed to bioaccumulative COPECs at the site. The American robin also can be used as a surrogate species to represent other species that are likely to be present at the site and in the adjacent woodlands, but for which less exposure-related and toxicological information is available. Hazards to the American robin could identify potential hazards to other species with similar diets.

Exposure parameters for each receptor were obtained from the USEPA *Wildlife Exposure Factors Handbook* (USEPA 1993). One of the exposure parameters, the size of the home range, is an important factor in estimating the amount of time a receptor spends onsite and thus, the amount of exposure to COPECs. This is accounted for by using a site use factor in the equation. As a conservative measure, the site use factor was set to 1, implying that the receptors obtain their entire diet from the site.

#### 9.2.4.2 Bioconcentration Factors

Soil bioconcentration factors used for the food chain modeling were obtained from constituent-specific documentation for USEPA EcoSSLs (2007a,b) or were estimated via regression equations (using the relationship to log octanol/water partition coefficient and organic-carbon partition coefficient) presented in Jager (1998). Tissue concentrations for invertebrates in dry weight were converted to wet weight assuming a moisture content of 83.3%.

### 9.2.4.3 Toxicity Reference Values

COPEC-specific TRVs were obtained from the toxicological database presented in USEPA's EcoSSL documents (2007a,b). In the event a TRV was not available from the EcoSSL documents, TRVs were obtained from the open literature (e.g., USEPA 2003b and Sample et al. 1996). Toxicological benchmarks are typically reported as NOAELs and LOAELs. Both NOAELS and LOAELs for each COPEC are used in the food chain modeling so that a range of predicted food chain impacts can be evaluated.

### 9.2.4.4 Wildlife Dose Models

Food chain ingestion-based exposure calculations were performed for the identified representative receptor species to characterize potential exposures to constituents via the food chain and to identify potential adverse effects for wildlife at the site. Ingestion modeling is based on species-specific exposure parameters and ingestion intake requirements. The use of upper bound concentrations is intended to represent, in effect, a reasonable maximum exposure estimate. The following model is used to calculate the ingestion based exposure for each indicator receptor:

$$ADD = \frac{\{[(IR_f \times C_f) + (IR_s \times C_s)] \times AUF \times SUF\}}{BW}$$

Where:

ADD = Average daily dose of COPEC (milligrams per kilogram per day)

$IR_f$ = Ingestion rate of food (kilograms per day [kg/d])

$C_f$ = Concentration of a COPEC in food (mg/kg)

$IR_s$ = Ingestion rate of soil (kg/d)

$C_s$ = Concentration of a COPEC in soil (mg/kg)

SUF = Site use factor (unitless)

BW = Body weight (kg)

To estimate the concentration of COPEC in food ($C_f$), the following equation is used:

$$Cf = (C_s \times \%Plant \times BCF) + (C_s \times \%Invert \times BCF) + (C_s \times \%Flesh \times BAF)$$

Where:

$C_f$ = Concentration of a COPEC in food (mg/kg)

$C_s$ = Concentration of a COPEC in soil (mg/kg)

BCF = Bioconcentration factor (unitless)

BAF = Bioaccumulation factor (unitless)

%Plant = Percentage of plants in diet

%Invert = Percentage of invertebrates in diet

%Flesh = Percentage of flesh in diet (mammals, birds, etc.)

Concentrations in combined surface and subsurface soil were set at the lower of the UCL or maximum concentration, and concentrations in surface soil and sediment were set at the maximum detected concentrations because the datasets were not conducive to the calculation of UCLs. Estimated ingestion intakes were divided by TRVs to obtain HQs for the bioaccumulative COPECs. A HQ value of 1 or less is considered to indicate that adverse effects are not expected. An HQ above 1 indicates the need for further refinement. **Table 9-8** and **Table 9-9** present results from exposure to surface soil for the shrew and robin, respectively. Table 9-10 and Table 9-11 present results from exposure to combined surface and subsurface soil for the shrew and robin, respectively. **Table 9-12** and **Table 9-13** present results from exposure to sediment assessed as soil for the shrew and robin, respectively.

## 9.2.5 Risk Characterization

This section presents the results of the ERA and discusses the potential hazards to ecological receptors per COPEC. Where possible, hazards are discussed quantitatively, based on the relative magnitude of the HQs. Ecotoxicological information for some constituents is limited; therefore, their effects cannot be quantitatively evaluated. If HQs could not be calculated due to a lack of toxicity data, the results are discussed qualitatively. Refined risk characterization for direct contact is presented in **Table 9-5, Table 9-6** and **Table 9-7** for surface soil, combined surface and subsurface soil and sediment evaluated as soil, respectively. Risk characterization of indicator species for upper trophic level receptors exposed through the food chain are presented in **Tables 9-8 through 9-13**. Risk characterization results are discussed per COPEC by medium below.

### 9.2.5.1 Surface Soil

HMW-PAHs was identified as the surface soil BERA COPEC because the HQ in surface soil was greater than 1 (**Table 9-5**). The direct contact hazards from the COPEC is discussed in detail in the following section. Further, HMW-PAHs are bioaccumulative and therefore were quantitatively evaluated using food web models.

Polycyclic Aromatic Hydrocarbons

Although HMW-PAH concentrations were calculated for all 7 surface soil samples using a proxy concentration of ½ the detection limit for non-detects, individual HMW-PAHs were only detected in 3 out of the 7 surface soil samples in the 0- to 1-foot interval. The HQ calculated for direct exposure to HMW-PAHs in surface soil was above 1 (**Table 9-5**). One sample (PSB-3) reported a HMW-PAH concentration above the Region 4 ESV for soil invertebrates (18 mg/kg).

Because HMW-PAHs are considered bioaccumulative and the HQ for direct contact to terrestrial organisms exceeded the threshold value of 1, they were also assessed in food web models for upper-trophic level wildlife. The HQs based on the NOAEL and LOAEL TRVs for the shrew were 17 and 3, respectively (Table 9-8). For the robin, while the NOAEL-based HQ of 2 marginally exceeded 1 (Table 9-9), the LOAEL-based HQ of 0.2 is below 1 (Table 9-9). The HQs for exposure to HMW-PAHs in surface soil were based on using a diet consisting of 100% earthworms and the maximum concentration at

location PSB-3 (39.6 mg/kg) as the EPC. The HQs for exposure to HMW-PAHs were modeled using very conservative assumptions taken from the USEPA EcoSSL document for PAHs. The EcoSSLs use a bioaccumulation factor of 2.6, which is 2 orders of magnitude higher than what is generally seen in the field (Jager et al. 2003). Moreover, where bioaccumulation models have been used to estimate risk, adverse effects were not documented in the field when HQs exceeded 1 (Kapustka 2004). Further, the highest levels of PAHs at the site are generally in the maintained grass areas that provide poor habitat relative to the adjacent wooded areas that offer good-quality habitat (**Figures 6-4 through 6-10**). Therefore, because the areas with the highest levels of PAHs are of relatively small scale and are also the areas that offer poor-quality habitat, it is not expected that exposure to PAHs at the site will result in adverse effects to mammalian and avian wildlife populations.

#### 9.2.5.2 Surface and Subsurface Soil

Xylenes, HMW-PAHs, and dieldrin were identified as soil BERA COPECs because their HQs in soil were greater than 1 (**Table 9-6**). The direct contact hazards from those COPECs are discussed in detail in the following sections. Further, the bioaccumulative COPECs (i.e., HMW PAHs and dieldrin) were quantitatively evaluated using food web models.

Xylenes

The HQ for xylenes was 3, as presented in **Table 9-6**. Xylene was detected in only 12 out of 98 samples (12%) at the site. The highest levels of xylene were primarily found in the maintained grass areas with poor quality terrestrial habitat relative to the adjacent wooded areas that offer good quality habitat (**Figure 6-3**). Six samples, collected approximately 20 years ago between 1995 and 1998, reported concentrations above the screening level of 10 mg/kg, five of which were deeper than 3 feet bgs. Based on the limited number of locations with HQs >1 (i.e., EW-E6-a, EW-E6-b, EW-E7-a, EW-L8-B, HMW-13, and PSB-1), the *de minimis* area with elevated concentrations, the conservativeness of the ESV, and considering that the actual concentrations in surface soil that receptors would contact are expected to be lower than the EPCs presented in this ERA because of the effects of attenuation-related fate processes (e.g., volatilization), adverse impacts are unlikely to occur for ecological receptors potentially exposed to total xylenes in the soil and no further ecological assessment is warranted.

Polycyclic Aromatic Hydrocarbons

HMW-PAHs were detected in 22 out of 81 surface soil samples (27%) in the 0- to 4-foot interval. The HQs calculated for direct exposure to HMW-PAHs in soil were above 1 (**Table 9-6**). The eight samples that reported concentrations exceeding the Region 4 ESV for soil invertebrates (18 mg/kg) are generally located south of the FFTA. Because HMW-PAHs are considered bioaccumulative and the HQ for direct contact to terrestrial organisms exceeded the threshold value of 1, they were also assessed in food chain models for upper-trophic level wildlife as discussed below. Potential hazards to the short-tailed shrew and American robin were conservatively estimated via food intake of HMW-PAHs using a diet consisting of 100% earthworms and the soil UCL as the EPC. The HQs for both the shrew and the robin exceeded 1 (**Table 9-10** and **Table 9-11**). The HQs for exposure to HMW-PAHs were modeled using very conservative assumptions taken from the USEPA EcoSSL document for PAHs. The EcoSSLs use a bioaccumulation factor of 2.6, which is 2 orders of magnitude higher than what is generally seen in the

field (Jager et al. 2003). Moreover, where bioaccumulation models have been used to estimate risk, adverse effects were not documented in the field when HQs exceeded 1 (Kapustka 2004). Further, the highest levels of PAHs at the site are generally in the maintained grass areas that provide poor habitat relative to the adjacent wooded areas that offer good-quality habitat (**Figures 6-4 through 6-10**). Therefore, because the areas with the highest levels of PAHs are of relatively small scale and are also the areas that offer poor-quality habitat, it is not expected that exposure to PAHs at the site will result in adverse effects to mammalian and avian wildlife populations.

Dieldrin

Dieldrin was detected in only four of 41 samples (10%), with a maximum concentration of 0.043 mg/kg. Because of the small number of samples in which dieldrin was detected, a UCL could not be calculated and the maximum concentration was used as the EPC. The direct contact HQ calculated using the maximum concentration and the ASV (EcoSSL) was 9 (**Table 9-6**). However, based on the limited number of locations with HQs >1 (i.e., EW-L5b, SB-025, SB-026 and SB-027), the *de minimis* area with elevated concentrations (i.e., area bounded by samples reporting low concentrations with HQs less than 1 is approximately 0.4 acre which encompasses a rectangular area approximately 270 feet by 60 feet along the storm water drainage ditch, and a single area in the former fire training area of approximately 20 feet by 20 feet), and the conservativeness of the ASV, adverse population-level impacts are unlikely to occur for ecological receptors potentially exposed to dieldrin in the soil.

Because dieldrin is considered a bioaccumulative chemical and the HQ for direct contact exceeded the threshold value of 1, it was also assessed in a food chain model for upper-trophic level wildlife. Potential hazards to the short-tailed shrew and American robin were conservatively estimated for dietary exposure to dieldrin using a diet consisting of 100% earthworms and the maximum concentration as the EPC. The HQs based on the NOAEL and LOAEL TRVs for the shrew were 4 and 2, respectively (**Table 9-10**). For the robin, while the NOAEL-based HQ of 2 exceeded 1 (**Table 9-11**), the LOAEL-based HQ of 0.03 is below 1 (**Table 9-11**). The HQs for exposure to dieldrin in soil were based on using the maximum detected concentration at location SB-027 (0.043 mg/kg) as the EPC. The true EPC of dieldrin is likely much lower. For comparison, the geometric mean concentration of dieldrin (assuming levels in samples where it was not detected were ½ the detection limit) was 0.0024 mg/kg. Further, the area where dieldrin was detected is localized and relatively small in size (approximately 0.4 acre which encompasses a rectangular area approximately 270 feet by 60 feet along the storm water drainage ditch, and a single area in the former fire training area of approximately 20 feet by 20 feet; **Figure 6-13**) and is smaller than the shrew's average foraging range of 1 acre. Moreover, this area is within a maintained grass field that is mowed regularly and has no vegetative cover (e.g., shrubs, forbs, trees) and, as such, is not a suitable habitat for wildlife. Based on these considerations, the potential for dieldrin to represent population-level effects to ecological receptors at the site is negligible.

#### 9.2.5.3 Sediment as Soil

LMW PAHs, HMW PAHs, Total DDD/DDE/DDT, endrin aldehyde, endrin ketone and methoxychlor were identified as BERA COPECs in sediment (**Table 9-7**). The direct contact hazards from those COPECs are qualitatively discussed in the following sections. Further, the bioaccumulative COPECs (i.e., HMW PAHs

and Total DDT) were quantitatively evaluated using food web models, as presented below.

Polycyclic Aromatic Hydrocarbons

PAHs were detected in five out of the six sediment samples taken in the drainage ditches in 2014. The HMW and LMW PAH HQs calculated for direct exposure to sediment evaluated as soil were above 1 (**Table 9-7**). Because HMW PAHs are considered bioaccumulative and the HQ for direct contact to terrestrial organisms exceeded the threshold value of 1, they were also assessed in food chain models for upper-trophic level wildlife.

Potential hazards to the short-tailed shrew and American robin were conservatively estimated for dietary exposure via food intake of PAHs using the maximum detected concentration in sediment as the EPC. Consistent with the assessment of soil, the sediment as soil dietary models assumed a diet consisting of 100% earthworms using conservative exposure and bioaccumulation assumptions taken from the USEPA EcoSSL document for PAHs. The NOAEL and LOAEL HQs for HMW-PAHs for both the shrew (154 to 31) and the robin (20 to 2) were above 1 (**Table 9-12** and **Table 9-13**). However, it is imperative to understand that the HQs (based on maximum concentrations) were not only based on very conservative assumptions but also represent exposure to only a very small area of the drainage ditches (**Figure 6-22**). Additionally, the ditches have very low-quality habitat for small mammals relative to the adjacent wooded areas, which offer good-quality habitat. Therefore, based on the limited number of locations with HQs >1 (i.e., SD-05 and SD-06), the *de minimis* area with elevated concentrations (i.e., area bounded by samples reporting low concentrations with HQs less than 1 is less than 0.5 acre), the poor-quality habitat, and the conservativeness of the ASVs and TRVs, adverse population-level impacts are unlikely to occur for ecological receptors potentially exposed to PAHs in the ditches.

Endrin Aldehyde and Endrin Ketone

Endrin aldehyde and endrin ketone often occur as breakdown degradates of endrin – a pesticide that is no longer made or used in the United States. Endrin aldehyde was detected in four out of the six sediment samples at concentrations ranging from 2.4 mg/kg to 21 mg/kg, while endrin ketone was detected in five out of the six sediment samples at concentrations ranging from 0.56 mg/kg to 80 mg/kg. There are no ESVs or ASVs available for endrin aldehyde and endrin ketone. However, the detected concentrations are relatively low, and the areal extent of the detections is limited to a very small reach of the ditch (i.e., approximately 400 linear feet from the upstream sample HA01-SED06 to the furthest downstream sample HA01-SED04). Additionally, it is extremely unlikely that terrestrial wildlife would obtain 100 percent of their food from, or spend their entire life span in, the drainage ditch exposed to sediment during foraging or resting activities. Based on this evaluation, exposure to endrin aldehyde and endrin ketone in ditch sediment is not expected to result in population-level effects to ecological receptors that may access the drainage ditch at the site.

Total DDD/DDE/DDT

Total DDD/DDE/DDT (sum of DDT, DDE and DDD) were detected in four out of six sediment samples taken in 2014. The direct contact HQ for total DDD/DDE/DDT based on the maximum detected concentration of 0.0565 mg/kg and the ESV of 0.021 mg/kg was above 1 at 3 (**Table 9-7**). However, the HQ calculated using the next highest concentration of 0.0258 was at 1. Potential hazards to the short-tailed shrew and American robin were conservatively estimated for dietary exposure via food intake of

Total DDD/DDE/DDT HQs, using conservative exposure assumptions and the maximum detected concentrations, were well below one (**Table 9-12** and **Table 9-13**). Based on the limited number of locations with HQs >1 (i.e., SD-05), the *de minimis* area with elevated concentrations (i.e., less than 0.5 acre), the poor-quality habitat, and the conservativeness of the ASVs and TRVs, adverse population-level impacts are unlikely to occur for ecological receptors potentially exposed to Total DDD/DDE/DDT in the ditches.

Methoxychlor

Methoxychlor was detected in four out of six sediment samples taken in 2014. The direct contact HQ for methoxychlor was 6 based on the maximum detected concentration of 0.11 mg/kg and the ESV of 0.0199 (**Table 9-7**). Potential hazards to the short-tailed shrew and American robin were conservatively estimated for dietary exposure via food intake of methoxychlor using conservative exposure assumptions and the maximum detected concentrations and the HQs were well below one (**Table 9-12** and **Table 9-13**). Based on the limited number of locations, the *de minimis* area with elevated concentrations (i.e., less than 0.5 acre), the poor-quality habitat, and the conservativeness of the ASVs and TRVs, adverse population-level impacts are unlikely to occur for ecological receptors potentially exposed to methoxychlor in the ditches.

### 9.2.6 Uncertainties

A BERA is designed to evaluate potential hazards to ecological receptors by incorporating iterative changes that reduce uncertainty (when possible). Uncertainties associated with the ERA are summarized in **Table 9-14**.

### 9.2.7 Summary and Conclusions

This ERA presents the results of a SLERA and Step 3a of a BERA for ecological receptors at the site based on HQs. Risks were characterized for ecological receptors at the site by considering direct contact with COPECs in surface soil (0 to 1 foot bgs), combined surface and subsurface soil (0 to 4 feet bgs) and through ingestion of prey tissue through a food web model to upper-trophic level wildlife. Overall, the potential ecological risks are considered negligible for exposure to site soil. Most COPECs have HQs below 1. While the HQs for exposure to some COPECs in soil (HMW-PAHs and dieldrin) were above 1, population-level effects for terrestrial receptors are not expected because those COPECs are present in areas of the site with limited areal extent (*de minimis*) as well as in areas with low-quality habitat, which is not attractive as a foraging or resting area for mammals and birds.

Risks to terrestrial wildlife from exposure to sediment evaluated as soil is also unlikely. The area of the drainage ditches represents a small percentage of the shrew and robin's average foraging range and less than the *de minimis* (i.e., ecologically insignificant) areal extent typically used in an ERA of 1 to 2 acres (Suter et al. 1995; Henning and Shear 1998; Efroymson et al. 2003). Based on this assessment, potential ecological risk at the site is considered negligible, and no further evaluation is required.

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# 10 FEASIBILITY STUDY/REMEDIAL ALTERNATIVES EVALUATION

The purpose of this FS is to identify, develop, evaluate, and recommend a remedial alternative that affords protection of human and environmental health for the current and reasonably anticipated future land use at HAA-01. This section presents the development of the Remedial Action Objectives (RAOs), an analysis of ARARs, and a summary of the development of preliminary remediation goals (PRGs) that directly influence the formulation of the remedial alternatives and their evaluation.

## 10.1 Remedial Action Objectives

RAOs are site-specific, initial clean-up objectives that are established on the basis of the nature and extent of contamination, the resources that are currently and potentially threatened, and the potential for human and environmental exposure. The site area does not currently house any administrative buildings, industrial facilities or barracks; however, military and civilian workers may be present for short-term intervals during the work week. Family housing is not provided at the site. Construction of an administration building is being discussed by HAAF, which suggests the possibility of construction work at the site. If construction occurs at the site, construction workers could contact impacted soil. Access to the site is restricted; therefore, trespassers are not expected at the site under current conditions. Similarly, it is unlikely that the site will be used for permanent, residential housing because the current HAAF master plan (U.S. Army 2006) does not include plans for family housing in the area.

Based on the current usage of the HAA-01 site, the potential human receptors are limited to workers periodically mowing the site, as well as potential construction work. It is anticipated that the site will continue to be used for non-residential purposes with no current plans for permanent, residential housing. Banks of the two onsite storm water ditches are steeply sloped and heavily vegetated, precluding contact with surface water and sediments. Three water supply wells were identified within 1 mile of the site (as identified on Table 5.1 of the Revised Final CSR [Law 2002]) during completion of a water well survey (Clarke and Painter 2010). Water use from these wells is designated for commercial, agricultural, or military usage. Groundwater at the site is not used as a potable water supply. The deeper Floridan aquifer is used as the potable water supply. Two Floridan Aquifer potable water wells, HAA Well #1 and #2, are located at HAAF over a mile from the site and are hydrogeologically side-gradient of the site. Neither of these wells are hydraulically connected to the shallow impacted interval. The depth to water at the site is approximately 2 to 10 feet bgs. Based on the shallow water table, construction workers may contact the groundwater during construction activities. Response actions included in this FS Report will, therefore, focus on groundwater.

The identified or potential exposure routes and receptors for the site include the following:

- Site Workers (Adults):
  - Ingestion of constituents in groundwater;
  - Dermal contact with chemicals in groundwater; and
  - Inhalation of vapors from groundwater.

- Construction Workers (Adults):
  - Ingestion of chemicals in groundwater;
  - Dermal contact with chemicals in groundwater; and
  - Inhalation of vapors from groundwater.

The RAOs for the remediation of groundwater at the site include the following:

1. Reduce potential cancer risk and potential non-cancer health hazards for people (i.e., site workers and construction workers) exposed to cis-1,2-DCE and vinyl chloride in contaminated groundwater by reducing the concentrations of or controlling exposure to these COCs in soils;
2. Reduce potential exposure of ecological receptors to COCs in groundwater; and
3. Prevent potential for migration of unacceptable levels of cis-1,2-DCE and vinyl chloride to offsite locations.

## 10.2 Identification of ARARs

This section describes the regulatory standards and guidance that may be applied to the remedial action in accordance with 40 Code of Federal Regulations [CFR] 300.400(g). These regulatory standards and guidance are divided into three categories: chemical-specific, location-specific, and action-specific requirements.

### 10.2.1 Chemical-Specific

Chemical-specific requirements establish health-based concentration limits, risk-based concentration limits, or ranges for specific hazardous substances in different environmental media. These standards provide media cleanup levels or a basis for calculating cleanup levels for COCs. Chemical-specific standards are also used to indicate an acceptable level of discharge, to determine treatment and disposal requirements for a particular remedial activity, and to assess the effectiveness of a response action. The potential chemical-specific ARARs identified for remedial action at the site include USEPA RSLs for soil and USEPA MCLs, and Region 4 Tapwater RSLs for groundwater.

### 10.2.2 Location-Specific

Location-specific requirements set restrictions on the types of remedial activities that can be performed based on specific site characteristics or location. Location-specific standards provide a basis for assessing restrictions during the formulation and evaluation of site-specific remedies. Remedial actions may be restricted or precluded based on citing laws for hazardous waste facilities and based on proximity to wetlands, floodplains, or man-made features such as landfill, disposal area, and/or local historic buildings.

HAA-01 will remain a commercial/industrial use property requiring that all remedial alternatives address potential residential exposure to COCs through the application of Land Use Controls (LUCs). Residential PRGs, therefore, have not been developed for the property. No ecological-based PRGs are proposed.

Remediation goals for COCs based on human health endpoints will also address marginal hazards to ecological receptors, as described in **Section 9.2.7**.

### 10.2.3 Action-Specific

Action-specific requirements set controls or restrictions on the design, implementation, and performance of actions. These standards specify performance levels, actions, or technologies and specific levels for discharge of residual chemicals. They also provide a basis for assessing the feasibility and effectiveness of the remedial alternatives. The potential action-specific standards identified for remedial action at the site are air emission standards for air discharge. Discharge of treated water to proximate canals must be in compliance with National Pollutant Discharge Elimination System and base requirements.

## 10.3 Development of Preliminary Remediation Goals

As summarized in **Table 8-37** and in **Section 10.3.3** below, the risk assessment identified concentrations of various contaminants as presenting potential risks to site workers and construction workers in site soil and groundwater. No risks to site workers were identified in sediment and surface water. The remedial alternatives established for this site address the PRGs, ARARs, projected land use, and RAOs for the site.

### 10.3.1 Chemical-Specific ARAR Applicability

The ARARs are presented in relation to their applicability as a clean-up goal for site groundwater and soil as follows.

#### 10.3.1.1 USEPA Regional Screening Levels

USEPA RSLs are risk-based screening levels that use accepted, generic exposure and toxicity assumptions to conservatively calculate levels below which environmental exposures are not likely to pose a risk to human health. RSLs do not take into account ecological receptors. They do not represent cleanup standards but can be used to loosely establish soil and groundwater clean-up criteria for the site. The risk-based exposure equations and assumptions are used to calculate site-specific risk-based PRGs for soil and groundwater.

#### 10.3.1.2 USEPA Maximum Contaminant Levels

USEPA MCLs will be used as PRGs for site groundwater. If an MCL is not available for a specific constituent, the USEPA Region 4 Tapwater RSL will be utilized. USEPA Residential Soil RSLs will be used as PRGs for site soil and sediment.

#### 10.3.1.3 Georgia IWQS Criteria

The Georgia IWQS will be used as cleanup criteria for potentially impacted surface water. However, there were no human health COPCs for surface water and remedial goals were not calculated.

### 10.3.2 Land Use

HAAF is an active military installation located in Savannah, Georgia, encompassing use as industrial, commercial, and temporary residential property occupied by a variety of administrative, maintenance, and barracks facilities (**Figure 4-1**). HAA-01 is located in the northwestern portion of HAAF, west of the flightline and approximately 800 feet northwest of the control tower. The site is inactive and maintained as a grassy meadow with areas of mature hardwood and evergreen forest to the north and south. A site map depicting the HAA-01 area with historic sampling locations is included as **Figure 4-1**.

HAA-01 will remain a commercial/industrial use property requiring that all remedial alternatives address potential residential exposure to COCs in soil and groundwater through the application of institutional controls. Residential PRGs, therefore, have not been developed for the property. No ecological-based PRGs are proposed. Remediation goals for COCs are based on human health endpoints and will also address marginal hazards to ecological receptors as described in **Section 9.2.7**.

### 10.3.3 Preliminary Remediation Goals

Since identified or potential exposure routes and receptors for the site include site and construction workers, the following PRGs that will be utilized at HAA-01 are derived from the health-based goals for Site Workers presented in **Table 8-37**. The COCs listed below are presented with their applicable PRGs.

- Groundwater:
  - VOCs
    - Benzene – 5.00 µg/L
    - Chloroform – 80 µg/L
    - cis-1,2-DCE – 70 µg/L
    - 1,2-Dichloropropane – 5.00 µg/L
    - 1,1,2,2-Tetrachlorethane – 0.335 µg/L
    - 1,1,2-Trichloroethane – 5.00 µg/L
    - Vinyl chloride – 2.00 µg/L
  - SVOCs
    - 4-Chlorobenzenamine – 1.63 µg/L
  - PAHs
    - Naphthalene – 0.721 µg/L
  - Pesticides
    - Aldrin – 0.397 µg/L
    - gamma-Chlordane – 0.771 µg/L
    - Dieldrin – 0.018 µg/L

        - Heptachlor epoxide – 0.20 µg/L
        - alpha-Hexachlorocyclohexane – 0.0493 µg/L
    - Inorganics
        - Arsenic – 10 µg/L
        - Chromium – 100 µg/L
        - Iron – 81,700 µg/L
- Surface Water: No COCs have been identified for surface water based on the HHRA.
- Soil:
    - PAHs
        - Benzo(a)pyrene – 2.11 mg/kg

### 10.3.4 Area of Affected Media Exceeding Preliminary Remediation Goals

**Figure 10-1** depicts the horizontal extent of COCs in site groundwater and site soil. Groundwater impacts posing a potential risk to site workers are identified in both the DAACG Area and the former FTA, whereas soil impacts posing a potential risk to site workers are identified in the former FTA, but not the DAACG Area. Remedial technologies will therefore be identified and screened for soil in the former FTA and groundwater in both the former FTA and the DAACG Area.

## 10.4 Identification of General Response Actions

This section presents the identification and screening of potentially applicable remedial technologies for attaining the RAOs at HAA-01. General Response Actions (GRAs) are categories of remedial actions that may be implemented alone or in combination to satisfy PRGs. Appropriate GRAs are developed based on the RAOs, site-specific conditions, and contaminant characteristics. Potential remedial technologies and process options are identified and evaluated based on technical feasibility. The retained process options are screened based on effectiveness, implementability, and cost to determine which process options should be used in the development of the remedial alternatives. **Table 10-1** identifies the GRAs that were evaluated, the GRAs retained for further consideration and development of process options, and which are technically implementable.

## 10.5 Screening Criteria

The retained technology options are screened based on effectiveness, implementability, and cost to determine which process options should be used in the development of the remedial alternatives.

### 10.5.1 Implementability

The implementability criterion addresses the technical and administrative feasibility of implementing a technology and the availability of the materials and services required for implementation. In addition, the acceptance of a technology by regulatory agencies and the community is an important component in

considering the implementability of any technology. Technical feasibility includes the consideration of the reliability, maturity, prior application, and operational difficulties as well as logistical, climate, and terrain limitations. Administrative feasibility includes the consideration of coordinating activities with regulatory agencies and obtaining permits, easements, right-of-way agreements, and zoning variances. The availability of materials and services includes considering the availability and distance to offsite treatment, storage, and disposal facilities, and required utility connections.

### 10.5.2 Effectiveness

The effectiveness criterion addresses the ability of a technology to meet the RAOs, including overall protection of human health and the environment, compliance with regulations, long-term effectiveness and permanence, short-term effectiveness, and reduction of toxicity, mobility, or volume by treatment. The protection of human health and the environment considers the reduction, control, or elimination of risks at the site through the use of treatment, engineering, or LUCs. Compliance with regulations considers the ability of a technology to meet regulatory requirements. Long-term effectiveness and permanence includes the consideration of the magnitude of risk associated with residuals or untreated waste at the site and the adequacy and reliability of post-closure activities required to maintain the integrity of the response action. Short-term effectiveness includes the consideration of community protection from air quality impacts, fugitive dust, transportation of hazardous materials, worker protection during implementation, environmental impacts, and the timeframe required to achieve protection. Reduction of toxicity, mobility, or volume includes the consideration of the USEPA policy of preference for treatment and of the extent and irreversibility of treatment.

### 10.5.3 Cost

The cost criterion addresses the relative magnitude of capital and operation and maintenance (O&M) costs. Capital costs consist of direct and indirect costs. Direct costs include costs associated with construction, equipment, materials, transportation, disposal, analytical services, treatment, and operation. Indirect costs include expenses related to engineering, design, legal fees, permits, and start-up. O&M costs include costs associated with operation, maintenance, energy, residual disposal, monitoring, and support.

## 10.6 Technology Screening for General Response Actions

### 10.6.1 COCs in Groundwater

**Table 10-1** outlines the analysis of implementability, effectiveness, and relative costs of the process options identified as potential response actions. Process options that were judged to be inferior in meeting the implementability and effectiveness criteria, or that are prohibitively expensive, were eliminated from further consideration and are, therefore, not further discussed within this technology screening.

#### 10.6.1.1 No Action

The No Action technology is evaluated to establish a baseline for the comparison of remaining technologies. No response action of any kind would be employed at the site under this category. Inclusion of a no action alternative is required per 40 CFR Section 300.430(e)(6). The No Action technology, by definition, involves no remedial action at the site and, therefore, has no technological barriers. The potential risks to human health and the environment identified in the risk assessment would not be mitigated by this response.

#### 10.6.1.2 Monitoring

Environmental Media Sampling

Monitoring consists of sampling environmental media to track the migration or degradation of contaminants. Environmental media sampling alone does not reduce the toxicity, mobility, or volume of contaminants, but is used to confirm that the selected remedial activities continue to remain effective. Therefore, monitoring cannot be utilized as a standalone technology and must be paired with other process options to be effective.

Monitored Natural Attenuation

Monitored natural attenuation (MNA) consists of sampling environmental media to track the migration or degradation of contaminants. Environmental media sampling alone does not reduce the toxicity, mobility, or volume of contaminants, but is used to confirm that the selected remedial activities continue to remain effective. MNA, as defined by the USEPA in its Office of Solid Waste and Emergency Response Directive 9200.4-17P (1999b), refers to the reliance on natural attenuation processes to achieve site-specific remedial objectives within a timeframe that is reasonable compared to other methods. These natural attenuation processes (e.g., biodegradation, dispersion, dilution, sorption, volatilization and chemical or biological stabilization, transformation, or destruction of contaminants), under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil and groundwater. The time required for these processes to lower contaminant concentrations to levels protective of human health and the environment varies widely between different hydrogeologic systems and different chemical contaminants. When relying on natural attenuation processes for site remediation, USEPA prefers those processes that degrade or destroy contaminants. Also, USEPA generally expects that MNA will only be appropriate for sites with low potential for contaminant migration (USEPA 1999b). In comparison to engineered remediation technologies, remedies that rely on MNA have the following advantages and disadvantages, as identified in the Office of Solid Waste and Emergency Response Directive (USEPA 1999b).

The potential advantages of MNA at HAA-01 are as follows:

- As an in-situ process, MNA generates less volume of remediation wastes; reduces potential for cross-media transfer of contaminates commonly associated with ex-situ treatment; reduces risk of human exposure to contaminants, contaminated media, and other hazards; and reduced disturbances to ecological receptors.
- Some natural attenuation processes may result in in-situ destruction of contaminants.
- MNA is a less intrusive technology, as little infrastructure required;

- MNA has potential for application to all or part of a given site, depending on site conditions and remediation objectives.
- Much of the MNA infrastructure (i.e., monitoring wells) has already been established for HAA-01.
- MNA is often used successfully in conjunction with, or as a follow-up to, other (active) remedial measures.
- MNA offers potentially lower overall remediation costs than those associated with more active remediation techniques.

The potential disadvantages of MNA at HAA-01 include:

- Longer timeframes might be required to achieve remediation objectives as compared to more active remediation measures at a given site.
- Toxicity and/or mobility of transformation products may exceed that of the parent compounds.
- Long-term performance monitoring may be more extensive and for a longer time than some more aggressive technologies.
- Institutional controls may be necessary to ensure long-term protectiveness.
- Potential may exist for continued contamination migration, and/or cross-media transfer of contaminants.
- Hydrogeologic and geochemical conditions amenable to natural attenuation may change over time and could result in renewed mobility of previously stabilized contaminants (e.g., naturally occurring metals, adversely impacting remedial effectiveness).
- More extensive education and outreach efforts may be required in order to gain public acceptance of MNA.

In general, MNA is an appropriate remediation method only where its use would be protective of human health and the environment and capable of achieving site-specific remediation objectives within a timeframe that is reasonable compared to other alternatives.

#### 10.6.1.3 Land Use Controls

LUCs consist of administrative (i.e., institutional) means to control activities at the site. Institutional controls affect site management and/or activities occurring at the site. Institutional controls do not physically alter conditions at the site and do not reduce the mobility, toxicity, or volume of contamination at the site as part of the remedial alternative. Institutional controls limit the potential for exposure to site contamination.

According to the National Oil and Hazardous Substances Contingency Plan (NCP), LUCs may be used during the RI/FS phase, implementation of the remedial action and, where necessary, as a component of the completed remedy [40 CFR 300.430 (a)(iii)(D)]. The use of LUCs shall not substitute for active response measures (e.g., treatment and/or containment of source material, restoration of groundwater to its beneficial uses) as the sole remedy unless such active measures are determined not to be practicable,

based on the balancing of trade-offs among alternatives that is conducted during the selection of the remedy [40 CFR 300.430 (a)(iii)(D)]. The objective for implementing LUCs at a site following remedy implementation is to protect remedies that are in place so that protection of human health and the environment is maintained. Additionally, LUCs serve to restrict land use until site conditions allow for unrestricted use and unlimited exposure. USEPA requires LUCs when site contaminant levels do not allow unrestricted use and unlimited exposure.

The NCP regulation specifies the conditions under which institutional controls can be incorporated into a remedy, but it does not provide specific guidance on how to incorporate them into the remedy selection process. The USEPA directive entitled *Land Use in the CERCLA Remedy Selection Process* provides insight into USEPA's position on LUCs (USEPA 1995b). USEPA specifies that LUCs should be evaluated and implemented with the same degree of care as is given to other elements of the remedy. The directive states that in evaluating a remedy that includes an institutional control, USEPA should determine (1995b):

- The type of LUC to be used;
- The existence of the authority to implement the LUC; and
- The appropriate entities' resolve and ability to implement the LUC.

Based on the USEPA's fact sheet, *Institutional Controls: A Site Manager's Guide to Identifying, Evaluating, and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups*, there are four general categories of institutional controls that are discussed in more detail in the following sections (USEPA 2000b).

There are significant differences in the way LUCs are applied at Federal facilities as compared to other sites. Some proprietary or governmental controls cannot be applied on active Federal facilities. However, for properties being transferred as part of a base closure, the Department of Defense has authority to restrict property by retaining a property interest (i.e., an easement intended to assure the protectiveness of the remedy). For active bases, LUCs are commonly addressed through remedy selection documents, base master plans, and separate memorandums of understanding

#### 10.6.1.4 Institutional Controls

Governmental controls are usually implemented and enforced by a state or local government and can include zoning restrictions, ordinances, statutes, building permits, or other provisions that restrict land or resource use at a site. Local governments have a variety of LUC measures available, from simple use restrictions to more sophisticated measures such as planned unit development zoning districts and overlay zones.

Development zoning districts allow for more flexible site planning and overlay zones impose additional requirements to those of the underlying zoning district. Regardless of which measures are relied on, the LUC should be carefully evaluated to make certain there are no exceptions that could allow for improper use of the site (e.g., allowing a day care center use within an industrial district). Once implemented, local and state entities often use traditional police powers to regulate and enforce the controls. Since this category of institutional controls is put in place under local jurisdiction, they may be changed or terminated with little notice to USEPA, and USEPA generally has no authority to enforce such controls (USEPA 2000b).

For active military bases, the local authority for regulating and enforcing institutional controls is the Commanding Officer. Therefore, USEPA and the State of Georgia should work with the installation personnel to incorporate restrictions into the base master plans, instructions, and orders used by the Commanding Officer to govern conduct, actions and activities on the base; in some cases, these restrictions may be imposed as permit conditions if the base is subject to RCRA permit requirements (USEPA 2000b).

#### 10.6.1.5 Informational Devices

Information tools provide information or notification that residual or capped contamination may remain onsite. Common examples include state registries of contaminated properties, deed notices, and advisories. Due to the nature of some information devices (e.g., deed or hazard notices) and their potential non-enforceability, it is important to carefully consider the objective of this category of institutional controls. Information devices are most likely to be used as a secondary “layer” to help ensure the overall reliability of other institutional controls (USEPA 2000b).

#### 10.6.1.6 In-Situ Treatment

In-situ treatment of contaminated groundwater via reagent or substrate injections is an effective and implementable option for the site. Application of this technology can be accomplished with conventional construction equipment and would be followed by effectiveness monitoring and supplemental injection events as necessitated by monitoring results. In-situ physical, chemical, and biological treatments include a broad variety of process options, such as enhanced reductive dechlorination, air sparging, hydrofracturing, thermal treatment, and chemical oxidation. Relative to the DAACG Area, the former FTA groundwater impacts are lower in magnitude and do not represent a risk to receptors under the current site conditions; therefore, in-situ treatment has not been retained for additional evaluation at the former FTA. The two in-situ treatment process options retained for consideration at the DAACG Area are: enhanced reductive dechlorination (ERD) and in-situ chemical oxidation (ISCO).

Enhanced Reductive Dechlorination

ERD is an engineered bioremediation technique in which chlorinated compounds are degraded under anaerobic conditions through a series of transformations. ERD involves the injection of an easily degradable carbohydrate solution (e.g., sugars, cheese whey, emulsified vegetable oil) into the groundwater that is metabolized by the naturally occurring bacteria in the subsurface. Consequently, the bacteria consume DO at a rate greater than it is recharged, creating an anaerobic environment. Following depletion of DO, the bacteria begin the successive utilization of alternative electron acceptors to support respiration. The general sequence of alternative electron acceptor utilization and respiration byproduct formation is as follows (from most thermodynamically favorable to least):

- Nitrate ($NO3^{-}$) → Nitrite ($NO2^{-}$)
- Ferric Iron (Fe3+) → Ferrous Iron (Fe2+)
- Manganic Manganese (Mn4+) → Manganous Manganese (Mn2+)
- Sulfate (SO42-) → Sulfide/Hydrogen Sulfide (H2S)

- Carbon Dioxide ($CO_2$) → Methane ($CH_4$)

Microbial utilization of such alternate electron acceptors creates electrochemically reducing conditions. Consequently, by maintaining excess organic carbon in the groundwater environment, ERD technology drives the groundwater environment to anaerobic and strongly reducing conditions. The zone in which this environment is established becomes an in-situ reductive zone (IRZ). Within the IRZ, there are three primary processes by which microbes can degrade chlorinated contaminants dissolved in groundwater:

- Cometabolism: Chlorinated VOCs are degraded by the enzymes and cofactors produced by microbes as they metabolize excess organic carbon.
- Hydrogenolysis: Chlorine atoms in chlorinated VOC molecules are directly replaced by excess hydrogen atoms created because of the reducing environment and through hydrolysis and fermentation of the excess organic carbon.
- Dehalorespiration: Microbes use the chlorinated VOC molecule as an electron acceptor to support respiration under the anaerobic and reducing environment maintained by the presence of excess organic carbon.

ERD technology relies on an active delivery method, whereby the organic carbon source is periodically injected through reusable injection wells. The use of injection wells ensure immediate delivery and ability to continue delivery of excess organic carbon to the formation. This allows microbial populations to flourish in a relatively short timeframe, resulting in a highly reducing groundwater environment and supporting contaminant degradation at rates sufficient to meet remedial goals. Additional injections, natural dispersion, and advective groundwater transport help maintain and propagate the IRZ. Assuming a sufficient population of naturally occurring bacteria and availability of sufficient nutrients and alternate electron acceptors, the primary technical challenges associated with the use of ERD for groundwater remediation include: delivering the carbohydrate solution to the subsurface, and controlling the groundwater environment.

- Injection arrays would be installed perpendicular to groundwater plume flow in the DAACG Area to target the chlorinated VOC plume core, using downgradient monitoring wells and any necessary new monitoring well installations to monitor attenuation.

<u>Chemical Oxidation</u>

ISCO is based on the delivery of potent chemical oxidants to contaminated media to either completely oxidize the compounds into water, carbon dioxide, and chloride ions, or destroy the contaminants by converting them to innocuous compounds commonly found in nature. The volume and chemical composition of individual treatments are based on the contaminant levels and volume, subsurface characteristics, and pre-implementation laboratory bench-scale test results. For groundwater applications, the oxidant is typically injected through an injection well. Injection arrays would be installed in the DAACG Area to target the COC plume core, using downgradient monitoring wells and any necessary new monitoring well installations to monitor attenuation.

## 10.6.2 Benzo(a)pyrene in Soil

### 10.6.2.1 No Action

The No Action technology is evaluated to establish a baseline for the comparison of remaining technologies. No response action of any kind would be employed at the site under this category. Inclusion of a no action alternative is required per 40 CFR Section 300.430(e)(6). The No Action technology, by definition, involves no remedial action at the site and, therefore, has no technological barriers. The potential risks to human health and the environment identified in the risk assessment would not be mitigated by this response.

### 10.6.2.2 Land Use Controls

LUCs consist of administrative (i.e., institutional) means to control activities at the site. Institutional controls affect site management and/or activities occurring at the site. Institutional controls do not physically alter conditions at the site and do not reduce the mobility, toxicity, or volume of contamination at the site as part of the remedial alternative. Institutional controls limit the potential for exposure to site contamination.

According to the NCP, LUCs may be used during the RI/FS phase, implementation of the remedial action and, where necessary, as a component of the completed remedy [40 CFR 300.430 (a)(iii)(D)]. The use of LUCs shall not substitute for active response measures (e.g., treatment and/or containment of source material, restoration of groundwater to its beneficial uses) as the sole remedy unless such active measures are determined not to be practicable, based on the balancing of trade-offs among alternatives that is conducted during the selection of the remedy [40 CFR 300.430 (a)(iii)(D)]. The objective for implementing LUCs at a site following remedy implementation is to protect remedies that are in place so that protection of human health and the environment is maintained. Additionally, LUCs serve to restrict land use until site conditions allow for unrestricted use and unlimited exposure. USEPA requires LUCs when site contaminant levels do not allow unrestricted use and unlimited exposure.

The NCP regulation specifies the conditions under which institutional controls can be incorporated into a remedy, but it does not provide specific guidance on how to incorporate them into the remedy selection process. The USEPA directive entitled *Land Use in the CERCLA Remedy Selection Process* provides insight into USEPA's position on LUCs (USEPA 1995b). USEPA specifies that LUCs should be evaluated and implemented with the same degree of care as is given to other elements of the remedy. The directive states that in evaluating a remedy that includes an institutional control, USEPA should determine (1995b):

- The type of LUC to be used;
- The existence of the authority to implement the LUC; and
- The appropriate entities' resolve and ability to implement the LUC.

Based on the USEPA's fact sheet, *Institutional Controls: A Site Manager's Guide to Identifying, Evaluating, and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups*, there are four general categories of institutional controls that are discussed in more detail in the following sections (USEPA 2000b).

There are significant differences in the way LUCs are applied at Federal facilities as compared to other sites. Some proprietary or governmental controls cannot be applied on active Federal facilities. However, for properties being transferred as part of a base closure, the Department of Defense has authority to restrict property by retaining a property interest (i.e., an easement intended to assure the protectiveness of the remedy). For active bases, LUCs are commonly addressed through remedy selection documents, base master plans, and separate memorandums of understanding

#### 10.6.2.3 Institutional Controls

Governmental controls are usually implemented and enforced by a state or local government and can include zoning restrictions, ordinances, statutes, building permits, or other provisions that restrict land or resource use at a site. Local governments have a variety of LUC measures available, from simple use restrictions to more sophisticated measures such as planned unit development zoning districts and overlay zones.

Development zoning districts allow for more flexible site planning and overlay zones impose additional requirements to those of the underlying zoning district. Regardless of which measures are relied on, the LUC should be carefully evaluated to make certain there are no exceptions that could allow for improper use of the site (e.g., allowing a day care center use within an industrial district). Once implemented, local and state entities often use traditional police powers to regulate and enforce the controls. Since this category of institutional controls is put in place under local jurisdiction, they may be changed or terminated with little notice to USEPA, and USEPA generally has no authority to enforce such controls (USEPA 2000b).

For active military bases, the local authority for regulating and enforcing institutional controls is the Commanding Officer. Therefore, USEPA and the State of Georgia should work with the installation personnel to incorporate restrictions into the base master plans, instructions, and orders used by the Commanding Officer to govern conduct, actions and activities on the base; in some cases these restrictions may be imposed as permit conditions if the base is subject to RCRA permit requirements (USEPA 2000b).

#### 10.6.2.4 Informational Devices

Information tools provide information or notification that residual or capped contamination may remain onsite. Common examples include state registries of contaminated properties, deed notices, and advisories. Due to the nature of some information devices (e.g., deed or hazard notices) and their potential non-enforceability, it is important to carefully consider the objective of this category of institutional controls. Information devices are most likely to be used as a secondary “layer” to help ensure the overall reliability of other institutional controls (USEPA 2000b).

#### 10.6.2.5 Capping – Vegetative Cover

Vegetative cover entails using plants as a physical barrier to minimize surface water infiltration, reduce human health and ecological exposure to COCs in shallow soil, and act as an erosion control barrier. Installing a vegetative cover is simple in procedure and relatively inexpensive compared to an impermeable cover or soil removal activities. Under this option, impacted soil would remain in place; the

potential risks to human health and the environment identified in the risk assessment would not be fully eliminated by this response, only minimized.

#### 10.6.2.6 Excavation

Excavation entails the physical removal of contaminated media for treatment or offsite disposal. Depending on the nature of the contaminants, excavated soils can be treated to destroy or reduce the mobility of the contaminants. Excavations are particularly applicable in scenarios where the contaminant is relatively shallow and the site is open and accessible with minimal existing infrastructure. The former FTA at HAA-01 is characterized by shallow (generally 2 feet bgs or less) impacts in soil and open, grassy, flat terrain. The former FTA is, therefore, amenable to excavation as a presumptive remedy. Excavation is retained as an option for the former FTA.

#### 10.6.2.7 Disposal

Disposal of impacted media would be used in conjunction with the excavation remedial alternative to dispose of impacted media in an approved landfill. Impacted soil would be fully eliminated as a human health and environmental concern from HAA-01 under this option.

## 10.7 Development of Remedial Alternatives

The primary purpose of this FS is to develop appropriate remedial alternatives [40 CFR 300.430(e)(9)]. The remedial alternatives have been developed from technologies retained in the screening process summarized in **Section 10.6**. This section includes descriptions of the alternatives that have been developed for HAA-01. Since the site is not intended for residential use, remediation to unrestricted use/unrestricted exposure is unnecessary. The alternatives and comparative evaluation are summarized in **Table 10-2A** for groundwater and **Table 10-2B** for soil.

### 10.7.1 COCs in Groundwater – Development of Remedial Alternatives

The following remedial alternatives for groundwater were developed for HAA-01 with respect to site usage:

- Alternative 1 – No Action;
- Alternative 2 – Monitoring and LUCs;
- Alternative 3 – ERD with carbon substrate injection, monitoring and LUCs; and
- Alternative 4 – ISCO via chemical oxidant, monitoring and LUCs.

#### 10.7.1.1 Alternative 1 – No Action

Under Alternative 1, no corrective action of any kind would be employed. This alternative would not adequately control the chemical hazard or risks posed by the COCs at either the DAACG Area or the former FTA. However, the no action alternative must be evaluated [per 40 CFR 300.430(e)(6)] to establish a baseline of comparison regarding future performance and risk for the remaining alternatives, even though this alternative is not a viable option itself.

### 10.7.1.2 Alternative 2 – Monitoring and Land Use Controls

Monitoring is a potentially applicable technology for the aqueous groundwater contamination associated with the former FTA groundwater plume. Historical groundwater analytical data for the former FTA indicate that the residual COC concentrations are decreasing over time (**Table 4-1**) and do not represent a risk to receptors under the current site conditions. LUCs would also be put in place so that protection to human health and the environment is maintained and land and groundwater use is restricted until site groundwater contaminant concentrations are at levels that allow unrestricted use and unlimited exposure. The USEPA requires LUCs when site levels do not allow unrestricted use and unlimited exposure. They can also serve to notify current and future users about the environmental conditions of the property.

A statistical analysis of historical groundwater analytical data for select monitoring wells indicates that COC concentrations are decreasing over time (**Table 6-5**); benzene concentrations in HMW-13, for example, are estimated to reach cleanup goals in approximately two years. Implementation of monitoring for former FTA groundwater involves continued monitoring of COC concentrations to quantify attenuation rates and demonstrate transformation of the COCs. The infrastructure required to implement monitoring is an adequate monitoring network, which is already in place at the former FTA, translating to relatively low capital costs and moderate O&M costs for sampling, analysis, and monitoring. Because the site is characterized, monitoring would be relatively infrequent for former FTA groundwater (i.e., semi-annually). Monitoring would be performed in conjunction with LUCs to maintain protection of human health and the environment until site groundwater contaminant concentrations are at levels that allow unrestricted use and unlimited exposure.

### 10.7.1.3 Alternative 3 – Enhanced Reductive Dechlorination with Carbon Substrate Injection

Alternative 3 includes the implementation of an ERD system to enhance the mass removal associated with the chlorinated VOC impacted groundwater near the DAACG Area. A statistical analysis of historical groundwater analytical data for select monitoring wells indicates that COC concentrations are stable to increasing over time (**Table 6-5**), therefore, mass removal is warranted. The conceptual design assumptions for the IRZ installation associated with Alternative 3 are as follows:

- Eleven injection wells would be installed in three IRZ injection lines located in the chlorinated VOC source zone near the DAACG Area targeting the plume core, as shown on **Figure 10-1**.
- The well barriers would include rows of three wells, five wells, and three wells, respectively, to achieve coverage and would be positioned perpendicular to plume flow.
- Well locations would be advanced using direct push installation techniques and screened between 5 and 20 feet bgs and completed with flush mount well vaults.
- Biennial emulsified vegetable oil (EVO) injections of up to 4,500 gallons of a 2% EVO solution per well would be required until routine performance monitoring determines when an IRZ has been established, such that the geochemistry is adequate for in-situ enhanced bioremediation and VOC degradation end products ethene and/or ethane are being produced.

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Implementation of an IRZ would reduce the higher concentration zone within two years of operation, allowing for the residual mass to attenuate naturally. Long-term monitoring of downgradient monitoring wells and any necessary new monitoring well installations at the site would also be conducted to ensure that the selected remedy continues to be effective. The remedy would also include five-year reviews as per CERCLA 121c, which requires any remedial action that results in contaminants remaining onsite at concentrations greater than those allowing unrestricted use must be reviewed at least once every five years. Concentrations of COCs in groundwater may remain that preclude the unrestricted use of the site under this alternative. During five-year reviews, an assessment is made of whether the implemented remedy continues to be protective of human health and the environment or whether the implementation of additional remedial action is appropriate.

Alternative 3 would mitigate the risks via carbon substrate injection and subsequent ERD of COCs. Additionally, MNA and LUCs would also be implemented to control the remaining risk/hazards associated with COCs that remain in excess of unrestricted use.

#### 10.7.1.4 Alternative 4 – In-Situ Chemical Oxidation via Chemical Oxidant

Remedial Alternative 4 includes ISCO via injection of an oxidant such as sodium persulfate, and MNA. Under this alternative, groundwater would be remediated by a combination of natural attenuation and ISCO. ISCO introduces oxidizing compounds to the aquifer for the purpose of chemically destroying contaminants. ISCO would be deployed for remediation of the plume in the DAACG Area. MNA would be relied upon to treat residual COCs in the other areas to achieve the corrective action objectives. The oxidizing chemistry that would most likely be optimal is sodium persulfate (oxidizer) and an activator such as sodium hydroxide. In the treatment area, sodium persulfate and sodium hydroxide would be injected through the same configuration of wells as discussed in Alternative 3.

The conceptual design assumptions for the ISCO installation associated with Alternative 4 are as follows:

- Eleven injection wells would be installed in three ISCO injection lines located in the chlorinated VOC source zone near the DAACG Area targeting the plume core, as shown on **Figure 10-1**.
- The well barriers would include rows of three wells, five wells, and three wells, respectively, to achieve coverage and would be positioned perpendicular to plume flow.
- Well locations would be advanced using direct push installation techniques and 2-inch wells would be screened between 5 and 20 feet bgs and completed with flush mount well vaults.
- Biennial ISCO injections of up to 4,500 gallons of 60 gallons/Liter sodium persulfate and 40 gallons/Liter sodium hydroxide solution per well would be required.

Groundwater quality parameters (i.e., specific conductance, pH, and depth to water) and injected oxidant would be monitored during injection for real-time determination of injection breakthrough in the field. Groundwater COCs and presence of oxidant would also be monitored during and after the injections to evaluate the effectiveness of the ISCO technology and the need for additional injection pulses. Additionally, MNA and LUCs would also be implemented to control the remaining risk/hazards associated with COCs that remain in excess of unrestricted use.

### 10.7.2 Benzo(a)pyrene in Soil – Development of Remedial Alternatives

The following remedial alternatives for soil at the former FTA were developed for HAA-01 with respect to site usage:

- Alternative 1 – No Action;
- Alternative 2 –Capping – Vegetative Cover; and
- Alternative 3 – Excavation and Disposal.

#### 10.7.2.1 Alternative 1 – No Action

Under Alternative 1, no corrective action of any kind would be employed. This alternative would not adequately control the chemical hazard or risks posed by the COCs. However, the no action alternative must be evaluated [per 40 CFR 300.430(e)(6)] to establish a baseline of comparison regarding future performance and risk for the remaining alternatives, even though this alternative is not a viable option itself.

#### 10.7.2.2 Alternative 2 – Capping – Vegetative Cover

A vegetative cover is a containment technology for impacted surficial soils. It would feature a minimum 1.5 feet of compacted soil and 6 inches of top soil. This barrier layer would eliminate potential direct contact with impacted soils. The vegetative cover system does not pose significant impacts to human health or the environment due to construction or during the operational period. Installation of this type of cover is a proven and effective method of providing an exposure barrier, erosion control, and providing some long-term enhancement of ecological habitat. The potential advantages of a vegetative cover include the following (NRC 2005; USEPA 1998b):

- Minimizes and controls infiltration of rain water and subsequent dissolution of contaminants;
- Commonly used, predictable, and not complex;
- Generally easy to construct and relatively inexpensive; and
- Prevents both direct and indirect exposures to human health and the environment.

The potential disadvantages of a vegetative cover include:

- Does not reduce source zone mass, concentration, or toxicity;
- Generally, must accompany LUCs to restrict site use; and
- Requires long-term inspection and monitoring.

Installation of a vegetative cover at HAA-01 would be relatively simple to implement and can be completed with standard construction equipment and methods. Currently, the former FTA is a grassy meadow, which requires minimal to no installation of new vegetative cover.

#### 10.7.2.3 Alternative 3 – Excavation and Disposal

Excavation of surface soil involves the physical removal of surface wastes or impacted media via standard excavation practices and technology. Excavation can be performed in hazardous waste site remediation and would satisfy the RAO of preventing direct contact with contaminated soils that may result in an unacceptable risk. It is regarded as an aggressive treatment technology. Typical equipment used includes backhoes, drag lines, clamshells, vacuum trucks, and front-end loaders.

Materials handling is a concern that affects the implementability of excavation. Staging areas would be used to prepare wastes for disposal or treatment; the staging areas would be graded to reduce ponding, lined to prevent groundwater contamination, and bermed to prevent runoff. The offsite transportation of wastes resulting from excavation must meet Federal and State of Georgia shipping and manifesting regulations. Excavated soil would be transported to an approved landfill for disposal. Characterization of the material would be required to ensure proper disposal, treatment requirements, and to ensure compliance of material left in place. Labor and materials for transportation of the material is generally available. Backfilling, grading, and revegetation after excavation are necessary to prevent large open areas that would collect rainwater. Sampling would be performed to ensure the attainment of remediation goals and the complete removal of contaminants. The excavated area would be backfilled with clean soil.

Excavation and removal of impacted soil eliminates the environmental and health concerns associated with direct contact of contaminated soil. However, consideration must be given to the health and safety of remedial workers. Onsite air monitoring and dust and vapor control provisions would be necessary during excavation operations. Excavation activities can result in the release of fugitive dusts and runoff from disturbed soil. Dust controls could include water sprays or application of chemical dust suppressants. Surface water controls may also be required. Excavation at HAA-01 would create minimal disturbance of the overall operational activities of the surrounding facilities.

## 10.8 Evaluation Criteria

This section presents and applies evaluation criteria [as specified in 40 CFR 300.430(e)(9)] to anticipated alternative performance in detailed comparative analyses of the remedial alternatives developed in the previous section. These analyses are performed to aid in the selection of a preferred remedial alternative that best satisfies the criteria identified in 40 CFR 300.430(e)(9) and the specific RAOs, ARARs, and PRGs. Section 300.430(e)(9) of the NCP lists nine criteria against which each remedial alternative must be assessed. The acceptability or performance of each Alternative against the criteria is evaluated individually so that relative strengths and weaknesses may be identified.

The first two threshold criteria must be met by each alternative:

- Protection of human health and the environment; and
- Compliance with ARARs.

The next five primary balancing criteria provide the basis for analysis:

- Long-term effectiveness and permanence;
- Reduction of toxicity, mobility, volume, or mass through treatment;

- Short-term effectiveness;
- Implementability; and
- Cost.

The final two modifying criteria – State acceptance, and community acceptance – are analyzed following comments on the Proposed Plan to evaluate state and community acceptance and are described in the Remedial Design. These modifying criteria are not addressed in this FS.

### 10.8.1 Overall Protection of Human Health and Environment

This criterion addresses the degree, extent, and manner in which the alternative achieves protection of human health and the environment over time. Protection of human health and the environment is met if each human health and ecological exposure pathway identified in the risk assessment as potentially resulting in adverse effects is eliminated, reduced to an acceptable level, or controlled through treatment or engineering and LUCs. This criterion includes risk analysis of any residual contaminants in soil following completion of the remedial action. The degree of restrictions on the use of the site after remediation is also considered under this criterion.

### 10.8.2 Compliance with ARARs

This criterion addresses whether the Alternative complies with Federal and State environmental statutes, regulations and other requirements that pertain to the site.

### 10.8.3 Long-Term Effectiveness and Permanence

The long-term reliability and effectiveness criterion address the degree, extent, and manner in which the Alternative continues to protect human health and the environment in terms of residual risk remaining at the site after the corrective action objectives have been met. This criterion considers the residuals following completion of the actions, expected duration of the response action, and the degree of controls required to ensure protectiveness of the response action.

### 10.8.4 Reduction of Toxicity, Mobility, Volume, and Mass

This criterion relates to the extent to which the remedial alternatives permanently reduce the toxicity, mobility, and volume of contaminants present at the site. Factors for this criterion include the degree of permanence of the remedial action, the amount of hazardous materials disposed offsite or destroyed/removed, and the type and quantity of residuals remaining.

### 10.8.5 Short-Term Effectiveness

Short-term effectiveness addresses the effects of the Alternative during construction and implementation until the corrective action objectives are met. This criterion considers the protection of the community and workers, including the air quality effects and hazards from excavation, transportation, and onsite treatment. In addition, the expected length of time for completion of the remedial action is considered.

### 10.8.6 Implementability

The technical and administrative feasibility of implementing each Alternative and the availability of services and materials are addressed by this criterion. This criterion also considers the degree of coordination required by the regulatory agencies, successful implementation of the remedial action at similar sites, and research to realistically predict field implementability.

### 10.8.7 Cost

This criterion addresses the capital costs, the O&M costs, and the present worth analysis of costs anticipated for implementation of the response action. Capital costs are divided into direct costs for construction and indirect costs for non-construction and overhead. Direct capital costs include construction, equipment, relocation, disposal, and land and site development costs. Indirect capital costs include engineering expenses, legal fees, license or permit costs, start-up costs, and contingency allowances. O&M costs consist of costs associated with post-construction activities necessary to properly operate, maintain, and monitor a given response action.

A detailed present worth cost is developed for each Alternative. The opinions of probable cost presented in this FS were developed in accordance with USEPA guidance (2000c), engineering experience with comparable sites, and previous project costs. The opinions of probable cost presented in this report were prepared with an anticipated accuracy range of minus 30% to plus 50%.

Cost as a criterion may also be used to screen where each Alternative is found to equally meet or exceed the RAOs. The cost analyses are developed by evaluating the direct capital costs, indirect capital costs, and the O&M costs.

### 10.8.8 State Acceptance

This criterion evaluates the technical and administrative issues and concerns the state may have regarding each of the alternatives. This criterion will be addressed in the Record of Decision once comments on the RI/FS and proposed plan have been received.

### 10.8.9 Community Acceptance

This criterion evaluates the issues and concerns the public may have regarding each of the alternatives. As with State Acceptance, this criterion will be addressed in the Record of Decision once comments on the RI/FS and proposed plan have been received.

## 10.9 Detailed Evaluations of Remedial Alternatives

### 10.9.1 Constituents of Concern in Groundwater

#### 10.9.1.1 Detailed Evaluation of Alternative 1 – No Action

The four alternatives, including the No Action alternative, will be evaluated in accordance with the seven criteria specified in **Section 10.8**. Under this alternative, no further effort or resources would be expended

at the site. Because contaminated media would be left on the site, a review of the site conditions would be required every five years, as specified in the NCP. Alternative 1 serves as the baseline against which the effectiveness of other alternatives are judged, and is included per the NCP. **Table 10-2A** presents a summary of Alternative 1 evaluated against the seven criteria presented below.

#### *10.9.1.1.1 Overall Protection of Human Health and Environment*

The No Action alternative does not afford any protection to human health or the environment, nor does this alternative monitor impacted media or document land uses to ensure protection to human health and the environment. **Figures 6-17 through 6-21** provide an illustration of the extent of the groundwater contamination plume at HAA-01. The No Action Alternative does not reduce or control potential exposures of human or ecological receptors to groundwater COCs at HAA-01.

#### *10.9.1.1.2 Compliance with ARARs*

ARARs are not met with the No Action alternative, as no remedy would be implemented.

#### *10.9.1.1.3 Long-Term Effectiveness and Permanence*

The No Action alternative does not provide any controls for monitoring the reduction of COC concentrations over time, reduction of exposure, or the long-term management of impacted media; therefore, the No Action alternative does not meet this criterion.

#### *10.9.1.1.4 Reduction of Toxicity, Mobility, Volume, and Mass*

The No Action alternative does not employ any treatment that would reduce the toxicity, mobility, or volume of impacted material; therefore, the No Action alternative does not meet this criterion.

#### *10.9.1.1.5 Short-Term Effectiveness*

The No Action alternative does not pose any additional risks to the community, the workers, or the environment since there are no remedial activities associated with it; however, it does not mitigate any existing or potential future risks/hazards.

#### *10.9.1.1.6 Implementability*

The No Action alternative is technically implementable, as no action would be taken.

#### *10.9.1.1.7 Cost*

There are no present worth costs and capital costs for the No Action alternative because no action would be taken.

### 10.9.1.2 Detailed Evaluation of Alternative 2 – Monitoring and LUCs

Under this alternative, the effectiveness of natural attenuation processes at the site would be monitored. **Table 10-2A** presents a summary of Alternative 2 evaluated against the seven criteria presented below.

#### *10.9.1.2.1 Overall Protection of Human Health and Environment*

Groundwater monitoring would be used to assess achievement of RAOs by observing the effectiveness of natural attenuation processes already occurring at the former FTA and DAACG area while institutional controls (i.e., land and groundwater use restrictions) would protect against human exposure to groundwater impacts. This would thereby protect against both current and future human exposure to groundwater and would be protective of human health and the environment. **Figures 6-17 through 6-21** provide an illustration of the extent of the groundwater contamination plume at HAA-01.

#### *10.9.1.2.2 Compliance with ARARs*

Alternative 2 would comply with chemical-specific ARARs for groundwater, because historical groundwater sampling analytical data demonstrates that natural attenuation is occurring at a viable rate to achieve chemical-specific ARARs and would comply with location- and action-specific ARARs.

#### *10.9.1.2.3 Long-Term Effectiveness and Permanence*

Alternative 2 would achieve long-term effectiveness and permanence through existing natural attenuation processes and implementation of institutional controls. Historical groundwater analytical data for the former FTA indicates that the residual risks are being reduced by natural processes. Monitoring and institutional controls would provide adequate and reliable long-term controls to assure exposure does not occur and would quantify the rate of the natural attenuation processes occurring at the site. Initial remedial timeframes for natural attenuation of cis-1,2-DCE and vinyl chloride are 4.8 years and 2.3 years, respectively (**Appendix Q**). The reliability and accuracy of the remedial action would increase with time as long-term trends are developed through implementation of the program.

#### *10.9.1.2.4 Reduction of Toxicity, Mobility, Volume, and Mass*

Alternative 2 would permanently reduce the mobility, toxicity, and volume of COCs in groundwater via natural attenuation processes.

#### *10.9.1.2.5 Short-Term Effectiveness*

Implementation of this alternative would result in minimal exposure risks to the community and workers via institutional controls, while monitoring in periphery areas track plume migration to ensure that the remedy is protective of potential receptors in the short term. Initial remedial timeframes for natural attenuation of cis-1,2-DCE and vinyl chloride are 4.8 years and 2.3 years, respectively (**Appendix Q**).

#### *10.9.1.2.6 Implementability*

This alternative is technically implementable and a site-wide monitoring well network is already in place. A comprehensive institutional control strategy would be used for HAA-01 and developed during the remedial design phase.

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#### *10.9.1.2.7 Cost*

Total capital costs are estimated to be approximately $30,000. Annual costs for monitoring and reporting are estimated to be approximately $618,813 over a 30-year timeframe (**Appendix R**).

### 10.9.1.3 Detailed Evaluation of Alternative 3 – Enhanced Reductive Dechlorination with Carbon Substrate Injection

Alternative 3 entails ERD via the implementation of an IRZ in the groundwater plume near the DAACG Area. MNA and LUCs would also be implemented following completion of ERD. **Table 10-2A** presents a summary of Alternative 3 evaluated against the seven criteria presented below.

#### *10.9.1.3.1 Overall Protection of Human Health and Environment*

Implementation of this alternative is expected to not result in exposure risks to the community, workers, or the environment. The establishment of an IRZ would enhance the rate of plume degradation for chlorinated VOCs, while LUCs would protect against human exposure to groundwater impacts. MNA and LUCs would be incorporated into the overall strategy following the ERD phase at the DAACG Area, thereby allowing for protection against both current and future human exposure to groundwater, and protection of human health and the environment.

#### *10.9.1.3.2 Compliance with ARARs*

Alternative 3 would comply with chemical-specific ARARs for groundwater, because ERD via IRZ of chlorinated VOC concentrations for the DAACG Area would occur within an acceptable timeframe to achieve chemical-specific ARARs. Alternative 3 would comply with location- and action-specific ARARs.

#### *10.9.1.3.3 Long-Term Effectiveness and Permanence*

Alternative 3 would achieve long-term effectiveness and permanence through processes of ERD via IRZ, transition to natural attenuation, and implementation of institutional controls. The DAACG Area contains degraded chlorinated compounds, indicating that the residual risk is currently being reduced by natural attenuation processes. ERD via IRZ combined with MNA and institutional controls would provide adequate and reliable long-term controls to assure exposure does not occur, and performance monitoring would quantify the rate of the attenuation processes occurring at the site. The reliability and accuracy of the remedial action would increase with time as long-term trends are developed through the program. The use of ERD through implementation of an IRZ would increase the degradation rate of chlorinated VOCs in the plume where concentrations of the parent compounds are located by the addition of degradable carbon in the source area. The IRZ barrier would also increase the rate of retreat of the chlorinated plume. The ERD system is highly adaptable and can be optimized after initial implementation to ensure long-term reliability.

#### *10.9.1.3.4 Reduction of Toxicity, Mobility, Volume, and Mass*

Alternative 3 would permanently reduce the mobility, toxicity, and volume of chlorinated VOCs in the

groundwater via ERD and natural attenuation processes.

#### *10.9.1.3.5 Short-Term Effectiveness*

Implementation of this alternative would result in minimal exposure risks to the community, workers, and the environment. Substrate injection wells and additional monitoring wells will be needed to monitor IRZ performance. EVO is selected as the substrate injection compound for ERD and will not result in additional risks to the community, workers, and the environment. Implementation of ERD in source areas will provide total organic carbon to stimulate biodegradation of chlorinated VOCs upon injection of the carbon substrate. IDW from well installation, groundwater sampling, or remedial activities would be handled using approved methods. MNA in periphery areas will track plume migration and ensure that the remedy is protective of potential receptors in the short term. Potential risks are limited to onsite populations.

#### *10.9.1.3.6 Implementability*

Implementation of this alternative is both technically and administratively feasible and would not interfere with ongoing operations on the HAA-01 property. Monitoring or injection wells necessary for the IRZ system and the performance monitoring program would be installed using standard well drilling methods and materials. These services are readily available, as are the services and materials necessary for the completion of injections and the collection and analysis of groundwater samples. Implementation of this alternative would not limit or interfere with the ability to perform future remedial actions. All services and materials needed for the implementation of this alternative are readily available. A comprehensive institutional control strategy would be used for HAA-01 and developed during the remedial design phase.

#### *10.9.1.3.7 Cost*

Capital costs include site preparation, installation of monitoring and substrate injection wells downgradient, and institutional controls. O&M costs include the O&M of the IRZ, MNA monitoring, and institutional controls. Total capital costs are estimated to be approximately $158,727. Annual O&M costs for IRZ O&M, MNA sampling, reporting, and periodic costs are estimated to be approximately $1,017,433 over a 30-year timeframe (**Appendix R**).

### 10.9.1.4 Detailed Evaluation of Alternative 4 – In-Situ Chemical Oxidation via Chemical Oxidant

Alternative 4 includes LUCs to prohibit installation of water wells within or downgradient of HAA-01, ISCO via injection of an oxidant such as sodium persulfate in the DAACG area, and MNA. **Table 10-2A** presents a summary of Alternative 4 evaluated against the seven criteria presented below.

#### *10.9.1.4.1 Overall Protection of Human Health and Environment*

ISCO of impacted groundwater would degrade chlorinated VOCs through oxidation. The introduction of an oxidizer and activator solution into the aqueous environment reduces total chlorinated VOC mass in

the source area. ISCO may temporarily reduce natural attenuation of chlorinated VOCs through reductive dichlorination processes. The IRZ further enhances the protection of human health and environment by oxidizing COCs that exceed the PRGs within the mass flux portion of the contamination plume.

#### *10.9.1.4.2 Compliance with ARARs*

Alternative 4 complies with chemical-specific ARARs for groundwater by reducing COC concentrations in groundwater via ISCO and natural attenuation following the implementation phase. This alternative will also comply with location-specific and action-specific ARARs during the implementation phase.

#### *10.9.1.4.3 Long-Term Effectiveness and Permanence*

The implementation of ISCO to target the higher concentration zones in the DAACG Area will treat the source area and mass flux originating from the area. A second ISCO injection may be necessary to achieve additional source reduction for MNA to be appropriate.

#### *10.9.1.4.4 Reduction of Toxicity, Mobility, Volume, and Mass*

The implementation of ISCO through the injections in the higher concentration zone will accelerate the reduction in volume and toxicity. Reduction of the mobility, toxicity and volume of COCs will be confirmed through regular groundwater monitoring.

#### *10.9.1.4.5 Short-Term Effectiveness*

Implementation of this alternative, which requires use of hazardous chemicals, would result in moderate risks to the community, workers, and the environment. Purge water from monitoring well sampling would be handled using approved methods. The chemicals used for ISCO would be handled in compliance with all health and safety requirements. This approach would result in rapid oxidation of dissolved phase COCs.

#### *10.9.1.4.6 Implementability*

Implementation of this alternative is both technically and administratively feasible. Injection wells will be required to implement ISCO. Wells would be installed using standard well drilling methods and materials. These services are readily available, as are the services and materials necessary for the completion of the injections and the collection and analysis of groundwater samples. Some sections of the target area may not be accessible, depending on site operations.

#### *10.9.1.4.7 Cost*

Capital costs include site preparation, installation of monitoring and ISCO injection wells downgradient, and institutional controls. O&M costs include the O&M of the IRZ, performance monitoring, MNA monitoring, and institutional controls. Total capital costs are estimated to be approximately $183,431. Annual O&M costs for IRZ O&M, MNA sampling, reporting, and periodic costs are estimated to be approximately $1,064,203 over a 30-year timeframe (**Appendix R**).

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## 10.9.2 Benzo(a)pyrene in Soil

### 10.9.2.1 Detailed Evaluation of Alternative 1 – No Action

Under this alternative, no further effort or resources would be expended at the site. Because contaminated media would be left on the site, a review of the site conditions would be required every five years as specified in the NCP. Alternative 1 serves as the baseline against which the effectiveness of other alternatives are judged and is included per the NCP. **Table 10-2B** presents a summary of Alternative 1 evaluated against the seven criteria presented below.

#### *10.9.2.1.1 Overall Protection of Human Health and Environment*

The No Action alternative does not afford any protection to human health or the environment, nor does this alternative monitor impacted media or document land uses to ensure protection to human health and the environment. **Figures 6-1 through 6-16** provide an illustration of the extent of impacted soil at HAA-01. These observations indicate that the No Action Alternative does not reduce or control potential exposures of human or ecological receptors to soil COCs at HAA-01.

#### *10.9.2.1.2 Compliance with ARARs*

ARARs are not met with the No Action alternative, as no remedy will be implemented.

#### *10.9.2.1.3 Long-Term Effectiveness and Permanence*

The No Action alternative does not provide any controls for addressing the reduction of COC concentrations over time, reduction of exposure, or the long-term management of impacted media; therefore, the No Action alternative does not meet this criterion.

#### *10.9.2.1.4 Reduction of Toxicity, Mobility, Volume, and Mass*

The No Action alternative does not employ any treatment that would reduce the toxicity, mobility, or volume of impacted material; therefore, the No Action alternative does not meet this criterion.

#### *10.9.2.1.5 Short-Term Effectiveness*

The No Action alternative does not pose any additional risks to the community, the workers, or the environment, since there are no remedial activities associated with it; however, it does not mitigate any existing or potential future risks/hazards.

#### *10.9.2.1.6 Implementability*

The No Action alternative is technically implementable, as no action would be taken.

#### *10.9.2.1.7 Cost*

There are no present worth costs and capital costs for the No Action alternative because no action would be taken.

### 10.9.2.2 Detailed Evaluation of Alternative 2 – Vegetative Cover

Under this alternative, the protective containment of impacted soils and institutional controls at the site would be maintained. **Table 10-2B** presents a summary of Alternative 2 evaluated against the seven criteria presented below.

#### *10.9.2.2.1 Overall Protection of Human Health and Environment*

Maintaining a vegetative cover would maintain RAOs by limiting exposure to impacted soils while institutional controls (i.e., land and groundwater use restrictions) would protect against human exposure to soil impacts. This would thereby protect against both current and future human exposure to soil and would be protective of human health and the environment. **Figures 6-1 through 6-16** provide an illustration of the extent of the soil contamination at HAA-01.

#### *10.9.2.2.2 Compliance with ARARs*

Alternative 2 would comply with chemical-specific, location-, and action-specific ARARs for soil.

#### *10.9.2.2.3 Long-Term Effectiveness and Permanence*

Alternative 2 would achieve long-term effectiveness and permanence through the maintenance of existing vegetative cover and implementation of institutional controls. The former FTA area contains residual soil impacts with low level concentrations resulting from historical activities that have since ceased. Vegetative cover and institutional controls would provide adequate and reliable long-term controls to ensure exposure does not occur.

#### *10.9.2.2.4 Reduction of Toxicity, Mobility, Volume, and Mass*

Alternative 2 would permanently reduce the mobility of COCs via the erosion control provided by a well-maintained vegetative cover. Toxicity, volume, and mass of organic COCs in soil may decrease over time via natural attenuation processes.

#### *10.9.2.2.5 Short-Term Effectiveness*

Implementation of this alternative would result in minimal exposure risks to the community and workers via institutional controls, while an existing vegetative cover already provides protection in the former FTA (grassy meadow).

#### *10.9.2.2.6 Implementability*

This alternative is technically implementable, as vegetative cover already exists in the former FTA. A comprehensive institutional control strategy related to site groundwater impacts would be used for HAA-01 and developed during the remedial design phase.

#### *10.9.2.2.7 Cost*

Total capital costs are estimated to be approximately $13,438. Annual costs for vegetation maintenance and reporting are estimated to be approximately $38,244 over a 10-year period (**Appendix R**).

### 10.9.2.3 Detailed Evaluation of Alternative 3 – Excavation and Disposal

Under this alternative, the physical removal of impacted soils and offsite disposal would be implemented. **Table 10-2B** presents a summary of Alternative 3 evaluated against the seven criteria presented below.

#### *10.9.2.3.1 Overall Protection of Human Health and Environment*

Excavating impacted soil would maintain RAOs by eliminating exposure to impacted soils to protect against human exposure to soil impacts. This would thereby protect against both current and future human exposure to soil and would be protective of human health and the environment. **Figures 6-1 through 6-16** provide an illustration of the extent of the soil contamination at HAA-01.

#### *10.9.2.3.2 Compliance with ARARs*

Alternative 3 would comply with chemical-specific, location-, and action-specific ARARs for soil.

#### *10.9.2.3.3 Long-Term Effectiveness and Permanence*

Alternative 3 would achieve long-term effectiveness and permanence through the physical removal of impacted soil from the former FTA.

#### *10.9.2.3.4 Reduction of Toxicity, Mobility, Volume, and Mass*

Alternative 3 would permanently reduce the toxicity, mobility, volume, and mass of COCs via the physical removal of impacted soil.

#### *10.9.2.3.5 Short-Term Effectiveness*

Implementation of this alternative would be immediately effective upon removal of impacted soil, but removal activities may result in minimal exposure risks to the community and workers via the release of fugitive dusts and runoff from disturbed soil. Dust controls may include water sprays or application of chemical dust suppressants. Surface water controls may also be required.

#### *10.9.2.3.6 Implementability*

This alternative is technically implementable. Excavator services are readily available, as are the services and materials necessary for the transportation of excavated soil to an approved off-site disposal facility or landfill.

#### *10.9.2.3.7 Cost*

Total capital costs are estimated to be approximately $880,044. Costs for post-excavation sampling, reporting, and periodic costs are estimated to be approximately $84,517 over a 5-year timeframe (**Appendix R**).

## 10.10 Comparative Analyses of Remedial Alternatives

### 10.10.1 Constituents of Concern in Groundwater

The comparative analysis of alternatives includes an evaluation of the expected performance of each alternative relative to the other alternatives with respect to the seven criteria described in **Section 10.8**. The objective of this analysis is to identify the respective advantages and disadvantages of the alternatives. An overall rating for each alternative was developed based on the individual criteria ratings, as presented in **Table 10-3A** for groundwater remedial alternatives and in **Table 10-3B** for soil remedial alternatives.

#### 10.10.1.1 Former FTA

Due to the localized extent of COC plumes with low level concentrations relative to the DAACG Area, the observation of COC degradation via natural processes (**Table 6-5**), and the observation that residual COC concentrations do not represent a risk to receptors under the current site conditions, Alternative 2 (Monitoring and LUCs) is the only alternative selected for this area. As such, a comparative analysis of remedial alternatives for groundwater impacts at the former FTA is not necessary. Alternative 1 (No Action) fails to afford any additional protection to human health or the environment.

#### 10.10.1.2 DAACG Area

##### *10.10.1.2.1 Protection of Human Health and Environment*

Alternatives 3 (MNA, LUCs, and ERD) and 4 (MNA, LUCs, and ISCO) will provide adequate protection of human health and the environment from short-term and long-term risks through source remediation and natural attenuation of peripheral impacts. Alternative 4 entails the use of hazardous oxidizing chemicals and appropriate safeguards would be required, whereas Alternative 3 uses EVO, a nonhazardous substrate, to achieve remediation. Alternative 1 (No Action) fails to afford any additional protection to human health or the environment. Alternative 2 (MNA and LUCs), while a feasible option, may not achieve remediation over an acceptable timeframe, as groundwater COC concentrations in the DAACG Area are two to three orders of magnitude greater than groundwater COC concentrations in the former FTA.

##### *10.10.1.2.2 Compliance with ARARs*

Alternatives 3 and 4 have an equivalent degree of ARAR compliance as they both will address COCs exceeding PRGs and will be implemented in accordance with action- and location-specific ARARs.

#### *10.10.1.2.3 Long-Term Effectiveness and Permanence*

Both Alternatives 3 and 4 will result in the long-term reduction in total COC mass; however, the application of a longer-lived carbon source to the aquifer per Alternative 3 will reduce the probability of dissolved phase COC rebound that may occur with Alternative 4.

#### *10.10.1.2.4 Reduction of Toxicity, Mobility, and Volume*

Both Alternatives 3 and 4 will result in the degradation of COCs to less toxic compounds and will reduce the total COC mass, mobility, and volume.

#### *10.10.1.2.5 Short-Term Effectiveness*

Alternatives 3 and 4 include active source treatment, which are applicable to MNA flushing calculations. According to the MNA flushing calculations provided in **Appendix Q**, the estimated cleanup timeframe for the DAACG area is 2.8 years for DCE, and 2.3 years for VC. Therefore, both Alternatives 3 and 4 are generally effective in the short term.

#### *10.10.1.2.6 Implementability*

Alternatives 3 and 4 are both technically and administratively feasible.

#### *10.10.1.2.7 Cost*

Based on the present worth cost estimates for the alternatives, Alternatives 3 and 4 are similar for cost effectiveness.

### 10.10.2 Benzo(a)pyrene in Soil

Although effective, Alternative 3, excavation and disposal, is screened out as a remedial alternative, as it would be an expensive operation to address the low risk receptors present for the former FTA. 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. HAAF has a master plan (U.S. Army 2006) that does not indicate plans for family housing in the area. Based on the current usage of the HAA-01 site, the potential human receptors are limited to workers periodically mowing the site. It is anticipated that the site will continue to be used for non-residential purposes with no current plans for permanent, residential housing. Banks of the two onsite storm water ditches are steeply sloped and heavily vegetated, precluding contact with surface water and sediments. Due to low level concentrations of COCs, low risk receptors, and existing vegetation, Alternative 2, vegetative cover coupled with LUCs, is the only alternative selected for this area. As such, a comparative analysis of remedial alternatives for soil impacts is not necessary.

## 10.11 Feasibility Study Summary and Recommendation

To objectively compare the remedial alternatives, numerical ratings were assigned to each of the

evaluation criteria used in the analysis of the alternatives. Ratings between 1 (most favorable) and 4 (least favorable) were assigned based on a subjective appraisal of the degree to which each alternative met the criteria. The overall score was calculated as presented in **Table 10-3A** for groundwater and **Table 10-3B** for soil. The recommended remedial alternative should provide the optimum balance among alternatives with respect to the evaluation criteria, and represent the most cost-effective means of risk reduction at the site.

- Groundwater – Numerical rating scores ranged from a low of 1.5 for Alternative 3 to a high of 3.6 for Alternative 1.
- Soil – Numerical rating scores ranged from a low of 2.5 for Alternative 2 to a high of 3.6 for Alternative 1.

DAACG Area Groundwater

For DAACG Area groundwater, Alternative 3, which consists of ERD, MNA and LUCs to address Industrial Worker Risk and Construction Worker Risk, is selected as the recommended alternative. This alternative is implementable, effective in meeting the RAOs, and is reasonable with respect to present-worth cost. Alternative 4 is also implementable, similarly effective in mitigating and controlling risks at the site, and results in the reduction of the volume and mobility of onsite waste, but requires the use of hazardous oxidizing chemicals to meet the RAOs.

Active source area treatment MNA flushing timeframe calculations have been provided in **Appendix Q**. Linear regression for COCs in monitor wells with estimated timeframes to reaching below screening levels in the DAACG area are also provided in **Appendix Q**.

Former FTA Groundwater

For the former FTA groundwater, Alternative 2, which consists of monitoring and LUCs, is selected as the recommended alternatives. Due to the localized extent of COC plumes with low level concentrations and the observation of COC degradation via natural processes (**Table 6-5**), these combined alternatives will be effective in meeting RAOs, are implementable, and are reasonable with respect to present-worth cost.

Active source area treatment MNA flushing timeframe calculations in the FTA area have been provided in **Appendix Q**.

Former FTA Soil and Sediment

For impacted soil at the former FTA, Alternative 2, vegetative cover, is selected as the recommended alternative. Due to the low risk factors, low level COC concentrations, and the existing vegetative cover, these combined alternatives will be effective in meeting RAOs, are implementable, and are reasonable with respect to present-worth cost.

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# APPENDIX B

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# APPENDIX C

## Historical Field Procedures, Field Forms, and Field Logs (1990 – 2001)

## (On CD ROM)

# APPENDIX D

## Historical Remedial Action Summaries

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# APPENDIX G

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## RSL Calculator Output for Detection Limit Calculations

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## Photographic Log

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## MNA Flushing Calculations

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## Feasibility Study Cost Estimates

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# TABLES

**Table 3-1**
**Monitoring Well Construction Details**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Location ID | Northing | Easting | Ground Elevation (ft msl) | TOC Elevation (ft msl) | Well Diameter (in) | Screen Interval (ft bgs) | Screen Length (ft) |
|---|---|---|---|---|---|---|---|
| HMW-01 | 735187.44 | 972442.15 | | 38.42 | 2 | 38.0 - 48.0 | 10 |
| HMW-02 | 734786.58 | 816063.02 | | 37.93 | 2 | 4.6 - 14.6 | 10 |
| HMW-03 | 735209.97 | 972400.71 | | 29.75 | 2 | 39.0 - 49.0 | 10 |
| HMW-04 | 734718.68 | 816018.22 | | 30.42 | 2 | 3.0 - 13.0 | 10 |
| HMW-05 | 735330.83 | 972346.01 | | 31.94 | 2 | 39.0 - 49.0 | 10 |
| HMW-06 | 734497.34 | 816067.77 | | 31.53 | 2 | 3.0 - 13.0 | 10 |
| HMW-08 | 734779.81 | 816009.36 | | 27.50 | 2 | 3.0 - 13.0 | 10 |
| HMW-09 | 734790.68 | 816129.62 | | 34.39 | 2 | 5.0 - 15.0 | 10 |
| HMW-10 | 734614.87 | 815936.60 | | 27.51 | 2 | 2.7 - 12.8 | 10 |
| HMW-11 | 734491.04 | 815971.75 | | 31.05 | 2 | 4.7 - 14.8 | 10 |
| HMW-12 | 735333.97 | 972229.69 | | 31.78 | 2 | 5.1 - 15.2 | 10 |
| HMW-13 | 734858.99 | 816186.45 | | 34.88 | 2 | 7.5 - 17.6 | 10 |
| HMW-14R | 735029.26 | 816249.07 | | 34.67 | 2 | 9.2 - 18.9 | 10 |
| HMW-15 | 734954.99 | 972173.27 | | 23.84 | 2 | 4.7 - 14.7 | 10 |
| HMW-16A | 734656.70 | 972072.59 | | 29.06 | 2 | 4.3 - 14.3 | 10 |
| HMW-17 | 734550.77 | 972354.76 | | 33.29 | 2 | 4.3 - 14.3 | 10 |
| HMW-18 | 734505.69 | 972009.95 | | 29.87 | 2 | 3.7 - 13.5 | 10 |
| HMW-19 | 734661.92 | 971761.25 | | 24.50 | 2 | 4.2 - 14.0 | 10 |
| HMW-20 | 734991.42 | 972129.08 | | 23.19 | 2 | 3.7 - 13.4 | 10 |
| HMW-21 | 735133.03 | 816083.64 | | 22.28 | 2 | 2.0 - 11.5 | 8.5 |
| HMW-22 | 735105.25 | 972622.91 | | 38.19 | 2 | 11.0 - 20.5 | 10 |
| HMW-23 | 734701.53 | 972202.19 | | 29.46 | 2 | 5.0 - 15.0 | 10 |
| HMW-24 | 734682.81 | 972236.88 | | 31.92 | 2 | 7.0 - 12.0 | 5 |
| COE-MW-01 | 735187.44 | 972442.15 | | 34.67 | 2 | 15.0 - 20.0 | 5 |
| COE-MW-02 | 735266.60 | 972422.67 | | 31.28 | 2 | 14.9 - 19.9 | 5 |
| COE-MW-03 | 735209.97 | 972400.71 | | 32.66 | 2 | 15.0 - 20.0 | 5 |
| COE-MW-04 | 735274.25 | 972359.94 | | 22.67 | 2 | 10.0 - 15.0 | 5 |
| COE-MW-05 | 735330.83 | 972346.01 | | 21.18 | 2 | 10.0 - 15.0 | 5 |
| COE-MW-06 | 735283.70 | 972291.03 | | 22.34 | 2 | 10.0 - 15.0 | 5 |
| COE-MW-07 | 735183.39 | 972173.19 | | 22.92 | 2 | 10.0 - 15.0 | 5 |
| COE-MW-08 | 735221.29 | 972124.58 | | 22.53 | 2 | 10.0 - 15.0 | 5 |
| HA01-MW-07D | 735172.68 | 972160.98 | | 18.63 | 2 | 50.0 - 60.0 | 10 |
| HA01-MW-09 | 735209.55 | 972577.98 | 34.01 | 33.66 | 2 | 7.0 - 17.0 | 10 |
| HA01-MW-10 | 735350.72 | 972603.33 | 23.88 | 23.51 | 2 | 2.0 - 12.0 | 10 |
| HA01-MW-11 | 735422.52 | 972307.95 | 20.34 | 19.74 | 2 | 2.0 - 12.0 | 10 |
| HA01-MW-12 | 735333.97 | 972229.69 | 21.42 | 21.22 | 2 | 2.0 - 12.0 | 10 |
| HA01-MW-12D | 735329.99 | 972226.29 | 21.30 | 21.00 | 2 | 40.0 - 50.0 | 10 |
| HA01-MW-13 | 735220.19 | 972038.26 | 20.43 | 20.13 | 2 | 2.0 - 12.0 | 10 |
| HA01-MW-14 | 735065.10 | 972084.42 | 23.66 | 23.22 | 2 | 3.0 - 13.0 | 10 |
| HA01-MW-14D | 735067.33 | 972075.32 | 24.29 | 23.92 | 2 | 39.0 - 49.0 | 10 |
| HA01-MW-15 | 735033.32 | 972311.79 | 28.41 | 28.11 | 2 | 4.5 - 14.5 | 10 |
| HA01-MW-16 | 735017.97 | 972456.13 | 36.35 | 35.95 | 2 | 9.0 - 19.0 | 10 |
| HA01-MW-17 | 734811.24 | 972131.72 | 25.11 | 24.86 | 2 | 4.5 - 14.5 | 10 |
| HA01-MW-18D | 735244.77 | 972390.49 | 29.82 | 29.58 | 2 | 56.0 - 66.0 | 10 |

Notes:
ft - Feet
ft bgs - Feet below ground surface
ft MSL - Feet above mean sea level
in - Inches
TOC - Top of Casing

**Table 3-2**
**December 2014 Groundwater Elevation Data Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Location ID | TOC Elevation (ft above MSL) | Screen Interval (ft) | Measurement Date | Depth to Water (ft below TOC) | Groundwater Elevation (ft above MSL) |
|---|---|---|---|---|---|
| **Shallow Surficial Aquifer Monitor Wells** | | | | | |
| HMW-02 | 37.93 | 4.6 - 14.6 | Dec-14 | NM | -- |
| HMW-04 | 30.42 | 3.0 - 13.0 | Dec-14 | 9.29 | 21.13 |
| HMW-06 | 31.53 | 3.0 - 13.0 | Dec-14 | 8.63 | 22.90 |
| HMW-08 | 27.50 | 3.0 - 13.0 | Dec-14 | 8.65 | 18.85 |
| HMW-09 | 34.39 | 5.0 - 15.0 | Dec-14 | 11.01 | 23.38 |
| HMW-10 | 27.51 | 2.7 - 12.8 | Dec-14 | 9.57 | 17.94 |
| HMW-11 | 31.05 | 4.7 - 14.8 | Dec-14 | 12.64 | 18.41 |
| HMW-12 | 31.78 | 5.1 - 15.2 | Dec-14 | NM | -- |
| HMW-13 | 34.88 | 7.5 - 17.6 | Dec-14 | 14.25 | 20.63 |
| HMW-14R | 34.67 | 9.2 - 18.9 | Dec-14 | 13.67 | 21.00 |
| HMW-15 | 23.84 | 4.7 - 14.7 | Dec-14 | 8.94 | 14.90 |
| HMW-16 | 29.06 | 4.3 - 14.3 | Dec-14 | 12.51 | 16.55 |
| HMW-17 | 33.29 | 4.3 - 14.3 | Dec-14 | 9.83 | 23.46 |
| HMW-18 | 29.87 | 3.7 - 13.5 | Dec-14 | 9.07 | 20.80 |
| HMW-19 | 24.50 | 4.2 - 14.0 | Dec-14 | 12.57 | 11.93 |
| HMW-20 | 23.19 | 3.7 - 13.4 | Dec-14 | 8.90 | 14.29 |
| HMW-21 | 22.28 | 2.0-11.5 | Dec-14 | 8.16 | 14.12 |
| HMW-22 | 38.19 | 11.0 - 20.5 | Dec-14 | 16.15 | 22.04 |
| HMW-23 | 29.46 | 5.0 - 15.0 | Dec-14 | 8.98 | 20.48 |
| HMW-24 | 31.92 | 7.0 - 12.0 | Dec-14 | 9.10 | 22.82 |
| COE-MW-01 | 34.67 | 15.0 - 20.0 | Dec-14 | 15.16 | 19.51 |
| COE-MW-02 | 31.28 | 14.9 - 19.9 | Dec-14 | 16.23 | 15.05 |
| COE-MW-03 | 32.66 | 15.0 - 20.0 | Dec-14 | 14.88 | 17.78 |
| COE-MW-04 | 22.67 | 10.0 - 15.0 | Dec-14 | 9.16 | 13.51 |
| COE-MW-05 | 21.18 | 10.0 - 15.0 | Dec-14 | 8.95 | 12.23 |
| COE-MW-06 | 22.34 | 10.0 - 15.0 | Dec-14 | 9.44 | 12.90 |
| COE-MW-07 | 22.92 | 10.0 - 15.0 | Dec-14 | 8.95 | 13.97 |
| COE-MW-08 | 22.53 | 10.0 - 15.0 | Dec-14 | 9.82 | 12.71 |
| HA01-MW-09 | 33.66 | 7.0 - 17.0 | Dec-14 | 12.81 | 20.85 |
| HA01-MW-10 | 23.51 | 2.0 - 12.0 | Dec-14 | 7.30 | 16.21 |
| HA01-MW-11 | 19.74 | 2.0 - 12.0 | Dec-14 | 9.38 | 10.36 |
| HA01-MW-12 | 21.22 | 2.0 - 12.0 | Dec-14 | 10.70 | 10.52 |
| HA01-MW-13 | 20.13 | 2.0 - 12.0 | Dec-14 | 8.75 | 11.38 |
| HA01-MW-14 | 23.22 | 3.0 - 13.0 | Dec-14 | 9.41 | 13.81 |
| HA01-MW-15 | 28.11 | 4.5 - 14.5 | Dec-14 | 12.96 | 15.15 |
| HA01-MW-16 | 35.95 | 9.0 - 19.0 | Dec-14 | 16.45 | 19.50 |
| HA01-MW-17 | 24.86 | 4.5 - 14.5 | Dec-14 | 8.67 | 16.19 |
| **Deep Surficial Aquifer Monitor Wells** | | | | | |
| HMW-01 | 38.42 | 38.0 - 48.0 | Dec-14 | NM | -- |
| HMW-03 | 29.75 | 39.0 - 49.0 | Dec-14 | 9.90 | 19.85 |
| HMW-05 | 31.94 | 39.0 - 49.0 | Dec-14 | 10.20 | 21.74 |
| HA01-MW-07D | 18.63 | 50.0 - 60.0 | Dec-14 | 5.55 | 13.08 |
| HA01-MW-12D | 21.00 | 40.0 - 50.0 | Dec-14 | 9.10 | 11.90 |
| HA01-MW-14D | 23.92 | 39.0 - 49.0 | Dec-14 | 7.23 | 16.69 |
| HA01-MW-18D | 29.58 | 56.0 - 66.0 | Dec-14 | 12.00 | 17.58 |

Notes:
ft = Feet
MSL = Mean Sea Level
NM = Not Measured
TOC = Top of Casing

**Table 3-3**
**Historical Groundwater Elevation Data Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Location ID | TOC Elevation (ft above MSL) | Screen Interval (ft) | Measurement Date | Depth to Water (ft below TOC) | Groundwater Elevation (ft above MSL) |
|---|---|---|---|---|---|
| HMW-01 | 38.42 | 38.0 - 48.0 | Jul-04 | 15.29 | 23.13 |
| HMW-01 | 38.42 | 38.0 - 48.0 | Jan-05 | 15.55 | 22.87 |
| HMW-01 | 38.42 | 38.0 - 48.0 | Jul-05 | 13.85 | 24.57 |
| HMW-01 | 38.42 | 38.0 - 48.0 | Jan-06 | 14.27 | 24.15 |
| HMW-01 | 38.42 | 38.0 - 48.0 | Jul-06 | 14.54 | 23.88 |
| HMW-01 | 38.42 | 38.0 - 48.0 | Jan-07 | 16.38 | 22.04 |
| HMW-01 | 38.42 | 38.0 - 48.0 | Jul-07 | 15.81 | 22.61 |
| HMW-01 | 38.42 | 38.0 - 48.0 | Jan-08 | 14.99 | 23.43 |
| HMW-01 | 38.42 | 38.0 - 48.0 | Feb-09 | NM | -- |
| HMW-01 | 38.42 | 38.0 - 48.0 | Dec-09 | 13.70 | 24.72 |
| HMW-01 | 38.42 | 38.0 - 48.0 | Dec-14 | NM | -- |
| HMW-02 | 37.93 | 4.6 - 14.6 | Jul-04 | 13.64 | 24.29 |
| HMW-02 | 37.93 | 4.6 - 14.6 | Jan-05 | 14.12 | 23.81 |
| HMW-02 | 37.93 | 4.6 - 14.6 | Jul-05 | 11.63 | 26.30 |
| HMW-02 | 37.93 | 4.6 - 14.6 | Jan-06 | 12.43 | 25.50 |
| HMW-02 | 37.93 | 4.6 - 14.6 | Jul-06 | 14.45 | 23.48 |
| HMW-02 | 37.93 | 4.6 - 14.6 | Jan-07 | 14.81 | 23.12 |
| HMW-02 | 37.93 | 4.6 - 14.6 | Jul-07 | 14.07 | 23.86 |
| HMW-02 | 37.93 | 4.6 - 14.6 | Jan-08 | 13.76 | 24.17 |
| HMW-02 | 37.93 | 4.6 - 14.6 | Feb-09 | 14.21 | 23.72 |
| HMW-02 | 37.93 | 4.6 - 14.6 | Dec-09 | 12.02 | 25.91 |
| HMW-02 | 37.93 | 4.6 - 14.6 | Dec-14 | NM | -- |
| HMW-03 | 29.75 | 39.0 - 49.0 | Jul-04 | 9.60 | 20.15 |
| HMW-03 | 29.75 | 39.0 - 49.0 | Jan-05 | 9.45 | 20.30 |
| HMW-03 | 29.75 | 39.0 - 49.0 | Jul-05 | 7.25 | 22.50 |
| HMW-03 | 29.75 | 39.0 - 49.0 | Jan-06 | 8.37 | 21.38 |
| HMW-03 | 29.75 | 39.0 - 49.0 | Jul-06 | 14.41 | 15.34 |
| HMW-03 | 29.75 | 39.0 - 49.0 | Jan-07 | 10.71 | 19.04 |
| HMW-03 | 29.75 | 39.0 - 49.0 | Jul-07 | 10.40 | 19.35 |
| HMW-03 | 29.75 | 39.0 - 49.0 | Jan-08 | 8.59 | 21.16 |
| HMW-03 | 29.75 | 39.0 - 49.0 | Feb-09 | NM | -- |
| HMW-03 | 29.75 | 39.0 - 49.0 | Dec-09 | 7.51 | 22.24 |
| HMW-03 | 29.75 | 39.0 - 49.0 | Dec-14 | 9.90 | 19.85 |
| HMW-04 | 30.42 | 3.0-13.0 | Jul-04 | 8.40 | 22.02 |
| HMW-04 | 30.42 | 3.0-13.0 | Jan-05 | 8.65 | 21.77 |
| HMW-04 | 30.42 | 3.0-13.0 | Jul-05 | 7.47 | 22.95 |
| HMW-04 | 30.42 | 3.0-13.0 | Jan-06 | 7.65 | 22.77 |
| HMW-04 | 30.42 | 3.0-13.0 | Jul-06 | 10.62 | 19.80 |
| HMW-04 | 30.42 | 3.0-13.0 | Jan-07 | 9.44 | 20.98 |
| HMW-04 | 30.42 | 3.0-13.0 | Jul-07 | 9.41 | 21.01 |
| HMW-04 | 30.42 | 3.0-13.0 | Jan-08 | 6.98 | 23.44 |
| HMW-04 | 30.42 | 3.0-13.0 | Feb-09 | 9.49 | 20.93 |
| HMW-04 | 30.42 | 3.0-13.0 | Dec-09 | 5.61 | 24.81 |
| HMW-04 | 30.42 | 3.0-13.0 | Dec-14 | 9.29 | 21.13 |
| HMW-05 | 31.94 | 39.0 - 49.0 | Jul-04 | 9.90 | 22.04 |
| HMW-05 | 31.94 | 39.0 - 49.0 | Jan-05 | 10.13 | 21.81 |
| HMW-05 | 31.94 | 39.0 - 49.0 | Jul-05 | 8.65 | 23.29 |
| HMW-05 | 31.94 | 39.0 - 49.0 | Jan-06 | 8.99 | 22.95 |
| HMW-05 | 31.94 | 39.0 - 49.0 | Jul-06 | NM | -- |
| HMW-05 | 31.94 | 39.0 - 49.0 | Jan-07 | 11.05 | 20.89 |
| HMW-05 | 31.94 | 39.0 - 49.0 | Jul-07 | 10.55 | 21.39 |
| HMW-05 | 31.94 | 39.0 - 49.0 | Jan-08 | 9.31 | 22.63 |
| HMW-05 | 31.94 | 39.0 - 49.0 | Feb-09 | NM | -- |
| HMW-05 | 31.94 | 39.0 - 49.0 | Dec-09 | 8.27 | 23.67 |
| HMW-05 | 31.94 | 39.0 - 49.0 | Dec-14 | 10.20 | 21.74 |
| HMW-06 | 31.53 | 3.0-13.0 | Jul-04 | 8.13 | 23.40 |
| HMW-06 | 31.53 | 3.0-13.0 | Jan-05 | 8.52 | 23.01 |
| HMW-06 | 31.53 | 3.0-13.0 | Jul-05 | 6.48 | 25.05 |
| HMW-06 | 31.53 | 3.0-13.0 | Jan-06 | 6.98 | 24.55 |
| HMW-06 | 31.53 | 3.0-13.0 | Jul-06 | NM | -- |
| HMW-06 | 31.53 | 3.0-13.0 | Jan-07 | 9.12 | 22.41 |
| HMW-06 | 31.53 | 3.0-13.0 | Jul-07 | 8.54 | 22.99 |
| HMW-06 | 31.53 | 3.0-13.0 | Jan-08 | 7.54 | 23.99 |
| HMW-06 | 31.53 | 3.0-13.0 | Feb-09 | 9.13 | 22.40 |
| HMW-06 | 31.53 | 3.0-13.0 | Dec-09 | 5.18 | 26.35 |
| HMW-06 | 31.53 | 3.0-13.0 | Dec-14 | 8.63 | 22.90 |

**Table 3-3**
**Historical Groundwater Elevation Data Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Location ID | TOC Elevation (ft above MSL) | Screen Interval (ft) | Measurement Date | Depth to Water (ft below TOC) | Groundwater Elevation (ft above MSL) |
|---|---|---|---|---|---|
| HMW-08 | 27.50 | 3.0-13.0 | Jul-04 | 8.07 | 19.43 |
| HMW-08 | 27.5 | 3.0-13.0 | Jan-05 | 8.60 | 18.90 |
| HMW-08 | 27.5 | 3.0-13.0 | Jul-05 | 7.48 | 20.02 |
| HMW-08 | 27.5 | 3.0-13.0 | Jan-06 | 7.77 | 19.73 |
| HMW-08 | 27.5 | 3.0-13.0 | Jul-06 | 11.02 | 16.48 |
| HMW-08 | 27.5 | 3.0-13.0 | Jan-07 | 10.29 | 17.21 |
| HMW-08 | 27.5 | 3.0-13.0 | Jul-07 | 9.17 | 18.33 |
| HMW-08 | 27.5 | 3.0-13.0 | Jan-08 | 6.90 | 20.60 |
| HMW-08 | 27.5 | 3.0-13.0 | Feb-09 | 9.06 | 18.44 |
| HMW-08 | 27.5 | 3.0-13.0 | Dec-09 | 6.03 | 21.47 |
| HMW-08 | 27.5 | 3.0-13.0 | Dec-14 | 8.65 | 18.85 |
| HMW-09 | 34.39 | 5.0-15.0 | Jul-04 | 10.53 | 23.86 |
| HMW-09 | 34.39 | 5.0-15.0 | Jan-05 | 11.37 | 23.02 |
| HMW-09 | 34.39 | 5.0-15.0 | Jul-05 | 9.02 | 25.37 |
| HMW-09 | 34.39 | 5.0-15.0 | Jan-06 | 9.30 | 25.09 |
| HMW-09 | 34.39 | 5.0-15.0 | Jul-06 | 11.71 | 22.68 |
| HMW-09 | 34.39 | 5.0-15.0 | Jan-07 | 12.24 | 22.15 |
| HMW-09 | 34.39 | 5.0-15.0 | Jul-07 | 9.11 | 25.28 |
| HMW-09 | 34.39 | 5.0-15.0 | Jan-08 | 9.41 | 24.98 |
| HMW-09 | 34.39 | 5.0-15.0 | Feb-09 | 11.44 | 22.95 |
| HMW-09 | 34.39 | 5.0-15.0 | Dec-09 | 8.72 | 25.67 |
| HMW-09 | 34.39 | 5.0-15.0 | Dec-14 | 11.01 | 23.38 |
| HMW-10 | 27.51 | 2.7-12.8 | Jul-04 | 8.50 | 19.01 |
| HMW-10 | 27.51 | 2.7-12.8 | Jan-05 | 8.05 | 19.46 |
| HMW-10 | 27.51 | 2.7-12.8 | Jul-05 | 8.80 | 18.71 |
| HMW-10 | 27.51 | 2.7-12.8 | Jan-06 | 7.47 | 20.04 |
| HMW-10 | 27.51 | 2.7-12.8 | Jul-06 | 10.70 | 16.81 |
| HMW-10 | 27.51 | 2.7-12.8 | Jan-07 | 10.31 | 17.20 |
| HMW-10 | 27.51 | 2.7-12.8 | Jul-07 | 10.67 | 16.84 |
| HMW-10 | 27.51 | 2.7-12.8 | Jan-08 | 7.11 | 20.40 |
| HMW-10 | 27.51 | 2.7-12.8 | Feb-09 | 8.75 | 18.76 |
| HMW-10 | 27.51 | 2.7-12.8 | Dec-09 | 6.44 | 21.07 |
| HMW-10 | 27.51 | 2.7-12.8 | Dec-14 | 9.57 | 17.94 |
| HMW-11 | 31.05 | 4.7-14.8 | Jul-04 | 11.02 | 20.03 |
| HMW-11 | 31.05 | 4.7-14.8 | Jan-05 | 11.23 | 19.82 |
| HMW-11 | 31.05 | 4.7-14.8 | Jul-05 | 11.02 | 20.03 |
| HMW-11 | 31.05 | 4.7-14.8 | Jan-06 | 10.49 | 20.56 |
| HMW-11 | 31.05 | 4.7-14.8 | Jul-06 | 13.99 | 17.06 |
| HMW-11 | 31.05 | 4.7-14.8 | Jan-07 | 13.16 | 17.89 |
| HMW-11 | 31.05 | 4.7-14.8 | Jul-07 | 13.00 | 18.05 |
| HMW-11 | 31.05 | 4.7-14.8 | Jan-08 | 10.36 | 20.69 |
| HMW-11 | 31.05 | 4.7-14.8 | Feb-09 | 12.70 | 18.35 |
| HMW-11 | 31.05 | 4.7-14.8 | Dec-09 | 9.88 | 21.17 |
| HMW-11 | 31.05 | 4.7-14.8 | Dec-14 | 12.64 | 18.41 |
| HMW-12 | 31.78 | 5.1 - 15.2 | Jul-04 | 12.62 | 19.16 |
| HMW-12 | 31.78 | 5.1 - 15.2 | Jan-05 | 12.33 | 19.45 |
| HMW-12 | 31.78 | 5.1 - 15.2 | Jul-05 | 11.97 | 19.81 |
| HMW-12 | 31.78 | 5.1 - 15.2 | Jan-06 | 11.72 | 20.06 |
| HMW-12 | 31.78 | 5.1 - 15.2 | Jul-06 | 13.27 | 18.51 |
| HMW-12 | 31.78 | 5.1 - 15.2 | Jan-07 | 13.05 | 18.73 |
| HMW-12 | 31.78 | 5.1 - 15.2 | Jul-07 | 12.89 | 18.89 |
| HMW-12 | 31.78 | 5.1 - 15.2 | Jan-08 | 11.59 | 20.19 |
| HMW-12 | 31.78 | 5.1 - 15.2 | Feb-09 | NM | -- |
| HMW-12 | 31.78 | 5.1 - 15.2 | Dec-09 | 11.29 | 20.49 |
| HMW-12 | 31.78 | 5.1 - 15.2 | Dec-14 | NM | -- |
| HMW-13 | 34.88 | 7.5 - 17.6 | Jul-04 | 13.22 | 21.66 |
| HMW-13 | 34.88 | 7.5 - 17.6 | Jan-05 | 14.01 | 20.87 |
| HMW-13 | 34.88 | 7.5 - 17.6 | Jul-05 | 12.67 | 22.21 |
| HMW-13 | 34.88 | 7.5 - 17.6 | Jan-06 | 12.68 | 22.20 |
| HMW-13 | 34.88 | 7.5 - 17.6 | Jul-06 | 13.92 | 20.96 |
| HMW-13 | 34.88 | 7.5 - 17.6 | Jan-07 | 14.62 | 20.26 |
| HMW-13 | 34.88 | 7.5 - 17.6 | Jul-07 | 14.07 | 20.81 |
| HMW-13 | 34.88 | 7.5 - 17.6 | Jan-08 | 13.33 | 21.55 |
| HMW-13 | 34.88 | 7.5 - 17.6 | Feb-09 | 13.71 | 21.17 |
| HMW-13 | 34.88 | 7.5 - 17.6 | Dec-09 | 12.80 | 22.08 |
| HMW-13 | 34.88 | 7.5 - 17.6 | Dec-14 | 14.25 | 20.63 |

**Table 3-3**
**Historical Groundwater Elevation Data Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Location ID | TOC Elevation (ft above MSL) | Screen Interval (ft) | Measurement Date | Depth to Water (ft below TOC) | Groundwater Elevation (ft above MSL) |
|---|---|---|---|---|---|
| HMW-14R | 34.67 | 9.2 - 18.9 | Jul-04 | 12.54 | 22.13 |
| HMW-14R | 34.67 | 9.2 - 18.9 | Jan-05 | 12.94 | 21.73 |
| HMW-14R | 34.67 | 9.2 - 18.9 | Jul-05 | 11.55 | 23.12 |
| HMW-14R | 34.67 | 9.2 - 18.9 | Jan-06 | 11.73 | 22.94 |
| HMW-14R | 34.67 | 9.2 - 18.9 | Jul-06 | 13.44 | 21.23 |
| HMW-14R | 34.67 | 9.2 - 18.9 | Jan-07 | 13.71 | 20.96 |
| HMW-14R | 34.67 | 9.2 - 18.9 | Jul-07 | 13.45 | 21.22 |
| HMW-14R | 34.67 | 9.2 - 18.9 | Jan-08 | 12.63 | 22.04 |
| HMW-14R | 34.67 | 9.2 - 18.9 | Feb-09 | 12.70 | 21.97 |
| HMW-14R | 34.67 | 9.2 - 18.9 | Dec-09 | 11.47 | 23.20 |
| HMW-14R | 34.67 | 9.2 - 18.9 | Dec-14 | 13.67 | 21.00 |
| HMW-15 | 23.84 | 4.7-14.7 | Jul-04 | 8.67 | 15.17 |
| HMW-15 | 23.84 | 4.7-14.7 | Jan-05 | 8.35 | 15.49 |
| HMW-15 | 23.84 | 4.7-14.7 | Jul-05 | 7.88 | 15.96 |
| HMW-15 | 23.84 | 4.7-14.7 | Jan-06 | 7.47 | 16.37 |
| HMW-15 | 23.84 | 4.7-14.7 | Jul-06 | 9.22 | 14.62 |
| HMW-15 | 23.84 | 4.7-14.7 | Jan-07 | dry | -- |
| HMW-15 | 23.84 | 4.7-14.7 | Jul-07 | dry | -- |
| HMW-15 | 23.84 | 4.7-14.7 | Jan-08 | 7.31 | 16.53 |
| HMW-15 | 23.84 | 4.7-14.7 | Feb-09 | NM | -- |
| HMW-15 | 23.84 | 4.7-14.7 | Dec-09 | 5.53 | 18.31 |
| HMW-15 | 23.84 | 4.7-14.7 | Dec-14 | 8.94 | 14.90 |
| HMW-16 | 29.06 | 4.3 - 14.3 | Jul-04 | 11.57 | 17.49 |
| HMW-16 | 29.06 | 4.3 - 14.3 | Jan-05 | 11.11 | 17.95 |
| HMW-16 | 29.06 | 4.3 - 14.3 | Jul-05 | 11.55 | 17.51 |
| HMW-16 | 29.06 | 4.3 - 14.3 | Jan-06 | 10.61 | 18.45 |
| HMW-16 | 29.06 | 4.3 - 14.3 | Jul-06 | 13.71 | 15.35 |
| HMW-16 | 29.06 | 4.3 - 14.3 | Jan-07 | 13.69 | 15.37 |
| HMW-16 | 29.06 | 4.3 - 14.3 | Jul-07 | 13.78 | 15.28 |
| HMW-16 | 29.06 | 4.3 - 14.3 | Jan-08 | 10.34 | 18.72 |
| HMW-16 | 29.06 | 4.3 - 14.3 | Feb-09 | NM | -- |
| HMW-16 | 29.06 | 4.3 - 14.3 | Dec-09 | 9.56 | 19.50 |
| HMW-16 | 29.06 | 4.3 - 14.3 | Dec-14 | 12.51 | 16.55 |
| HMW-17 | 33.29 | 4.3 - 14.3 | Jul-04 | 9.14 | 24.15 |
| HMW-17 | 33.29 | 4.3 - 14.3 | Jan-05 | 9.56 | 23.73 |
| HMW-17 | 33.29 | 4.3 - 14.3 | Jul-05 | 7.38 | 25.91 |
| HMW-17 | 33.29 | 4.3 - 14.3 | Jan-06 | 8.10 | 25.19 |
| HMW-17 | 33.29 | 4.3 - 14.3 | Jul-06 | NM | -- |
| HMW-17 | 33.29 | 4.3 - 14.3 | Jan-07 | 10.21 | 23.08 |
| HMW-17 | 33.29 | 4.3 - 14.3 | Jul-07 | 9.52 | 23.77 |
| HMW-17 | 33.29 | 4.3 - 14.3 | Jan-08 | 8.96 | 24.33 |
| HMW-17 | 33.29 | 4.3 - 14.3 | Feb-09 | NM | -- |
| HMW-17 | 33.29 | 4.3 - 14.3 | Dec-09 | 7.82 | 25.47 |
| HMW-17 | 33.29 | 4.3 - 14.3 | Dec-14 | 9.83 | 23.46 |
| HMW-18 | 29.87 | 3.7 - 13.5 | Jul-04 | 9.97 | 19.90 |
| HMW-18 | 29.87 | 3.7 - 13.5 | Jan-05 | 8.45 | 21.42 |
| HMW-18 | 29.87 | 3.7 - 13.5 | Jul-05 | 8.60 | 21.27 |
| HMW-18 | 29.87 | 3.7 - 13.5 | Jan-06 | 7.83 | 22.04 |
| HMW-18 | 29.87 | 3.7 - 13.5 | Jul-06 | 10.96 | 18.91 |
| HMW-18 | 29.87 | 3.7 - 13.5 | Jan-07 | 10.36 | 19.51 |
| HMW-18 | 29.87 | 3.7 - 13.5 | Jul-07 | 10.50 | 19.37 |
| HMW-18 | 29.87 | 3.7 - 13.5 | Jan-08 | 7.42 | 22.45 |
| HMW-18 | 29.87 | 3.7 - 13.5 | Feb-09 | NM | -- |
| HMW-18 | 29.87 | 3.7 - 13.5 | Dec-09 | 7.03 | 22.84 |
| HMW-18 | 29.87 | 3.7 - 13.5 | Dec-14 | 9.07 | 20.80 |
| HMW-19 | 24.50 | 4.2 - 14.0 | Jul-04 | 13.22 | 11.28 |
| HMW-19 | 24.50 | 4.2 - 14.0 | Jan-05 | 13.96 | 10.54 |
| HMW-19 | 24.50 | 4.2 - 14.0 | Jul-05 | 13.65 | 10.85 |
| HMW-19 | 24.50 | 4.2 - 14.0 | Jan-06 | 13.35 | 11.15 |
| HMW-19 | 24.50 | 4.2 - 14.0 | Jul-06 | 13.62 | 10.88 |
| HMW-19 | 24.50 | 4.2 - 14.0 | Jan-07 | 13.50 | 11.00 |
| HMW-19 | 24.50 | 4.2 - 14.0 | Jul-07 | 13.28 | 11.22 |
| HMW-19 | 24.50 | 4.2 - 14.0 | Jan-08 | 12.80 | 11.70 |
| HMW-19 | 24.50 | 4.2 - 14.0 | Feb-09 | NM | -- |
| HMW-19 | 24.50 | 4.2 - 14.0 | Dec-09 | 12.19 | 12.31 |
| HMW-19 | 24.50 | 4.2 - 14.0 | Dec-14 | 12.57 | 11.93 |

**Table 3-3**
**Historical Groundwater Elevation Data Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Location ID | TOC Elevation (ft above MSL) | Screen Interval (ft) | Measurement Date | Depth to Water (ft below TOC) | Groundwater Elevation (ft above MSL) |
|---|---|---|---|---|---|
| HMW-20 | 23.19 | 3.7 - 13.4 | Jul-04 | 8.37 | 14.82 |
| HMW-20 | 23.19 | 3.7 - 13.4 | Jan-05 | 7.15 | 16.04 |
| HMW-20 | 23.19 | 3.7 - 13.4 | Jul-05 | 6.55 | 16.64 |
| HMW-20 | 23.19 | 3.7 - 13.4 | Jan-06 | 6.06 | 17.13 |
| HMW-20 | 23.19 | 3.7 - 13.4 | Jul-06 | 9.29 | 13.90 |
| HMW-20 | 23.19 | 3.7 - 13.4 | Jan-07 | 9.44 | 13.75 |
| HMW-20 | 23.19 | 3.7 - 13.4 | Jul-07 | 9.65 | 13.54 |
| HMW-20 | 23.19 | 3.7 - 13.4 | Jan-08 | 6.57 | 16.62 |
| HMW-20 | 23.19 | 3.7 - 13.4 | Feb-09 | NM | -- |
| HMW-20 | 23.19 | 3.7 - 13.4 | Dec-09 | 3.70 | 19.49 |
| HMW-20 | 23.19 | 3.7 - 13.4 | Dec-14 | 8.90 | 14.29 |
| HMW-21 | 22.28 | 2.0-11.5 | Jul-04 | 6.34 | 15.94 |
| HMW-21 | 22.28 | 2.0-11.5 | Jan-05 | 4.20 | 18.08 |
| HMW-21 | 22.28 | 2.0-11.5 | Jul-05 | 4.72 | 17.56 |
| HMW-21 | 22.28 | 2.0-11.5 | Jan-06 | 3.57 | 18.71 |
| HMW-21 | 22.28 | 2.0-11.5 | Jul-06 | 8.34 | 13.94 |
| HMW-21 | 22.28 | 2.0-11.5 | Jan-07 | 8.71 | 13.57 |
| HMW-21 | 22.28 | 2.0-11.5 | Jul-07 | 8.67 | 13.61 |
| HMW-21 | 22.28 | 2.0-11.5 | Jan-08 | 3.71 | 18.57 |
| HMW-21 | 22.28 | 2.0-11.5 | Feb-09 | 5.02 | 17.26 |
| HMW-21 | 22.28 | 2.0-11.5 | Dec-09 | 2.99 | 19.29 |
| HMW-21 | 22.28 | 2.0-11.5 | Dec-14 | 8.16 | 14.12 |
| HMW-22 | 38.19 | 11.0 - 20.5 | Jul-04 | 15.75 | 22.44 |
| HMW-22 | 38.19 | 11.0 - 20.5 | Jan-05 | 15.89 | 22.30 |
| HMW-22 | 38.19 | 11.0 - 20.5 | Jul-05 | 14.45 | 23.74 |
| HMW-22 | 38.19 | 11.0 - 20.5 | Jan-06 | 14.62 | 23.57 |
| HMW-22 | 38.19 | 11.0 - 20.5 | Jul-06 | 16.34 | 21.85 |
| HMW-22 | 38.19 | 11.0 - 20.5 | Jan-07 | 16.49 | 21.70 |
| HMW-22 | 38.19 | 11.0 - 20.5 | Jul-07 | 16.36 | 21.83 |
| HMW-22 | 38.19 | 11.0 - 20.5 | Jan-08 | 15.80 | 22.39 |
| HMW-22 | 38.19 | 11.0 - 20.5 | Feb-09 | NM | -- |
| HMW-22 | 38.19 | 11.0 - 20.5 | Dec-09 | 13.98 | 24.21 |
| HMW-22 | 38.19 | 11.0 - 20.5 | Dec-14 | 16.15 | 22.04 |
| HMW-23 | 29.46 | 5.0-15.0 | Jul-04 | 8.41 | 21.05 |
| HMW-23 | 29.46 | 5.0-15.0 | Jan-05 | 8.11 | 21.35 |
| HMW-23 | 29.46 | 5.0-15.0 | Jul-05 | 8.05 | 21.41 |
| HMW-23 | 29.46 | 5.0-15.0 | Jan-06 | 7.22 | 22.24 |
| HMW-23 | 29.46 | 5.0-15.0 | Jul-06 | 10.45 | 19.01 |
| HMW-23 | 29.46 | 5.0-15.0 | Jan-07 | 9.62 | 19.84 |
| HMW-23 | 29.46 | 5.0-15.0 | Jul-07 | 9.97 | 19.49 |
| HMW-23 | 29.46 | 5.0-15.0 | Jan-08 | 6.53 | 22.93 |
| HMW-23 | 29.46 | 5.0-15.0 | Feb-09 | 8.68 | 20.78 |
| HMW-23 | 29.46 | 5.0-15.0 | Dec-09 | 5.30 | 24.16 |
| HMW-23 | 29.46 | 5.0-15.0 | Dec-14 | 8.98 | 20.48 |
| HMW-24 | 31.92 | 7.0-12.0 | Jul-04 | 7.74 | 24.18 |
| HMW-24 | 31.92 | 7.0-12.0 | Jan-05 | 8.28 | 23.64 |
| HMW-24 | 31.92 | 7.0-12.0 | Jul-05 | 6.90 | 25.02 |
| HMW-24 | 31.92 | 7.0-12.0 | Jan-06 | 7.20 | 24.72 |
| HMW-24 | 31.92 | 7.0-12.0 | Jul-06 | 9.83 | 22.09 |
| HMW-24 | 31.92 | 7.0-12.0 | Jan-07 | 9.31 | 22.61 |
| HMW-24 | 31.92 | 7.0-12.0 | Jul-07 | 9.33 | 22.59 |
| HMW-24 | 31.92 | 7.0-12.0 | Jan-08 | 6.92 | 25.00 |
| HMW-24 | 31.92 | 7.0-12.0 | Feb-09 | 9.28 | 22.64 |
| HMW-24 | 31.92 | 7.0-12.0 | Dec-09 | 5.47 | 26.45 |
| HMW-24 | 31.92 | 7.0-12.0 | Dec-14 | 9.10 | 22.82 |
| COE-MW-01 | 34.67 | 15.0-20.0 | Jul-04 | 13.64 | 21.03 |
| COE-MW-01 | 34.67 | 15.0-20.0 | Jan-05 | 13.43 | 21.24 |
| COE-MW-01 | 34.67 | 15.0-20.0 | Jul-05 | 12.72 | 21.95 |
| COE-MW-01 | 34.67 | 15.0-20.0 | Jan-06 | 12.83 | 21.84 |
| COE-MW-01 | 34.67 | 15.0-20.0 | Jul-06 | 14.54 | 20.13 |
| COE-MW-01 | 34.67 | 15.0-20.0 | Jan-07 | 15.16 | 19.51 |
| COE-MW-01 | 34.67 | 15.0-20.0 | Jul-07 | 14.60 | 20.07 |
| COE-MW-01 | 34.67 | 15.0-20.0 | Jan-08 | 13.09 | 21.58 |
| COE-MW-01 | 34.67 | 15.0-20.0 | Feb-09 | 13.41 | 21.26 |
| COE-MW-01 | 34.67 | 15.0-20.0 | Dec-09 | 12.56 | 22.11 |
| COE-MW-01 | 34.67 | 15.0-20.0 | Dec-14 | 15.16 | 19.51 |

**Table 3-3**
**Historical Groundwater Elevation Data Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Location ID | TOC Elevation (ft above MSL) | Screen Interval (ft) | Measurement Date | Depth to Water (ft below TOC) | Groundwater Elevation (ft above MSL) |
|---|---|---|---|---|---|
| COE-MW-02 | 31.28 | 14.9-19.9 | Jul-04 | 14.22 | 17.06 |
| COE-MW-02 | 31.28 | 14.9-19.9 | Jan-05 | 12.88 | 18.40 |
| COE-MW-02 | 31.28 | 14.9-19.9 | Jul-05 | 12.35 | 18.93 |
| COE-MW-02 | 31.28 | 14.9-19.9 | Jan-06 | 11.92 | 19.36 |
| COE-MW-02 | 31.28 | 14.9-19.9 | Jul-06 | 15.89 | 15.39 |
| COE-MW-02 | 31.28 | 14.9-19.9 | Jan-07 | 16.95 | 14.33 |
| COE-MW-02 | 31.28 | 14.9-19.9 | Jul-07 | 16.35 | 14.93 |
| COE-MW-02 | 31.28 | 14.9-19.9 | Jan-08 | 12.33 | 18.95 |
| COE-MW-02 | 31.28 | 14.9-19.9 | Feb-09 | 13.15 | 18.13 |
| COE-MW-02 | 31.28 | 14.9-19.9 | Dec-09 | 11.29 | 19.99 |
| COE-MW-02 | 31.28 | 14.9-19.9 | Dec-14 | 16.23 | 15.05 |
| COE-MW-03 | 32.66 | 15.0-20.0 | Jul-04 | 13.00 | 19.66 |
| COE-MW-03 | 32.66 | 15.0-20.0 | Jan-05 | 12.87 | 19.79 |
| COE-MW-03 | 32.66 | 15.0-20.0 | Jul-05 | 12.00 | 20.66 |
| COE-MW-03 | 32.66 | 15.0-20.0 | Jan-06 | 11.84 | 20.82 |
| COE-MW-03 | 32.66 | 15.0-20.0 | Jul-06 | 14.41 | 18.25 |
| COE-MW-03 | 32.66 | 15.0-20.0 | Jan-07 | 15.43 | 17.23 |
| COE-MW-03 | 32.66 | 15.0-20.0 | Jul-07 | 14.35 | 18.31 |
| COE-MW-03 | 32.66 | 15.0-20.0 | Jan-08 | 11.97 | 20.69 |
| COE-MW-03 | 32.66 | 15.0-20.0 | Feb-09 | 12.81 | 19.85 |
| COE-MW-03 | 32.66 | 15.0-20.0 | Dec-09 | 11.15 | 21.51 |
| COE-MW-03 | 32.66 | 15.0-20.0 | Dec-14 | 14.88 | 17.78 |
| COE-MW-04 | 22.67 | 10.0-15.0 | Jul-04 | 7.32 | 15.35 |
| COE-MW-04 | 22.67 | 10.0-15.0 | Jan-05 | 4.95 | 17.72 |
| COE-MW-04 | 22.67 | 10.0-15.0 | Jul-05 | 4.83 | 17.84 |
| COE-MW-04 | 22.67 | 10.0-15.0 | Jan-06 | 4.00 | 18.67 |
| COE-MW-04 | 22.67 | 10.0-15.0 | Jul-06 | 10.62 | 12.05 |
| COE-MW-04 | 22.67 | 10.0-15.0 | Jan-07 | 10.07 | 12.60 |
| COE-MW-04 | 22.67 | 10.0-15.0 | Jul-07 | 9.82 | 12.85 |
| COE-MW-04 | 22.67 | 10.0-15.0 | Jan-08 | 4.45 | 18.22 |
| COE-MW-04 | 22.67 | 10.0-15.0 | Feb-09 | 5.53 | 17.14 |
| COE-MW-04 | 22.67 | 10.0-15.0 | Dec-09 | 3.26 | 19.41 |
| COE-MW-04 | 22.67 | 10.0-15.0 | Dec-14 | 9.16 | 13.51 |
| COE-MW-05 | 21.18 | 10.0-15.0 | Jul-04 | 7.02 | 14.16 |
| COE-MW-05 | 21.18 | 10.0-15.0 | Jan-05 | 4.12 | 17.06 |
| COE-MW-05 | 21.18 | 10.0-15.0 | Jul-05 | 4.01 | 17.17 |
| COE-MW-05 | 21.18 | 10.0-15.0 | Jan-06 | 3.08 | 18.10 |
| COE-MW-05 | 21.18 | 10.0-15.0 | Jul-06 | 8.96 | 12.22 |
| COE-MW-05 | 21.18 | 10.0-15.0 | Jan-07 | 9.95 | 11.23 |
| COE-MW-05 | 21.18 | 10.0-15.0 | Jul-07 | 10.20 | 10.98 |
| COE-MW-05 | 21.18 | 10.0-15.0 | Jan-08 | 3.82 | 17.36 |
| COE-MW-05 | 21.18 | 10.0-15.0 | Feb-09 | 4.78 | 16.40 |
| COE-MW-05 | 21.18 | 10.0-15.0 | Dec-09 | 2.60 | 18.58 |
| COE-MW-05 | 21.18 | 10.0-15.0 | Dec-14 | 8.95 | 12.23 |
| COE-MW-06 | 22.34 | 10.0-15.0 | Jul-04 | 6.83 | 15.51 |
| COE-MW-06 | 22.34 | 10.0-15.0 | Jan-05 | 4.78 | 17.56 |
| COE-MW-06 | 22.34 | 10.0-15.0 | Jul-05 | 4.90 | 17.44 |
| COE-MW-06 | 22.34 | 10.0-15.0 | Jan-06 | 3.86 | 18.48 |
| COE-MW-06 | 22.34 | 10.0-15.0 | Jul-06 | 9.34 | 13.00 |
| COE-MW-06 | 22.34 | 10.0-15.0 | Jan-07 | 9.95 | 12.39 |
| COE-MW-06 | 22.34 | 10.0-15.0 | Jul-07 | 10.01 | 12.33 |
| COE-MW-06 | 22.34 | 10.0-15.0 | Jan-08 | 4.39 | 17.95 |
| COE-MW-06 | 22.34 | 10.0-15.0 | Feb-09 | 5.62 | 16.72 |
| COE-MW-06 | 22.34 | 10.0-15.0 | Dec-09 | 3.25 | 19.09 |
| COE-MW-06 | 22.34 | 10.0-15.0 | Dec-14 | 9.44 | 12.90 |
| COE-MW-07 | 22.92 | 10.0-15.0 | Jul-04 | 6.92 | 16.00 |
| COE-MW-07 | 22.92 | 10.0-15.0 | Jan-05 | 5.22 | 17.70 |
| COE-MW-07 | 22.92 | 10.0-15.0 | Jul-05 | 5.21 | 17.71 |
| COE-MW-07 | 22.92 | 10.0-15.0 | Jan-06 | 4.31 | 18.61 |
| COE-MW-07 | 22.92 | 10.0-15.0 | Jul-06 | 9.32 | 13.60 |
| COE-MW-07 | 22.92 | 10.0-15.0 | Jan-07 | 9.61 | 13.31 |
| COE-MW-07 | 22.92 | 10.0-15.0 | Jul-07 | 9.41 | 13.51 |
| COE-MW-07 | 22.92 | 10.0-15.0 | Jan-08 | 4.45 | 18.47 |
| COE-MW-07 | 22.92 | 10.0-15.0 | Feb-09 | 6.06 | 16.86 |
| COE-MW-07 | 22.92 | 10.0-15.0 | Dec-09 | 3.40 | 19.52 |
| COE-MW-07 | 22.92 | 10.0-15.0 | Dec-14 | 8.95 | 13.97 |

**Table 3-3**
**Historical Groundwater Elevation Data Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Location ID | TOC Elevation (ft above MSL) | Screen Interval (ft) | Measurement Date | Depth to Water (ft below TOC) | Groundwater Elevation (ft above MSL) |
|---|---|---|---|---|---|
| COE-MW-08 | 22.53 | 10.0-15.0 | Jul-04 | 7.71 | 14.82 |
| COE-MW-08 | 22.53 | 10.0-15.0 | Jan-05 | 5.35 | 17.18 |
| COE-MW-08 | 22.53 | 10.0-15.0 | Jul-05 | 5.22 | 17.31 |
| COE-MW-08 | 22.53 | 10.0-15.0 | Jan-06 | 4.39 | 18.14 |
| COE-MW-08 | 22.53 | 10.0-15.0 | Jul-06 | 10.22 | 12.31 |
| COE-MW-08 | 22.53 | 10.0-15.0 | Jan-07 | 10.68 | 11.85 |
| COE-MW-08 | 22.53 | 10.0-15.0 | Jul-07 | 10.65 | 11.88 |
| COE-MW-08 | 22.53 | 10.0-15.0 | Jan-08 | 4.59 | 17.94 |
| COE-MW-08 | 22.53 | 10.0-15.0 | Feb-09 | 6.28 | 16.25 |
| COE-MW-08 | 22.53 | 10.0-15.0 | Dec-09 | 3.61 | 18.92 |
| COE-MW-08 | 22.53 | 10.0-15.0 | Dec-14 | 9.82 | 12.71 |
| HA01-MW-07D | 18.63 | 50.0 - 60.0 | Dec-14 | 5.55 | 13.08 |
| HA01-MW-09 | 33.66 | 7.0 - 17.0 | Dec-09 | 10.95 | 22.71 |
| HA01-MW-09 | 33.66 | 7.0 - 17.0 | Dec-14 | 12.81 | 20.85 |
| HA01-MW-10 | 23.51 | 2.0 - -12.0 | Dec-09 | 4.25 | 19.26 |
| HA01-MW-10 | 23.51 | 2.0 - -12.0 | Dec-14 | 7.30 | 16.21 |
| HA01-MW-11 | 19.74 | 2.0 - 12.0 | Dec-09 | 2.66 | 17.08 |
| HA01-MW-11 | 19.74 | 2.0 - 12.0 | Dec-14 | 9.38 | 10.36 |
| HA01-MW-12 | 21.22 | 2.0 - 12.0 | Dec-09 | 4.35 | 16.87 |
| HA01-MW-12 | 21.22 | 2.0 - 12.0 | Dec-14 | 10.70 | 10.52 |
| HA01-MW-12D | 21.00 | 40.0 - 50.0 | Dec-09 | 3.05 | 17.95 |
| HA01-MW-12D | 21.00 | 40.0 - 50.0 | Dec-14 | 9.10 | 11.90 |
| HA01-MW-13 | 20.13 | 2.0 - 12.0 | Dec-09 | 2.51 | 17.62 |
| HA01-MW-13 | 20.13 | 2.0 - 12.0 | Dec-14 | 8.75 | 11.38 |
| HA01-MW-14 | 23.22 | 3.0 - 13.0 | Dec-09 | 4.50 | 18.72 |
| HA01-MW-14 | 23.22 | 3.0 - 13.0 | Dec-14 | 9.41 | 13.81 |
| HA01-MW-14D | 23.92 | 39.0 - 49.0 | Dec-09 | 3.10 | 20.82 |
| HA01-MW-14D | 23.92 | 39.0 - 49.0 | Dec-14 | 7.23 | 16.69 |
| HA01-MW-15 | 28.11 | 4.5 - 14.5 | Dec-09 | 8.81 | 19.30 |
| HA01-MW-15 | 28.11 | 4.5 - 14.5 | Dec-14 | 12.96 | 15.15 |
| HA01-MW-16 | 35.95 | 9.0 - 19.0 | Dec-09 | 14.10 | 21.85 |
| HA01-MW-16 | 35.95 | 9.0 - 19.0 | Dec-14 | 16.45 | 19.50 |
| HA01-MW-17 | 24.86 | 4.5 - 14.5 | Dec-09 | 5.65 | 19.21 |
| HA01-MW-17 | 24.86 | 4.5 - 14.5 | Dec-14 | 8.67 | 16.19 |
| HA01-MW-18 | 29.58 | 56.0 - 66.0 | Dec-09 | 8.81 | 20.77 |
| HA01-MW-18 | 29.58 | 56.0 - 66.0 | Dec-14 | 12.00 | 17.58 |

Notes:
ft = Feet
MSL = Mean Sea Level
NM = Not Measured
TOC = Top of Casing

**Table 3-4**
**December 2014 Calculated Vertical Gradients**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Area | Well ID | Top Screen (ft BGS) | Hydraulic Head (ft above MSL) Dec. 2014 | Unit | Vertical Hydraulic Gradient (ft/ft) | Flow Direction |
|---|---|---|---|---|---|---|
| DAACG | HA01-MW-07D | 50.0 | 13.08 | Deep | 0.022 | Downward |
| | COE-MW-07 | 10.0 | 13.97 | Shallow | | |
| DAACG | HA01-MW-12D | 40.0 | 11.90 | Deep | -0.036 | Upward |
| | HA01-MW-12 | 2.0 | 10.52 | Shallow | | |
| DAACG | HA01-MW-14D | 39.0 | 16.69 | Deep | -0.080 | Upward |
| | HA01-MW-14 | 3.0 | 13.81 | Shallow | | |
| FTA | HMW-01* | 38.0 | 24.72 | Deep | 0.036 | Downward |
| | HMW-02* | 4.6 | 25.91 | Shallow | | |
| FTA | HMW-03 | 39.0 | 19.85 | Deep | 0.036 | Downward |
| | HMW-04 | 3.0 | 21.13 | Shallow | | |
| FTA | HMW-05 | 39.0 | 21.74 | Deep | 0.032 | Downward |
| | HMW-06 | 3.0 | 22.90 | Shallow | | |

Notes:
* = Data from December 2009. Groundwater elevations were not collected in December 2014.
BGS = Below Ground Surface
DAACG = Departure/Arrival Airfield Control Group
ft = Feet
FTA = Fire Training Area
MSL = Mean Seal Level

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | COE-MW-01 AS0112(072004) 7/20/2004 | COE-MW-01 AS0122(011605) 1/16/2005 | COE-MW-01 AS0132(071705) 7/17/2005 | COE-MW-01 AS0142(011506) 1/15/2006 | COE-MW-01 AS0152(072406) 7/24/2006 | COE-MW-01 AS0162(012007) 1/20/2007 | COE-MW-01 AS0164(012007)-DUP 1/20/2007 | COE-MW-01 AS0172(071407) 7/14/2007 | COE-MW-01 AS0174(071407)-DUP 7/14/2007 | COE-MW-01 AS0182(012508) 1/25/2008 | COE-MW-01 AS0184(012508)-DUP 1/25/2008 | COE-MW-02 AS0212(072004) 7/20/2004 | COE-MW-02 AS0222(011605) 1/16/2005 | COE-MW-02 AS0232(071705) 7/17/2005 | COE-MW-02 AS0242(011506) 1/15/2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | **88.9** | **151** | **70.6** | **46.4** | **108** | **42.8** | **43.6** | **52** | **46.7** | **123 J** | **130 J** | **290** | **243** | **188** | **156** |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Butanone | 78-93-3 | 560 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 25 U | < 5 U | < 5 U | < 5 U |
| 2-Hexanone | 591-78-6 | 3.8 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 25 U | < 5 U | < 5 U | < 5 U |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 25 U | < 5 U | < 5 U | < 5 U |
| Acetone | 67-64-1 | 1400 | -- | 3.8 U | **2.4 J** | **3.1 J** | < 5 U | **2.87 J** | < 5 U | < 5 U | **2.44 J** | **1.58 J** | < 5 U | < 5 U | < 25 U | **2.4 J** | **4.2 J** | < 5 U |
| Benzene | 71-43-2 | 0.46 | 5 | **1.7** | < 1 U | **1.8** | **1** | **1.43** | **1.18** | **1.16** | **1.2** | **1.1** | **1.52** | **1.54** | **2.9 J** | **1.2** | **2.8** | **2.4** |
| Bromochloromethane | 74-97-5 | 8.3 | -- | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| Bromoform | 75-25-2 | 3.3 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| Bromomethane | 74-83-9 | 0.75 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| Carbon disulfide | 75-15-0 | 81 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 25 U | < 5 U | < 5 U | < 5 U |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| CFC-11 | 75-69-4 | 520 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| Chloroethane | 75-00-3 | 2100 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| Chloroform | 67-66-3 | 0.22 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| Chloromethane | 74-87-3 | 19 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | **0.27 J** | **0.23 J** | < 1 U | **2.2** | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| Methylene chloride | 75-09-2 | 11 | 5 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 25 U | < 5 U | **2.4 J** | < 5 U |
| Styrene | 100-42-5 | 120 | 100 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| Toluene | 108-88-3 | 110 | 1000 | 1 U | **0.51 J** | 1 U | **1.9** | **0.867 J** | **0.806 J** | **0.734 J** | 1.01 U | 1 U | **1.07** | **1.03** | < 5 U | < 1 U | < 1 U | **2** |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| Trichloroethene | 79-01-6 | 0.28 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U | < 1 U | < 1 U |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | **1.6** | **2.2** | **1.4** | **0.74 J** | **1.85** | **0.691 J** | **0.72 J** | **0.899 J** | **0.913 J** | **1.16** | **1.31** | **4.6 J** | **3** | **2.8** | **2.1** |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | **4.2** | **3.6** | **3.7** | **3.3** | **3.03** | **4.72** | **4.6** | **5.27** | **4.64** | **3.62** | **3.63** | < 5 U | < 1 U | < 1 U | < 1 U |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | COE-MW-01 AS0112(072004) 7/20/2004 | COE-MW-01 AS0122(011605) 1/16/2005 | COE-MW-01 AS0132(071705) 7/17/2005 | COE-MW-01 AS0142(011506) 1/15/2006 | COE-MW-01 AS0152(072406) 7/24/2006 | COE-MW-01 AS0162(012007) 1/20/2007 | COE-MW-01 AS0164(012007)-DUP 1/20/2007 | COE-MW-01 AS0172(071407) 7/14/2007 | COE-MW-01 AS0174(071407)-DUP 7/14/2007 | COE-MW-01 AS0182(012508) 1/25/2008 | COE-MW-01 AS0184(012508)-DUP 1/25/2008 | COE-MW-02 AS0212(072004) 7/20/2004 | COE-MW-02 AS0222(011605) 1/16/2005 | COE-MW-02 AS0232(071705) 7/17/2005 | COE-MW-02 AS0242(011506) 1/15/2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylphenol | 95-48-7 | 93 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrophenol | 88-75-5 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Methylphenol | 106-44-5 | 190 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrophenol | 100-02-7 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthene | 83-32-9 | 53 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthylene | 208-96-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| alpha-Terpineol | 98-55-5 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Anthracene | 120-12-7 | 180 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Atrazine | 1912-24-9 | 0.3 | 3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzaldehyde | 100-52-7 | 19 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzoic acid | 65-85-0 | 7500 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Carbazole | 86-74-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chrysene | 218-01-9 | 25 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dibenzofuran | 132-64-9 | 0.79 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Diethyl phthalate | 84-66-2 | 1500 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dimethyl phthalate | 131-11-3 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Diphenylamine | 122-39-4 | 130 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluoranthene | 206-44-0 | 80 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluorene | 86-73-7 | 29 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachloroethane | 67-72-1 | 0.33 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Isophorone | 78-59-1 | 78 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| m+p Methylphenol | 65794-96-9 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | 91-20-3 | 0.17 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nitrobenzene | 98-95-3 | 0.14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenanthrene | 85-01-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenol | 108-95-2 | 580 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pyrene | 129-00-0 | 12 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | COE-MW-01 | COE-MW-01 | COE-MW-01 | COE-MW-01 | COE-MW-01 | COE-MW-01 | COE-MW-01 | COE-MW-01 | COE-MW-01 | COE-MW-01 | COE-MW-01 | COE-MW-01 | COE-MW-02 | COE-MW-02 | COE-MW-02 | COE-MW-02 |
| | | | Sample ID | AS0112(072004) | AS0122(011605) | AS0132(071705) | AS0142(011506) | AS0152(072406) | AS0162(012007) | AS0164(012007)-DUP | AS0172(071407) | AS0174(071407)-DUP | AS0182(012508) | AS0184(012508)-DUP | AS0212(072004) | AS0222(011605) | AS0232(071705) | AS0242(011506) | |
| | | | Sample Date | 7/20/2004 | 1/16/2005 | 7/17/2005 | 1/15/2006 | 7/24/2006 | 1/20/2007 | 1/20/2007 | 7/14/2007 | 7/14/2007 | 1/25/2008 | 1/25/2008 | 7/20/2004 | 1/16/2005 | 7/17/2005 | 1/15/2006 | |
| ***Metals,Total (µg/L)*** | | -- | MCL | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| Barium | 7440-39-3 | 380 | 2000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| Lead | 7439-92-1 | 15 | 15 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | MCL | Location ID<br>Sample ID<br>Sample Date | COE-MW-02<br>AS0244(011506)-DUP<br>1/15/2006 | COE-MW-02<br>AS0252(072406)<br>7/24/2006 | COE-MW-02<br>AS0262(012007)<br>1/20/2007 | COE-MW-02<br>AS0272(071407)<br>7/14/2007 | COE-MW-02<br>AS0282(012508)<br>1/25/2008 | COE-MW-03<br>AS0312(072004)<br>7/20/2004 | COE-MW-03<br>AS0322(011605)<br>1/16/2005 | COE-MW-03<br>AS0332(071705)<br>7/17/2005 | COE-MW-03<br>AS0342(011506)<br>1/15/2006 | COE-MW-03<br>AS0352(072406)<br>7/24/2006 | COE-MW-03<br>AS0354(072406)-DUP<br>7/24/2006 | COE-MW-03<br>AS0362(012007)<br>1/20/2007 | COE-MW-03<br>AS0372(071407)<br>7/14/2007 | COE-MW-03<br>AS0382(012508)<br>1/25/2008 | COE-MW-04<br>AS0412(072004)<br>7/20/2004 | COE-MW-04<br>AS0422(011605)<br>1/16/2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 UJ | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | **0.428 J** | < 1 U | < 1 U | < 10 U | < 1 U |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | **3.9** | **4.9** | **4.4** | **3.61** | **4.17** | **3.24** | **4.99** | **4.06** | < 10 U | **1.1** |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | | NA | NA | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | **1.3** | **1** | **1.3** | **1.16** | **< 1 U** | **0.681 J** | **0.904 J** | < 1 U | < 10 U | < 1 U |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | | **160** | **254** | **248** | **293** | **126 J** | 10300 J | **9300** | **8530** | **10600** | **6460** | **5340** | **4440** | **9010** | **6710** | **923** | **879** |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Butanone | 78-93-3 | 560 | -- | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 500 UJ | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 50 U | < 5 U |
| 2-Hexanone | 591-78-6 | 3.8 | -- | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 500 UJ | < 5 U | < 5 U | **3.7 J** | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 50 U | < 5 U |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 500 UJ | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 50 U | < 5 U |
| Acetone | 67-64-1 | 1400 | -- | | < 5 U | **2.18 J** | < 5 U | **1.26 J** | < 5 U | < 500 UJ | **12.8** | **5.2 J** | < 5 U | **10.9** | < 5 U | **3.12 J** | **1.78 J** | < 5 U | < 50 U | < 5 U |
| Benzene | 71-43-2 | 0.46 | 5 | | **1.9** | **2.48** | **3.14** | **3.34** | **1.81** | < 100 UJ | **5.8** | **9.2** | **8.7** | **7.02** | **7.39** | **5.77** | **8.8** | **7.6** | < 10 U | < 1 U |
| Bromochloromethane | 74-97-5 | 8.3 | -- | | NA | NA | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | NA | NA |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| Bromoform | 75-25-2 | 3.3 | 80 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| Bromomethane | 74-83-9 | 0.75 | -- | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| Carbon disulfide | 75-15-0 | 81 | -- | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 500 UJ | < 5 U | **2.3 J** | < 5 U | < 5 U | 3.74 J | < 5 U | < 5 U | < 5 U | < 50 U | < 5 U |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 UJ | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| CFC-11 | 75-69-4 | 520 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| Chloroethane | 75-00-3 | 2100 | -- | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| Chloroform | 67-66-3 | 0.22 | 80 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | **0.26 J** | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| Chloromethane | 74-87-3 | 19 | -- | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | **0.4 J** | < 1 U | < 1 U | < 10 U | < 1 U |
| Methylene chloride | 75-09-2 | 11 | 5 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 500 UJ | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 50 U | < 5 U |
| Styrene | 100-42-5 | 120 | 100 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| Toluene | 108-88-3 | 110 | 1000 | | **0.86 J** | **0.477 J** | **0.311 J** | 1 U | < 1 U | 111 UJ | **51.9** | **53.3** | **51.4** | **43.7** | **46.7** | **27.3** | **47.8** | **35.6** | < 10 U | < 1 U |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U |
| Trichloroethene | 79-01-6 | 0.28 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 10 U | **0.96 J** |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | | **1.4** | **2.68** | **2.42** | **3.85** | < 1 U | **1010 J** | **1090** | **1000** | **921** | **392** | **376** | **388** | **1230** | **578** | **43.1** | **32.9** |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 100 UJ | **0.56 J** | **0.98 J** | **0.99 J** | **0.819 J** | **0.898 J** | **0.751 J** | **0.963 J** | **0.831 J** | < 10 U | < 1 U |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | COE-MW-02 AS0244(011506)-DUP 1/15/2006 | COE-MW-02 AS0252(072406) 7/24/2006 | COE-MW-02 AS0262(012007) 1/20/2007 | COE-MW-02 AS0272(071407) 7/14/2007 | COE-MW-02 AS0282(012508) 1/25/2008 | COE-MW-03 AS0312(072004) 7/20/2004 | COE-MW-03 AS0322(011605) 1/16/2005 | COE-MW-03 AS0332(071705) 7/17/2005 | COE-MW-03 AS0342(011506) 1/15/2006 | COE-MW-03 AS0352(072406) 7/24/2006 | COE-MW-03 AS0354(072406)-DUP 7/24/2006 | COE-MW-03 AS0362(012007) 1/20/2007 | COE-MW-03 AS0372(071407) 7/14/2007 | COE-MW-03 AS0382(012508) 1/25/2008 | COE-MW-04 AS0412(072004) 7/20/2004 | COE-MW-04 AS0422(011605) 1/16/2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylphenol | 95-48-7 | 93 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrophenol | 88-75-5 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Methylphenol | 106-44-5 | 190 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrophenol | 100-02-7 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthene | 83-32-9 | 53 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthylene | 208-96-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| alpha-Terpineol | 98-55-5 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Anthracene | 120-12-7 | 180 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Atrazine | 1912-24-9 | 0.3 | 3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzaldehyde | 100-52-7 | 19 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzoic acid | 65-85-0 | 7500 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Carbazole | 86-74-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chrysene | 218-01-9 | 25 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dibenzofuran | 132-64-9 | 0.79 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Diethyl phthalate | 84-66-2 | 1500 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dimethyl phthalate | 131-11-3 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Diphenylamine | 122-39-4 | 130 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluoranthene | 206-44-0 | 80 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluorene | 86-73-7 | 29 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachloroethane | 67-72-1 | 0.33 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Isophorone | 78-59-1 | 78 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| m+p Methylphenol | 65794-96-9 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | 91-20-3 | 0.17 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nitrobenzene | 98-95-3 | 0.14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenanthrene | 85-01-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenol | 108-95-2 | 580 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pyrene | 129-00-0 | 12 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | COE-MW-02 AS0244(011506)-DUP 1/15/2006 | COE-MW-02 AS0252(072406) 7/24/2006 | COE-MW-02 AS0262(012007) 1/20/2007 | COE-MW-02 AS0272(071407) 7/14/2007 | COE-MW-02 AS0282(012508) 1/25/2008 | COE-MW-03 AS0312(072004) 7/20/2004 | COE-MW-03 AS0322(011605) 1/16/2005 | COE-MW-03 AS0332(071705) 7/17/2005 | COE-MW-03 AS0342(011506) 1/15/2006 | COE-MW-03 AS0352(072406) 7/24/2006 | COE-MW-03 AS0354(072406)-DUP 7/24/2006 | COE-MW-03 AS0362(012007) 1/20/2007 | COE-MW-03 AS0372(071407) 7/14/2007 | COE-MW-03 AS0382(012508) 1/25/2008 | COE-MW-04 AS0412(072004) 7/20/2004 | COE-MW-04 AS0422(011605) 1/16/2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Metals,Total (µg/L)*** | | -- | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Barium | 7440-39-3 | 380 | 2000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 15 | 15 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | COE-MW-04 AS0424(011605)-DUP 1/16/2005 | COE-MW-04 AS0432(071705) 7/17/2005 | COE-MW-04 AS0434(071705)-DUP 7/17/2005 | COE-MW-04 AS0442(011606) 1/16/2006 | COE-MW-04 AS0452(072506) 7/25/2006 | COE-MW-04 AS0462(012007) 1/20/2007 | COE-MW-04 AS0472(071407) 7/14/2007 | COE-MW-04 AS0482(012508) 1/25/2008 | COE-MW-05 AS0512(072004) 7/20/2004 | COE-MW-05 AS0522(011605) 1/16/2005 | COE-MW-05 AS0532(071705) 7/17/2005 | COE-MW-05 AS0542(011606) 1/16/2006 | COE-MW-05 AS0552(072506) 7/25/2006 | COE-MW-05 AS0562(012007) 1/20/2007 | COE-MW-05 AS0572(071407) 7/14/2007 | COE-MW-05 AS0582(012508) 1/25/2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | **1.4** | **1.1** | **1.1** | **1.33** | **1.26** | **1.6** | **1.61** | **1.51** | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | **789** | **744** | **706** | **948** | **835** | **898** | **1080** | **1100 J** | **22.2** | **25.7** | **30.3** | **27.8** | **35.1** | **36.9** | **47.7** | **45.1** |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Butanone | 78-93-3 | 560 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 2-Hexanone | 591-78-6 | 3.8 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Acetone | 67-64-1 | 1400 | -- | < 5 U | 3.3 J | 3.5 J | < 5 U | < 5 U | < 5 U | **1.36 J** | < 5 U | 3.3 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | **1.35 J** | < 5 UJ |
| Benzene | 71-43-2 | 0.46 | 5 | **0.36 J** | **1.9** | **1.9** | **2** | **1.82** | **2.07** | **2.04** | **2.06** | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromochloromethane | 74-97-5 | 8.3 | -- | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromoform | 75-25-2 | 3.3 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromomethane | 74-83-9 | 0.75 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Carbon disulfide | 75-15-0 | 81 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | **1.3 J** | **3.98 J** | < 5 U | < 5 U | < 5 U | < 5 U |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| CFC-11 | 75-69-4 | 520 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloroethane | 75-00-3 | 2100 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloroform | 67-66-3 | 0.22 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloromethane | 74-87-3 | 19 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Methylene chloride | 75-09-2 | 11 | 5 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | 5 U |
| Styrene | 100-42-5 | 120 | 100 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Toluene | 108-88-3 | 110 | 1000 | < 1 U | 1 U | 1 U | **1.08** | < 1 U | **0.326 J** | **0.434 J** | **0.375 J** | 1 U | < 1 U | 1 U | **0.885 J** | < 1 U | **0.332 J** | 1 U | < 1 U |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Trichloroethene | 79-01-6 | 0.28 | 5 | **1.1** | **0.64 J** | **0.62 J** | **0.878 J** | **0.63 J** | **1.18** | **1.35** | **1.08** | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | **32.8** | **30.7** | **32.6** | **34.6** | **38.6** | **33.4** | **50.9** | **44** | **2.6** | **3.1** | **2.3** | **2.51** | **2.31** | **2.37** | **3.61** | **2.39** |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | **0.453 J** | < 1 U |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date | MCL | COE-MW-04 AS0424(011605)-DUP 1/16/2005 | COE-MW-04 AS0432(071705) 7/17/2005 | COE-MW-04 AS0434(071705)-DUP 7/17/2005 | COE-MW-04 AS0442(011606) 1/16/2006 | COE-MW-04 AS0452(072506) 7/25/2006 | COE-MW-04 AS0462(012007) 1/20/2007 | COE-MW-04 AS0472(071407) 7/14/2007 | COE-MW-04 AS0482(012508) 1/25/2008 | COE-MW-05 AS0512(072004) 7/20/2004 | COE-MW-05 AS0522(011605) 1/16/2005 | COE-MW-05 AS0532(071705) 7/17/2005 | COE-MW-05 AS0542(011606) 1/16/2006 | COE-MW-05 AS0552(072506) 7/25/2006 | COE-MW-05 AS0562(012007) 1/20/2007 | COE-MW-05 AS0572(071407) 7/14/2007 | COE-MW-05 AS0582(012508) 1/25/2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylphenol | 95-48-7 | 93 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrophenol | 88-75-5 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Methylphenol | 106-44-5 | 190 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrophenol | 100-02-7 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthene | 83-32-9 | 53 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthylene | 208-96-8 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| alpha-Terpineol | 98-55-5 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Anthracene | 120-12-7 | 180 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Atrazine | 1912-24-9 | 0.3 | 3 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzaldehyde | 100-52-7 | 19 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzoic acid | 65-85-0 | 7500 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Carbazole | 86-74-8 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chrysene | 218-01-9 | 25 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dibenzofuran | 132-64-9 | 0.79 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Diethyl phthalate | 84-66-2 | 1500 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dimethyl phthalate | 131-11-3 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Diphenylamine | 122-39-4 | 130 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluoranthene | 206-44-0 | 80 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluorene | 86-73-7 | 29 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachloroethane | 67-72-1 | 0.33 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Isophorone | 78-59-1 | 78 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| m+p Methylphenol | 65794-96-9 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | 91-20-3 | 0.17 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nitrobenzene | 98-95-3 | 0.14 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenanthrene | 85-01-8 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenol | 108-95-2 | 580 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pyrene | 129-00-0 | 12 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID<br>Sample ID<br>Sample Date<br>MCL | COE-MW-04<br>AS0424(011605)-DUP<br>1/16/2005 | COE-MW-04<br>AS0432(071705)<br>7/17/2005 | COE-MW-04<br>AS0434(071705)-DUP<br>7/17/2005 | COE-MW-04<br>AS0442(011606)<br>1/16/2006 | COE-MW-04<br>AS0452(072506)<br>7/25/2006 | COE-MW-04<br>AS0462(012007)<br>1/20/2007 | COE-MW-04<br>AS0472(071407)<br>7/14/2007 | COE-MW-04<br>AS0482(012508)<br>1/25/2008 | COE-MW-05<br>AS0512(072004)<br>7/20/2004 | COE-MW-05<br>AS0522(011605)<br>1/16/2005 | COE-MW-05<br>AS0532(071705)<br>7/17/2005 | COE-MW-05<br>AS0542(011606)<br>1/16/2006 | COE-MW-05<br>AS0552(072506)<br>7/25/2006 | COE-MW-05<br>AS0562(012007)<br>1/20/2007 | COE-MW-05<br>AS0572(071407)<br>7/14/2007 | COE-MW-05<br>AS0582(012508)<br>1/25/2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Metals,Total (µg/L)*** | | -- | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Barium | 7440-39-3 | 380 | 2000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 15 | 15 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | COE-MW-06 AS0612(072004) 7/20/2004 | COE-MW-06 AS0614(072004)-DUP 7/20/2004 | COE-MW-06 AS0622(011605) 1/16/2005 | COE-MW-06 AS0632(071705) 7/17/2005 | COE-MW-06 AS0642(011606) 1/16/2006 | COE-MW-06 AS0652(072506) 7/25/2006 | COE-MW-06 AS0662(012007) 1/20/2007 | COE-MW-06 AS0672(071407) 7/14/2007 | COE-MW-06 AS0682(012508) 1/25/2008 | COE-MW-07 AS0712(072004) 7/20/2004 | COE-MW-07 AS0722(011605) 1/16/2005 | COE-MW-07 AS0732(071705) 7/17/2005 | COE-MW-07 AS0742(011606) 1/16/2006 | COE-MW-07 AS0752(072506) 7/25/2006 | COE-MW-07 AS0754(072506)-DUP 7/25/2006 | COE-MW-07 AS0762(012007) 1/20/2007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | **0.345 J** | < 1 U | < 20 U | **4.6** | **7** | **6.02** | **8.16** | **8.1** | **5.38** |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | NA | NA | < 1 U |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | **0.26 J** | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | **75.9** | **76.2** | **62.2** | **56.7** | **87.1** | **91.5** | **109** | **132** | **187 J** | **1560** | **1280** | **1560** | **1980** | **2080** | **2040** | **1500** |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Butanone | 78-93-3 | 560 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 100 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 2-Hexanone | 591-78-6 | 3.8 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 100 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 100 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Acetone | 67-64-1 | 1400 | -- | < 5 U | < 5 U | **2.8 J** | **2.5 J** | < 5 U | < 5 U | < 5 U | **1.31 J** | < 5 U | < 100 U | **2.3 J** | **2.5 J** | < 5 U | < 5 U | < 5 U | < 5 U |
| Benzene | 71-43-2 | 0.46 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | **1.3** | **1.2** | **1.47** | **1.43** | **1.1** |
| Bromochloromethane | 74-97-5 | 8.3 | -- | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | NA | NA | < 1 U |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromoform | 75-25-2 | 3.3 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromomethane | 74-83-9 | 0.75 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Carbon disulfide | 75-15-0 | 81 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 100 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| CFC-11 | 75-69-4 | 520 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloroethane | 75-00-3 | 2100 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloroform | 67-66-3 | 0.22 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloromethane | 74-87-3 | 19 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Methylene chloride | 75-09-2 | 11 | 5 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 100 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Styrene | 100-42-5 | 120 | 100 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Toluene | 108-88-3 | 110 | 1000 | 1 U | < 1 U | < 1 U | 1 U | **1.22** | < 1 U | < 1 U | < 1 U | < 1 U | 20 U | **0.83 J** | 1 U | **1.92** | **0.832 J** | **0.799 J** | **0.758 J** |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Trichloroethene | 79-01-6 | 0.28 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | **0.49 J** | **0.58 J** | < 1 U | **0.407 J** | **0.468 J** | **0.295 J** |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | **0.503 J** | < 1 U | < 1 U | < 20 U | **0.56 J** | **1.1** | **1.2** | **1.51** | **1.45** | **0.877 J** |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |

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**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | COE-MW-06 AS0612(072004) 7/20/2004 | COE-MW-06 AS0614(072004)-DUP 7/20/2004 | COE-MW-06 AS0622(011605) 1/16/2005 | COE-MW-06 AS0632(071705) 7/17/2005 | COE-MW-06 AS0642(011606) 1/16/2006 | COE-MW-06 AS0652(072506) 7/25/2006 | COE-MW-06 AS0662(012007) 1/20/2007 | COE-MW-06 AS0672(071407) 7/14/2007 | COE-MW-06 AS0682(012508) 1/25/2008 | COE-MW-07 AS0712(072004) 7/20/2004 | COE-MW-07 AS0722(011605) 1/16/2005 | COE-MW-07 AS0732(071705) 7/17/2005 | COE-MW-07 AS0742(011606) 1/16/2006 | COE-MW-07 AS0752(072506) 7/25/2006 | COE-MW-07 AS0754(072506)-DUP 7/25/2006 | COE-MW-07 AS0762(012007) 1/20/2007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylphenol | 95-48-7 | 93 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrophenol | 88-75-5 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Methylphenol | 106-44-5 | 190 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrophenol | 100-02-7 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthene | 83-32-9 | 53 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthylene | 208-96-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| alpha-Terpineol | 98-55-5 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Anthracene | 120-12-7 | 180 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Atrazine | 1912-24-9 | 0.3 | 3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzaldehyde | 100-52-7 | 19 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzoic acid | 65-85-0 | 7500 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Carbazole | 86-74-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chrysene | 218-01-9 | 25 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dibenzofuran | 132-64-9 | 0.79 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Diethyl phthalate | 84-66-2 | 1500 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dimethyl phthalate | 131-11-3 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Diphenylamine | 122-39-4 | 130 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluoranthene | 206-44-0 | 80 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluorene | 86-73-7 | 29 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachloroethane | 67-72-1 | 0.33 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Isophorone | 78-59-1 | 78 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| m+p Methylphenol | 65794-96-9 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | 91-20-3 | 0.17 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nitrobenzene | 98-95-3 | 0.14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenanthrene | 85-01-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenol | 108-95-2 | 580 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pyrene | 129-00-0 | 12 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | COE-MW-06 AS0612(072004) 7/20/2004 | COE-MW-06 AS0614(072004)-DUP 7/20/2004 | COE-MW-06 AS0622(011605) 1/16/2005 | COE-MW-06 AS0632(071705) 7/17/2005 | COE-MW-06 AS0642(011606) 1/16/2006 | COE-MW-06 AS0652(072506) 7/25/2006 | COE-MW-06 AS0662(012007) 1/20/2007 | COE-MW-06 AS0672(071407) 7/14/2007 | COE-MW-06 AS0682(012508) 1/25/2008 | COE-MW-07 AS0712(072004) 7/20/2004 | COE-MW-07 AS0722(011605) 1/16/2005 | COE-MW-07 AS0732(071705) 7/17/2005 | COE-MW-07 AS0742(011606) 1/16/2006 | COE-MW-07 AS0752(072506) 7/25/2006 | COE-MW-07 AS0754(072506)-DUP 7/25/2006 | COE-MW-07 AS0762(012007) 1/20/2007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Metals,Total (µg/L)*** | | -- | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Barium | 7440-39-3 | 380 | 2000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 15 | 15 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | COE-MW-07 AS0764(012007)-DUP 1/20/2007 | COE-MW-07 AS0772(071407) 7/14/2007 | COE-MW-07 AS0774(071407)-DUP 7/14/2007 | COE-MW-07 AS0782(012508) 1/25/2008 | COE-MW-07 AS0784(012508)-DUP 1/25/2008 | COE-MW-08 AS0812(072004) 7/20/2004 | COE-MW-08 AS0822(011605) 1/16/2005 | COE-MW-08 AS0832(071705) 7/17/2005 | COE-MW-08 AS0842(011606) 1/16/2006 | COE-MW-08 AS0852(072506) 7/25/2006 | COE-MW-08 AS0862(012007) 1/20/2007 | COE-MW-08 AS0872(071407) 7/14/2007 | COE-MW-08 AS0882(012508) 1/25/2008 | HMW-01 HMW-01 (030790) 3/7/1990 | HMW-01 HMW-01 (031290) 3/12/1992 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1.30 | < 2.50 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1.50 | < 1.50 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1.60 | < 2.80 |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 0.85 | < 2.50 |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | **5.27** | **5.08** | **4.97** | **3.84** | **4.05** | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1.20 | < 3.20 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 0.87 | < 2.50 |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | **1340** | **1590** | **1500** | **1160 J** | **1230 J** | **1.1 J** | < 1 U | **2.4** | **2.84** | **3.16** | **6.55** | **9.74** | **7.17** | < 1.30 | < 2.40 |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 0.97 | < 2.00 |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Butanone | 78-93-3 | 560 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 UJ | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 9.44 | NA |
| 2-Hexanone | 591-78-6 | 3.8 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 UJ | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 3.10 | NA |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 UJ | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 3.00 | NA |
| Acetone | 67-64-1 | 1400 | -- | < 5 U | **1.46 J** | < 5 U | < 5 U | < 5 U | 2.4 UJ | < 5 U | **2.3 J** | < 5 U | < 5 U | < 5 U | < 5 U | < 5 UJ | < 17.00 | NA |
| Benzene | 71-43-2 | 0.46 | 5 | **1.06** | **0.959 J** | **1.02** | **0.796 J** | **0.806 J** | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1.10 | < 1.00 |
| Bromochloromethane | 74-97-5 | 8.3 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | NA | NA |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 0.98 | < 2.20 |
| Bromoform | 75-25-2 | 3.3 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 2.50 | < 2.60 |
| Bromomethane | 74-83-9 | 0.75 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1.20 | < 3.50 |
| Carbon disulfide | 75-15-0 | 81 | -- | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 UJ | < 5 U | < 5 U | **13.6** | < 5 U | < 5 U | < 5 U | < 5 U | < 3.10 | < 4.40 |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 0.97 | < 2.60 |
| CFC-11 | 75-69-4 | 520 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 0.65 | < 1.40 |
| Chloroethane | 75-00-3 | 2100 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1.80 | < 8.20 |
| Chloroform | 67-66-3 | 0.22 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1.20 | < 2.50 |
| Chloromethane | 74-87-3 | 19 | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 24.00 | < 4.40 |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1.50 | < 2.00 |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1.30 | < 2.30 |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1.00 | < 1.30 |
| Methylene chloride | 75-09-2 | 11 | 5 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 UJ | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | 5 U | < 1.60 | < 6.40 |
| Styrene | 100-42-5 | 120 | 100 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1.60 | NA |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 0.51 | < 1.90 |
| Toluene | 108-88-3 | 110 | 1000 | **0.754 J** | **0.677 J** | **0.688 J** | **0.478 J** | **0.486 J** | 1 UJ | < 1 U | 1 U | **1.25** | < 1 U | < 1 U | 1 U | < 1 U | < 0.70 | < 1.70 |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 0.86 | < 1.60 |
| Trichloroethene | 79-01-6 | 0.28 | 5 | **0.287 J** | **0.354 J** | **0.338 J** | **0.306 J** | **0.308 J** | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 0.87 | < 3.00 |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | **0.901 J** | **1.11** | **1.21** | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1.60 | < 4.60 |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 UJ | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | **0.489 J** | < 1 U | < 1.00 | < 3.70 |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | MCL | Location ID / Sample ID / Sample Date | COE-MW-07 AS0764(012007)-DUP 1/20/2007 | COE-MW-07 AS0772(071407) 7/14/2007 | COE-MW-07 AS0774(071407)-DUP 7/14/2007 | COE-MW-07 AS0782(012508) 1/25/2008 | COE-MW-07 AS0784(012508)-DUP 1/25/2008 | COE-MW-08 AS0812(072004) 7/20/2004 | COE-MW-08 AS0822(011605) 1/16/2005 | COE-MW-08 AS0832(071705) 7/17/2005 | COE-MW-08 AS0842(011606) 1/16/2006 | COE-MW-08 AS0852(072506) 7/25/2006 | COE-MW-08 AS0862(012007) 1/20/2007 | COE-MW-08 AS0872(071407) 7/14/2007 | COE-MW-08 AS0882(012508) 1/25/2008 | HMW-01 HMW-01 (030790) 3/7/1990 | HMW-01 HMW-01 (031290) 3/12/1992 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylphenol | 95-48-7 | 93 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrophenol | 88-75-5 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Methylphenol | 106-44-5 | 190 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrophenol | 100-02-7 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthene | 83-32-9 | 53 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 3.80 | < 1.00 |
| Acenaphthylene | 208-96-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 2.70 | < 1.00 |
| alpha-Terpineol | 98-55-5 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Anthracene | 120-12-7 | 180 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 2.10 | < 1.00 |
| Atrazine | 1912-24-9 | 0.3 | 3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1.80 | < 1.50 |
| Benzaldehyde | 100-52-7 | 19 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 5.20 | < 2.00 |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 3.80 | < 1.50 |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 2.10 | < 2.50 |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 4.70 | < 1.50 |
| Benzoic acid | 65-85-0 | 7500 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Carbazole | 86-74-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chrysene | 218-01-9 | 25 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 2.80 | < 1.50 |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1.80 | < 2.50 |
| Dibenzofuran | 132-64-9 | 0.79 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Diethyl phthalate | 84-66-2 | 1500 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dimethyl phthalate | 131-11-3 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Diphenylamine | 122-39-4 | 130 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluoranthene | 206-44-0 | 80 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 3.20 | < 1.00 |
| Fluorene | 86-73-7 | 29 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 3.10 | < 100 |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachloroethane | 67-72-1 | 0.33 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 2.70 | < 2.50 |
| Isophorone | 78-59-1 | 78 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| m+p Methylphenol | 65794-96-9 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | 91-20-3 | 0.17 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 5.90 | < 1.00 |
| Nitrobenzene | 98-95-3 | 0.14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **83** | NA |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenanthrene | 85-01-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1.90 | < 1.00 |
| Phenol | 108-95-2 | 580 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **110** | NA |
| Pyrene | 129-00-0 | 12 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 2.00 | < 1.00 |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | COE-MW-07 AS0764(012007)-DUP 1/20/2007 | COE-MW-07 AS0772(071407) 7/14/2007 | COE-MW-07 AS0774(071407)-DUP 7/14/2007 | COE-MW-07 AS0782(012508) 1/25/2008 | COE-MW-07 AS0784(012508)-DUP 1/25/2008 | COE-MW-08 AS0812(072004) 7/20/2004 | COE-MW-08 AS0822(011605) 1/16/2005 | COE-MW-08 AS0832(071705) 7/17/2005 | COE-MW-08 AS0842(011606) 1/16/2006 | COE-MW-08 AS0852(072506) 7/25/2006 | COE-MW-08 AS0862(012007) 1/20/2007 | COE-MW-08 AS0872(071407) 7/14/2007 | COE-MW-08 AS0882(012508) 1/25/2008 | HMW-01 HMW-01 (030790) 3/7/1990 | HMW-01 HMW-01 (031290) 3/12/1992 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Metals,Total (µg/L)*** | | -- | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **3.1** | **9.4** |
| Barium | 7440-39-3 | 380 | 2000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **59.2** | **76.6** |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 3.50 | < 4.40 |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | **11.2** | **17.6** |
| Lead | 7439-92-1 | 15 | 15 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 25.00 | < 63.80 |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 0.20 | < 0.18 |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 2.00 | < 2.00 |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 5.70 | < 6.10 |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-01 HMW-01 (100790) 10/7/1995 | HMW-02 HMW-02 (030790) 3/7/1990 | HMW-02 HMW-02 (031290) 3/12/1992 | HMW-02 HMW-02 (100795) 10/7/1995 | HMW-02 HMW-02 (110598) 11/5/1998 | HMW-02 HMW-02 (050699) 5/6/1999 | HMW-02 AC0212(071299) 7/12/1999 | HMW-02 AC0222(062400) 6/24/2000 | HMW-02 AC0232(071904) 7/19/2004 | HMW-02 AC0242(011505) 1/15/2005 | HMW-02 AC0252(071905) 7/19/2005 | HMW-02 AC0262(011506) 1/15/2006 | HMW-02 AC0272(072606) 7/26/2006 | HMW-02 AC0282(012107) 1/21/2007 | HMW-02 AC0292(071307) 7/13/2007 | HMW-02 AC0202(012608) 1/26/2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | < 5 | < 1.30 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | < 5 | < 1.50 | < 1.50 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | < 5 | < 1.60 | < 2.80 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | < 5 | < 0.85 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | < 5 | < 1.20 | < 3.20 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | < 5 | < 0.87 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | NA | < 1.30 | < 2.40 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | NA | < 0.97 | < 2.00 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 2-Butanone | 78-93-3 | 560 | -- | < 10 | < 9.44 | NA | < 10 | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA |
| 2-Hexanone | 591-78-6 | 3.8 | -- | < 10 | < 3.10 | NA | < 10 | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | < 10 | < 3.00 | NA | < 10 | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA |
| Acetone | 67-64-1 | 1400 | -- | < 20 | < 17.00 | NA | < 20 | NA | NA | NA | NA | NA | NA | 2.2 J | < 5 U | < 5 U | < 5 U | NA | NA |
| Benzene | 71-43-2 | 0.46 | 5 | < 5 | < 1.10 | < 1.00 | < 5 | < 5 | < 5 | < 2 U | **0.21 J** | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | **0.326 J** | < 1 U | < 1 U |
| Bromochloromethane | 74-97-5 | 8.3 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | NA | NA |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | < 5 | < 0.98 | < 2.20 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Bromoform | 75-25-2 | 3.3 | 80 | < 5 | < 2.50 | < 2.60 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Bromomethane | 74-83-9 | 0.75 | -- | < 5 | < 1.20 | < 3.50 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Carbon disulfide | 75-15-0 | 81 | -- | < 5 | < 3.10 | < 4.40 | < 5 | NA | NA | NA | NA | NA | NA | < 5 U | 2.2 J | < 5 U | < 5 U | NA | NA |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | < 5 | < 0.97 | < 2.60 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| CFC-11 | 75-69-4 | 520 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | < 5 | < 0.65 | < 1.40 | < 5 | < 0.5 | < 0.5 | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Chloroethane | 75-00-3 | 2100 | -- | < 5 | < 1.80 | < 8.20 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Chloroform | 67-66-3 | 0.22 | 80 | < 5 | < 1.20 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Chloromethane | 74-87-3 | 19 | -- | < 5 | < 24.00 | < 4.40 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | < 5 | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | < 5 | < 1.50 | < 2.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | < 5 | < 1.30 | < 2.30 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | < 5 | < 1.00 | < 1.30 | < 5 | < 0.5 | < 0.5 | < 2 U | **0.14 J** | < 1 U | < 1 U | < 1 U | < 1 U | **0.836 J** | **0.536 J** | < 1 U | < 1 U |
| Methylene chloride | 75-09-2 | 11 | 5 | < 5 | < 1.60 | < 6.40 | < 5 | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA |
| Styrene | 100-42-5 | 120 | 100 | < 5 | < 1.60 | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | < 5 | < 0.51 | < 1.90 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Toluene | 108-88-3 | 110 | 1000 | < 5 | **1.6** | < 1.70 | < 5 | < 2.5 | < 0.5 | < 2 U | **0.32 J** | < 1 U | < 1 U | **4.1** | < 1 U | **1.04** | < 1 U | < 1 U | < 1 U |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | < 5 | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | < 5 | < 0.86 | < 1.60 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Trichloroethene | 79-01-6 | 0.28 | 5 | < 5 | < 0.87 | < 3.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | < 5 | < 1.60 | < 4.60 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | < 5 | < 1.00 | < 3.70 | < 5 | < 1 | < 1 | < 6 U | **0.69 J** | < 1 U | < 1 U | < 1 U | < 1 U | **4.7** | **2.23** | < 1 U | < 1 U |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | MCL | Location ID | HMW-01 | HMW-02 | HMW-02 | HMW-02 | HMW-02 | HMW-02 | HMW-02 | HMW-02 | HMW-02 | HMW-02 | HMW-02 | HMW-02 | HMW-02 | HMW-02 | HMW-02 | HMW-02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample ID | HMW-01 (100790) | HMW-02 (030790) | HMW-02 (031290) | HMW-02 (100795) | HMW-02 (110598) | HMW-02 (050699) | AC0212(071299) | AC0222(062400) | AC0232(071904) | AC0242(011505) | AC0252(071905) | AC0262(011506) | AC0272(072606) | AC0282(012107) | AC0292(071307) | AC0202(012608) |
| | | | | Sample Date | 10/7/1995 | 3/7/1990 | 3/12/1992 | 10/7/1995 | 11/5/1998 | 5/6/1999 | 7/12/1999 | 6/24/2000 | 7/19/2004 | 1/15/2005 | 7/19/2005 | 1/15/2006 | 7/26/2006 | 1/21/2007 | 7/13/2007 | 1/26/2008 |
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | < 25 | NA | NA | < 25 | NA | NA | NA | NA | NA | NA | NA | < 20.4 U | < 18.9 U | < 20 U | NA | < 19.4 U | < 20 U |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | < 10 | NA | NA | < 10 | NA | NA | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| 2-Methylphenol | 95-48-7 | 93 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 2-Nitrophenol | 88-75-5 | -- | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | < 20 | NA | NA | < 20 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 UJ | NA | < 9.69 U | < 10 U |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 4-Methylphenol | 106-44-5 | 190 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| 4-Nitrophenol | 100-02-7 | -- | -- | < 25 | NA | NA | < 25 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Acenaphthene | 83-32-9 | 53 | -- | < 10 | < 3.80 | < 1.00 | < 10 | < 0.302 | < 0.302 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Acenaphthylene | 208-96-8 | -- | -- | < 10 | < 2.70 | < 1.00 | < 10 | < 0.164 | < 0.164 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| alpha-Terpineol | 98-55-5 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | NA | NA |
| Anthracene | 120-12-7 | 180 | -- | < 10 | < 2.10 | < 1.00 | < 10 | < 0.097 | < 0.097 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Atrazine | 1912-24-9 | 0.3 | 3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | NA | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | < 10 | < 1.80 | < 1.50 | < 10 | < 0.0311 | < 0.0311 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Benzaldehyde | 100-52-7 | 19 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | NA | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 9.69 U | < 10 U |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | < 10 | < 5.20 | < 2.00 | < 10 | < 0.0311 | < 0.0311 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | < 10 | < 3.80 | < 1.50 | < 10 | < 0.0311 | < 0.0311 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | < 10 | < 2.10 | < 2.50 | < 10 | < 0.157 | < 0.157 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | < 10 | < 4.70 | < 1.50 | < 10 | < 0.0311 | < 0.0311 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Benzoic acid | 65-85-0 | 7500 | -- | < 50 | NA | NA | < 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 19.4 U | < 20 U |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | **2 J** | NA | NA | **6 J** | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | **30.1** | NA | **2.26 J** | **3.21 J** |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Carbazole | 86-74-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 0.969 U | < 1 U |
| Chrysene | 218-01-9 | 25 | -- | < 10 | < 2.80 | < 1.50 | < 10 | < 0.0311 | < 0.0311 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | < 10 | < 1.80 | < 2.50 | < 10 | < 0.031 | < 0.031 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Dibenzofuran | 132-64-9 | 0.79 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Diethyl phthalate | 84-66-2 | 1500 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Dimethyl phthalate | 131-11-3 | -- | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Diphenylamine | 122-39-4 | 130 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Fluoranthene | 206-44-0 | 80 | -- | < 10 | < 3.20 | < 1.00 | < 10 | < 0.123 | < 0.123 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Fluorene | 86-73-7 | 29 | -- | < 10 | < 3.10 | < 100 | < 10 | < 0.092 | < 0.092 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Hexachloroethane | 67-72-1 | 0.33 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | < 10 | < 2.70 | < 2.50 | < 10 | < 0.0311 | < 0.0311 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Isophorone | 78-59-1 | 78 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| m+p Methylphenol | 65794-96-9 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Naphthalene | 91-20-3 | 0.17 | -- | < 10 | < 5.90 | < 1.00 | < 10 | < 0.214 | < 0.214 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Nitrobenzene | 98-95-3 | 0.14 | -- | < 10 | **81** | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | < 25 | NA | NA | < 25 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Phenanthrene | 85-01-8 | -- | -- | < 10 | < 1.90 | < 1.00 | < 10 | < 0.103 | < 0.103 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |
| Phenol | 108-95-2 | 580 | -- | < 10 | **99** | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 9.43 U | < 10 U | NA | < 9.69 U | < 10 U |
| Pyrene | 129-00-0 | 12 | -- | < 10 | < 2.00 | < 1.00 | < 10 | < 0.107 | < 0.107 | < 10.6 U | < 1 U | NA | NA | NA | < 1 U | < 0.943 U | < 1 U | NA | < 0.969 U | < 1 U |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-01 HMW-01 (100790) 10/7/1995 | HMW-02 HMW-02 (030790) 3/7/1990 | HMW-02 HMW-02 (031290) 3/12/1992 | HMW-02 HMW-02 (100795) 10/7/1995 | HMW-02 HMW-02 (110598) 11/5/1998 | HMW-02 HMW-02 (050699) 5/6/1999 | HMW-02 AC0212(071299) 7/12/1999 | HMW-02 AC0222(062400) 6/24/2000 | HMW-02 AC0232(071904) 7/19/2004 | HMW-02 AC0242(011505) 1/15/2005 | HMW-02 AC0252(071905) 7/19/2005 | HMW-02 AC0262(011506) 1/15/2006 | HMW-02 AC0272(072606) 7/26/2006 | HMW-02 AC0282(012107) 1/21/2007 | HMW-02 AC0292(071307) 7/13/2007 | HMW-02 AC0202(012608) 1/26/2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Metals,Total (µg/L)*** | | -- | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | **10** | **51.6** | < 2.30 | **3** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Barium | 7440-39-3 | 380 | 2000 | **42** | **1000** | **46.5** | **95** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Cadmium | 7440-43-9 | 0.92 | 5 | **10** | < 3.50 | < 4.40 | **10** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | -- | 100 | **20** | **217** | < 7.40 | **14.7** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 15 | 15 | **3** | **261** | < 63.80 | **17.3** | NA | NA | NA | NA | NA | NA | **66.9** | **2.6 J** | < 2 U | NA | < 5 U | < 0.5 U |
| Mercury | 7439-97-6 | 0.063 | 2 | **0.06** | < 0.20 | < 0.18 | **0.24** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Selenium | 7782-49-2 | 10 | 50 | **5** | **2.8** | < 2.00 | **5** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Silver | 7440-22-4 | 9.4 | -- | **20** | < 5.70 | < 6.10 | **20** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-03 HMW-3 (030890) 3/8/1990 | HMW-03 HMW-3 (031292) 3/12/1992 | HMW-03 HMW-3 (100695) 10/6/1995 | HMW-04 HMW-4 (030890) 3/8/1990 | HMW-04 HMW-4 (031292) 3/12/1992 | HMW-04 HMW-4 (100695) 10/6/1995 | HMW-04 HMW-4 (110598) 11/5/1998 | HMW-04 HMW-4 (050699) 5/6/1999 | HMW-04 AC0412(071299) 7/12/1999 | HMW-04 AC0414(071299)-DUP 7/12/1999 | HMW-04 AC0422(062400) 6/24/2000 | HMW-04 AC0432(071904) 7/19/2004 | HMW-04 AC0442(011505) 1/15/2005 | HMW-04 AC0452(071705) 7/17/2005 | HMW-04 AC0462(011406) 1/14/2006 | HMW-04 AC0472(072406) 7/24/2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | < 1.30 | < 2.50 | < 5 | < 1.30 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | < 1.50 | < 1.50 | < 5 | < 1.50 | < 1.50 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | < 1.60 | < 2.80 | < 5 | < 1.60 | < 2.80 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | < 0.85 | < 2.50 | < 5 | < 0.85 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | < 1.20 | < 3.20 | < 5 | < 1.20 | < 3.20 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | < 0.87 | < 2.50 | < 5 | < 0.87 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | < 1.30 | < 2.40 | NA | < 1.30 | < 2.40 | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | < 0.97 | < 2.00 | NA | < 0.97 | < 2.00 | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 2-Butanone | 78-93-3 | 560 | -- | < 9.44 | NA | < 10 | < 9.44 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U |
| 2-Hexanone | 591-78-6 | 3.8 | -- | < 3.10 | NA | < 10 | < 3.10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | < 3.00 | NA | < 10 | < 3.00 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U |
| Acetone | 67-64-1 | 1400 | -- | < 17.00 | NA | < 20 | < 17.00 | NA | < 20 | NA | NA | NA | NA | NA | NA | NA | 3.2 J | < 5 U | < 5 U |
| Benzene | 71-43-2 | 0.46 | 5 | **7.8** | < 1.00 | **1 J** | **1.9** | **18** | **1 J** | **7.1** | **3.2 J** | < 2 U | < 2 U | **2.2** | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromochloromethane | 74-97-5 | 8.3 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | < 0.98 | < 2.20 | < 5 | < 0.98 | < 2.20 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Bromoform | 75-25-2 | 3.3 | 80 | < 2.50 | < 2.60 | < 5 | < 2.50 | < 2.60 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Bromomethane | 74-83-9 | 0.75 | -- | < 1.20 | < 3.50 | < 5 | < 1.20 | < 3.50 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Carbon disulfide | 75-15-0 | 81 | -- | < 3.10 | < 4.40 | < 5 | < 3.10 | < 4.40 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | < 0.97 | < 2.60 | < 5 | < 0.97 | < 2.60 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| CFC-11 | 75-69-4 | 520 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | < 0.65 | < 1.40 | < 5 | < 0.65 | < 1.40 | < 5 | < 0.5 | < 0.5 | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Chloroethane | 75-00-3 | 2100 | -- | < 1.80 | < 8.20 | < 5 | < 1.80 | < 8.20 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Chloroform | 67-66-3 | 0.22 | 80 | < 1.20 | < 2.50 | < 5 | < 1.20 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Chloromethane | 74-87-3 | 19 | -- | < 24.00 | < 4.40 | < 5 | < 24.00 | < 4.40 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | NA | NA | < 5 | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | < 1.50 | < 2.00 | < 5 | < 1.50 | < 2.00 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | < 1.30 | < 2.30 | < 5 | < 1.30 | < 2.30 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | < 1.00 | < 1.30 | < 5 | < 1.00 | < 1.30 | < 5 | < 0.5 | < 0.5 | < 2 U | < 2 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Methylene chloride | 75-09-2 | 11 | 5 | < 1.60 | < 6.40 | < 5 | < 1.60 | < 6.40 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U |
| Styrene | 100-42-5 | 120 | 100 | < 1.60 | NA | < 5 | < 1.60 | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | < 0.51 | < 1.90 | < 5 | < 0.51 | < 1.90 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Toluene | 108-88-3 | 110 | 1000 | **0.74** | < 1.70 | < 5 | < 0.70 | < 1.70 | < 5 | < 2.5 | < 0.5 | < 2 U | < 2 U | < 1 U | 1 U | < 1 U | < 1 U | **0.38 J** | < 1 U |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | NA | NA | < 5 | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | < 0.86 | < 1.60 | < 5 | < 0.86 | < 1.60 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Trichloroethene | 79-01-6 | 0.28 | 5 | < 0.87 | < 3.00 | < 5 | < 0.87 | < 3.00 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | < 1.60 | < 4.60 | < 5 | < 1.60 | < 4.60 | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | **3.3** | < 3.70 | **1 J** | < 1.00 | < 3.70 | < 5 | < 1 | < 1 | **3.9 J** | < 6 U | < 3 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |

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**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-03 HMW-3 (030890) 3/8/1990 | HMW-03 HMW-3 (031292) 3/12/1992 | HMW-03 HMW-3 (100695) 10/6/1995 | HMW-04 HMW-4 (030890) 3/8/1990 | HMW-04 HMW-4 (031292) 3/12/1992 | HMW-04 HMW-4 (100695) 10/6/1995 | HMW-04 HMW-4 (110598) 11/5/1998 | HMW-04 HMW-4 (050699) 5/6/1999 | HMW-04 AC0412(071299) 7/12/1999 | HMW-04 AC0414(071299)-DUP 7/12/1999 | HMW-04 AC0422(062400) 6/24/2000 | HMW-04 AC0432(071904) 7/19/2004 | HMW-04 AC0442(011505) 1/15/2005 | HMW-04 AC0452(071705) 7/17/2005 | HMW-04 AC0462(011406) 1/14/2006 | HMW-04 AC0472(072406) 7/24/2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | NA | NA | < 25 | NA | NA | < 25 | NA | NA | NA | NA | NA | NA | NA | < 21 U | < 20.2 U | < 20 U |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1.01 U | < 1 U |
| 2-Methylphenol | 95-48-7 | 93 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 2-Nitrophenol | 88-75-5 | -- | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | NA | NA | < 20 | NA | NA | < 20 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 4-Methylphenol | 106-44-5 | 190 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| 4-Nitrophenol | 100-02-7 | -- | -- | NA | NA | < 25 | NA | NA | < 25 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Acenaphthene | 83-32-9 | 53 | -- | < 3.80 | < 1.00 | < 10 | < 3.80 | < 1.00 | < 10 | < 0.302 | < 0.302 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Acenaphthylene | 208-96-8 | -- | -- | < 2.70 | < 1.00 | < 10 | < 2.70 | < 1.00 | < 10 | < 0.164 | < 0.164 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| alpha-Terpineol | 98-55-5 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Anthracene | 120-12-7 | 180 | -- | < 2.10 | < 1.00 | < 10 | < 2.10 | < 1.00 | < 10 | < 0.097 | < 0.097 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Atrazine | 1912-24-9 | 0.3 | 3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | < 1.80 | < 1.50 | < 10 | < 1.80 | < 1.50 | < 10 | < 0.0311 | < 0.0311 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Benzaldehyde | 100-52-7 | 19 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Benzenemethanol | 100-51-6 | 200 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | < 5.20 | < 2.00 | < 10 | < 5.20 | < 2.00 | < 10 | < 0.0311 | < 0.0311 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | < 3.80 | < 1.50 | < 10 | < 3.80 | < 1.50 | < 10 | < 0.0311 | < 0.0311 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | < 2.10 | < 2.50 | < 10 | < 2.10 | < 2.50 | < 10 | < 0.157 | < 0.157 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | < 4.70 | < 1.50 | < 10 | < 4.70 | < 1.50 | < 10 | < 0.0311 | < 0.0311 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Benzoic acid | 65-85-0 | 7500 | -- | NA | NA | < 50 | NA | NA | < 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Carbazole | 86-74-8 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Chrysene | 218-01-9 | 25 | -- | < 2.80 | < 1.50 | < 10 | < 2.80 | < 1.50 | < 10 | < 0.0311 | < 0.0311 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | < 1.80 | < 2.50 | < 10 | < 1.80 | < 2.50 | < 10 | < 0.031 | < 0.031 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Dibenzofuran | 132-64-9 | 0.79 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Diethyl phthalate | 84-66-2 | 1500 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Dimethyl phthalate | 131-11-3 | -- | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Diphenylamine | 122-39-4 | 130 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Fluoranthene | 206-44-0 | 80 | -- | < 3.20 | < 1.00 | < 10 | < 3.20 | < 1.00 | < 10 | < 0.123 | < 0.123 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Fluorene | 86-73-7 | 29 | -- | < 3.10 | < 100 | < 10 | < 3.10 | < 100 | < 10 | < 0.092 | < 0.092 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Hexachloroethane | 67-72-1 | 0.33 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | < 2.70 | < 2.50 | < 10 | < 2.70 | < 2.50 | < 10 | < 0.0311 | < 0.0311 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Isophorone | 78-59-1 | 78 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| m+p Methylphenol | 65794-96-9 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Naphthalene | 91-20-3 | 0.17 | -- | < 5.90 | < 1.00 | < 10 | < 5.90 | < 1.00 | < 10 | < 0.214 | < 0.214 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Nitrobenzene | 98-95-3 | 0.14 | -- | **77** | NA | < 10 | **78** | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | NA | NA | < 25 | NA | NA | < 25 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Phenanthrene | 85-01-8 | -- | -- | < 1.90 | < 1.00 | < 10 | < 1.90 | < 1.00 | < 10 | < 0.103 | < 0.103 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |
| Phenol | 108-95-2 | 580 | -- | **96** | NA | < 10 | **110** | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U | < 10 U |
| Pyrene | 129-00-0 | 12 | -- | < 2.00 | < 1.00 | < 10 | < 2.00 | < 1.00 | < 10 | < 0.107 | < 0.107 | < 10.3 U | < 10.4 U | < 0.97 U | NA | NA | < 1 U | < 1.01 U | < 1 U |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-03 HMW-3 (030890) 3/8/1990 | HMW-03 HMW-3 (031292) 3/12/1992 | HMW-03 HMW-3 (100695) 10/6/1995 | HMW-04 HMW-4 (030890) 3/8/1990 | HMW-04 HMW-4 (031292) 3/12/1992 | HMW-04 HMW-4 (100695) 10/6/1995 | HMW-04 HMW-4 (110598) 11/5/1998 | HMW-04 HMW-4 (050699) 5/6/1999 | HMW-04 AC0412(071299) 7/12/1999 | HMW-04 AC0414(071299)-DUP 7/12/1999 | HMW-04 AC0422(062400) 6/24/2000 | HMW-04 AC0432(071904) 7/19/2004 | HMW-04 AC0442(011505) 1/15/2005 | HMW-04 AC0452(071705) 7/17/2005 | HMW-04 AC0462(011406) 1/14/2006 | HMW-04 AC0472(072406) 7/24/2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Metals,Total (µg/L)*** | | -- | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | **2.4** | < 2.30 | **2.6** | **8.5** | **2.3** | **10** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Barium | 7440-39-3 | 380 | 2000 | **36.8** | **88.1** | **4.8** | **166** | **54.4** | **112** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Cadmium | 7440-43-9 | 0.92 | 5 | < 3.50 | < 4.40 | **10** | < 3.50 | < 4.40 | **10** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | -- | 100 | **12** | < 7.40 | **20** | **46.7** | < 7.40 | **11.8** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 15 | 15 | < 25 | < 63.80 | **3** | **28.6** | < 63.80 | **11.8** | NA | NA | NA | NA | NA | NA | NA | < 4 U | < 2 U | < 2 U |
| Mercury | 7439-97-6 | 0.063 | 2 | < 0.20 | < 0.18 | **0.078** | < 0.20 | < 0.18 | **0.06** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Selenium | 7782-49-2 | 10 | 50 | < 2.00 | < 2.00 | **5** | **5.2** | < 2.00 | **5** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Silver | 7440-22-4 | 9.4 | -- | < 5.70 | < 6.10 | **20** | < 5.70 | < 6.10 | **20** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-04 AC0482(012107) 1/21/2007 | HMW-04 AC0492(071207) 7/12/2007 | HMW-04 AC0402(012408) 1/24/2008 | HMW-05 HMW-5 (030890) 3/8/1990 | HMW-05 HMW-5 (031292) 3/12/1992 | HMW-05D HMW-5D (031292) 3/12/1992 | HMW-05 HMW-5 (100695) 10/6/1995 | HMW-06 HMW-6 (030890) 3/8/1990 | HMW-06 HMW-6 (031292) 3/12/1992 | HMW-06 HMW-6 (100695) 10/6/1995 | HMW-06 HMW-6 (110598) 11/5/1998 | HMW-06 HMW-6 (050699) 5/6/1999 | HMW-06 AC0612(071299) 7/12/1999 | HMW-06 AC0622(062400) 6/24/2000 | HMW-06 AC0624(062400)-DUP 6/24/2000 | HMW-06 AC0632(071904) 7/19/2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | < 1 U | NA | NA | < 1.30 | < 2.50 | < 2.50 | < 5 | < 1.30 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | < 1 U | NA | NA | < 1.50 | < 1.50 | < 1.50 | < 5 | < 1.50 | < 1.50 | < 5 | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | < 1 U | NA | NA | < 1.60 | < 2.80 | < 2.80 | < 5 | < 1.60 | < 2.80 | < 5 | NA | NA | NA | NA | NA | NA |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | < 1 U | NA | NA | < 0.85 | < 2.50 | < 2.50 | < 5 | < 0.85 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | < 1 U | NA | NA | < 1.20 | < 3.20 | < 3.20 | < 5 | < 1.20 | < 3.20 | < 5 | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | < 1 U | NA | NA | < 0.87 | < 2.50 | < 2.50 | < 5 | < 0.87 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | < 1 U | NA | NA | < 1.30 | < 2.40 | < 2.40 | NA | < 1.30 | **3.5** | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | < 1 U | NA | NA | < 0.97 | < 2.00 | < 2.00 | NA | < 0.97 | < 2.00 | NA | NA | NA | NA | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Butanone | 78-93-3 | 560 | -- | < 5 U | NA | NA | < 9.44 | NA | NA | < 10 | < 9.44 | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2-Hexanone | 591-78-6 | 3.8 | -- | < 5 U | NA | NA | < 3.10 | NA | NA | < 10 | < 3.10 | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | < 5 U | NA | NA | < 3.00 | NA | NA | < 10 | < 3.00 | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Acetone | 67-64-1 | 1400 | -- | < 5 U | NA | NA | < 17.00 | NA | NA | < 20 | < 17.00 | NA | **17 J** | NA | NA | NA | NA | NA | NA |
| Benzene | 71-43-2 | 0.46 | 5 | < 1 U | < 1 U | < 1 U | < 1.10 | < 1.00 | < 1.00 | < 5 | **44** | **120** | **100** | **82** | **53** | **84.2** | **56.8** | **57.8** | **31** |
| Bromochloromethane | 74-97-5 | 8.3 | -- | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | < 1 U | NA | NA | < 0.98 | < 2.20 | < 2.20 | < 5 | < 0.98 | < 2.20 | < 5 | NA | NA | NA | NA | NA | NA |
| Bromoform | 75-25-2 | 3.3 | 80 | < 1 U | NA | NA | < 2.50 | < 2.60 | < 2.60 | < 5 | < 2.50 | < 2.60 | < 5 | NA | NA | NA | NA | NA | NA |
| Bromomethane | 74-83-9 | 0.75 | -- | < 1 U | NA | NA | < 1.20 | < 3.50 | < 3.50 | < 5 | < 1.20 | < 3.50 | < 5 | NA | NA | NA | NA | NA | NA |
| Carbon disulfide | 75-15-0 | 81 | -- | < 5 U | NA | NA | < 3.10 | < 4.40 | < 4.40 | < 5 | < 3.10 | < 4.40 | < 5 | NA | NA | NA | NA | NA | NA |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | < 1 U | NA | NA | < 0.97 | < 2.60 | < 2.60 | < 5 | < 0.97 | < 2.60 | < 5 | NA | NA | NA | NA | NA | NA |
| CFC-11 | 75-69-4 | 520 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | < 1 U | NA | NA | < 0.65 | < 1.40 | < 1.40 | < 5 | < 0.65 | < 1.40 | < 5 | < 0.5 | < 0.5 | NA | NA | NA | NA |
| Chloroethane | 75-00-3 | 2100 | -- | < 1 U | NA | NA | < 1.80 | < 8.20 | < 8.20 | < 5 | < 1.80 | < 8.20 | < 5 | NA | NA | NA | NA | NA | NA |
| Chloroform | 67-66-3 | 0.22 | 80 | < 1 U | NA | NA | < 1.20 | < 2.50 | < 2.50 | < 5 | < 1.20 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA |
| Chloromethane | 74-87-3 | 19 | -- | < 1 U | NA | NA | < 24.00 | < 4.40 | < 4.40 | < 5 | < 24.00 | < 4.40 | < 5 | NA | NA | NA | NA | NA | NA |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | NA | NA | NA | NA | NA | NA | < 5 | NA | NA | < 5 | NA | NA | NA | NA | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | < 1 U | NA | NA | < 1.50 | < 2.00 | < 2.00 | < 5 | < 1.50 | < 2.00 | < 5 | NA | NA | NA | NA | NA | NA |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | < 1 U | NA | NA | < 1.30 | < 2.30 | < 2.30 | < 5 | < 1.30 | < 2.30 | < 5 | NA | NA | NA | NA | NA | NA |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | **0.276 J** | < 1 U | < 1 U | < 1.00 | < 1.30 | < 1.30 | < 5 | **120** | **82** | **37** | **26** | **11** | **22.4** | **7.7** | **7.8** | **5.9** |
| Methylene chloride | 75-09-2 | 11 | 5 | < 5 U | NA | NA | < 1.60 | < 6.40 | < 6.40 | < 5 | < 1.60 | < 6.40 | < 5 | NA | NA | NA | NA | NA | NA |
| Styrene | 100-42-5 | 120 | 100 | < 1 U | NA | NA | < 1.60 | NA | NA | < 5 | < 1.60 | NA | < 5 | NA | NA | NA | NA | NA | NA |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | < 1 U | NA | NA | < 0.51 | < 1.90 | < 1.90 | < 5 | < 0.51 | < 1.90 | < 5 | NA | NA | NA | NA | NA | NA |
| Toluene | 108-88-3 | 110 | 1000 | < 1 U | < 1 U | < 1 U | < 0.70 | < 1.70 | < 1.70 | < 5 | **1.7** | **1.8** | < 5 | **3.7** | **1.6** | **1.4 J** | **1.5** | **1.7** | 1.2 U |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | NA | NA | NA | NA | NA | NA | < 5 | NA | NA | < 5 | NA | NA | NA | NA | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | < 1 U | NA | NA | < 0.86 | < 1.60 | < 1.60 | < 5 | < 0.86 | < 1.60 | < 5 | NA | NA | NA | NA | NA | NA |
| Trichloroethene | 79-01-6 | 0.28 | 5 | < 1 U | NA | NA | < 0.87 | < 3.00 | < 3.00 | < 5 | < 0.87 | < 3.00 | < 5 | NA | NA | NA | NA | NA | NA |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | < 1 U | NA | NA | < 1.60 | < 4.60 | < 4.60 | < 5 | < 1.60 | **12** | **11** | NA | NA | NA | NA | NA | NA |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | **1.16** | < 1 U | < 1 U | < 1.00 | < 3.70 | < 3.70 | < 5 | **9.4** | < 3.70 | **2 J** | < 1 | **1.3** | **4.1 J** | **4.8** | **5.5** | **0.39 J** |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | MCL | Location ID / Sample ID / Sample Date | HMW-04 AC0482(012107) 1/21/2007 | HMW-04 AC0492(071207) 7/12/2007 | HMW-04 AC0402(012408) 1/24/2008 | HMW-05 HMW-5 (030890) 3/8/1990 | HMW-05 HMW-5 (031292) 3/12/1992 | HMW-05D HMW-5D (031292) 3/12/1992 | HMW-05 HMW-5 (100695) 10/6/1995 | HMW-06 HMW-6 (030890) 3/8/1990 | HMW-06 HMW-6 (031292) 3/12/1992 | HMW-06 HMW-6 (100695) 10/6/1995 | HMW-06 HMW-6 (110598) 11/5/1998 | HMW-06 HMW-6 (050699) 5/6/1999 | HMW-06 AC0612(071299) 7/12/1999 | HMW-06 AC0622(062400) 6/24/2000 | HMW-06 AC0624(062400)-DUP 6/24/2000 | HMW-06 AC0632(071904) 7/19/2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | | < 19.4 U | < 19.4 U | < 20 U | NA | NA | NA | < 25 | NA | NA | < 25 | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | | < 0.971 U | < 0.971 U | < 1 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | < 10.2 U | < 1 U | < 0.97 U | NA |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | | < 0.971 U | < 0.971 U | < 1 U | NA | NA | NA | < 10 | NA | NA | **9 J** | NA | NA | NA | NA | NA | NA |
| 2-Methylphenol | 95-48-7 | 93 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrophenol | 88-75-5 | -- | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 20 | NA | NA | < 20 | NA | NA | NA | NA | NA | NA |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 4-Methylphenol | 106-44-5 | 190 | -- | | NA | NA | NA | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrophenol | 100-02-7 | -- | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 25 | NA | NA | < 25 | NA | NA | NA | NA | NA | NA |
| Acenaphthene | 83-32-9 | 53 | -- | | < 0.971 U | < 0.971 U | < 1 U | < 3.80 | < 1.00 | < 1.00 | < 10 | < 3.80 | < 1.00 | < 10 | < 0.302 | < 0.302 | < 10.2 U | < 1 U | < 0.97 U | NA |
| Acenaphthylene | 208-96-8 | -- | -- | | < 0.971 U | < 0.971 U | < 1 U | < 2.70 | < 1.00 | < 1.00 | < 10 | < 2.70 | < 1.00 | < 10 | < 0.164 | < 0.164 | < 10.2 U | < 1 U | < 0.97 U | NA |
| alpha-Terpineol | 98-55-5 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Anthracene | 120-12-7 | 180 | -- | | < 0.971 U | < 0.971 U | < 1 U | < 2.10 | < 1.00 | < 1.00 | < 10 | < 2.10 | < 1.00 | < 10 | < 0.097 | < 0.097 | < 10.2 U | < 1 U | < 0.97 U | NA |
| Atrazine | 1912-24-9 | 0.3 | 3 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | | < 0.971 U | < 0.971 U | < 1 U | < 1.80 | < 1.50 | < 1.50 | < 10 | < 1.80 | < 1.50 | < 10 | **0.082** | **0.066** | < 10.2 U | < 1 U | < 0.97 U | NA |
| Benzaldehyde | 100-52-7 | 19 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | | < 0.971 U | < 0.971 U | < 1 U | < 5.20 | < 2.00 | < 2.00 | < 10 | < 5.20 | < 2.00 | < 10 | **0.089** | **0.31** | < 10.2 U | < 1 U | < 0.97 U | NA |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | | < 0.971 U | < 0.971 U | < 1 U | < 3.80 | < 1.50 | < 1.50 | < 10 | **7** | < 1.50 | < 10 | < 0.0311 | < 0.0311 | < 10.2 U | < 1 U | < 0.97 U | NA |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | | < 0.971 U | < 0.971 U | < 1 U | < 2.10 | < 2.50 | < 2.50 | < 10 | **2.3** | < 2.50 | < 10 | < 0.157 | < 0.157 | < 10.2 U | < 1 U | < 0.97 U | NA |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | | < 0.971 U | < 0.971 U | < 1 U | < 4.70 | < 1.50 | < 1.50 | < 10 | < 4.70 | < 1.50 | < 10 | < 0.0311 | **0.12** | < 10.2 U | < 1 U | < 0.97 U | NA |
| Benzoic acid | 65-85-0 | 7500 | -- | | < 19.4 U | < 19.4 U | < 20 U | NA | NA | NA | < 50 | NA | NA | < 50 | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | **3 J** | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Carbazole | 86-74-8 | -- | -- | | < 0.971 U | < 0.971 U | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chrysene | 218-01-9 | 25 | -- | | < 0.971 U | < 0.971 U | < 1 U | < 2.80 | < 1.50 | < 1.50 | < 10 | **5.3** | < 1.50 | < 10 | **0.19** | **0.13** | < 10.2 U | < 1 U | < 0.97 U | NA |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | | < 0.971 U | < 0.971 U | < 1 U | < 1.80 | < 2.50 | < 2.50 | < 10 | < 1.80 | < 2.50 | < 10 | < 0.031 | < 0.031 | < 10.2 U | < 1 U | < 0.97 U | NA |
| Dibenzofuran | 132-64-9 | 0.79 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Diethyl phthalate | 84-66-2 | 1500 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Dimethyl phthalate | 131-11-3 | -- | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Diphenylamine | 122-39-4 | 130 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluoranthene | 206-44-0 | 80 | -- | | < 0.971 U | < 0.971 U | < 1 U | < 3.20 | < 1.00 | < 1.00 | < 10 | **7.3** | < 1.00 | < 10 | **0.25** | **0.38** | < 10.2 U | **0.55 J** | **0.75 J** | NA |
| Fluorene | 86-73-7 | 29 | -- | | < 0.971 U | < 0.971 U | < 1 U | < 3.10 | < 100 | < 100 | < 10 | < 3.10 | < 100 | < 10 | < 0.092 | < 0.092 | < 10.2 U | < 1 U | < 0.97 U | NA |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Hexachloroethane | 67-72-1 | 0.33 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | | < 0.971 U | < 0.971 U | < 1 U | < 2.70 | < 2.50 | < 2.50 | < 10 | < 2.70 | < 2.50 | < 10 | **0.062** | < 0.0311 | < 10.2 U | < 1 U | < 0.97 U | NA |
| Isophorone | 78-59-1 | 78 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| m+p Methylphenol | 65794-96-9 | -- | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | 91-20-3 | 0.17 | -- | | < 0.971 U | < 0.971 U | < 1 U | < 5.90 | < 1.00 | < 1.00 | < 10 | **43** | **14** | **61** | < 0.214 | < 0.214 | **74.7** | **26.7** | **25.9** | NA |
| Nitrobenzene | 98-95-3 | 0.14 | -- | | < 9.71 U | < 9.71 U | < 10 U | **79** | NA | NA | < 10 | **85** | NA | < 10 | NA | NA | NA | NA | NA | NA |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | | NA | NA | NA | NA | NA | NA | < 10 | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | | < 9.71 U | < 9.71 U | < 10 U | NA | NA | NA | < 25 | NA | NA | < 25 | NA | NA | NA | NA | NA | NA |
| Phenanthrene | 85-01-8 | -- | -- | | < 0.971 U | < 0.971 U | < 1 U | < 1.90 | < 1.00 | < 1.00 | < 10 | **5.2** | < 1.00 | < 10 | **0.25** | **0.18** | < 10.2 U | **0.53 J** | **0.51 J** | NA |
| Phenol | 108-95-2 | 580 | -- | | < 9.71 U | < 9.71 U | < 10 U | **97** | NA | NA | < 10 | **100** | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Pyrene | 129-00-0 | 12 | -- | | < 0.971 U | < 0.971 U | < 1 U | < 2.00 | < 1.00 | < 1.00 | < 10 | **6.8** | < 1.00 | < 10 | **0.25** | **0.23** | < 10.2 U | < 1 U | **0.58 J** | NA |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-04 AC0482(012107) 1/21/2007 | HMW-04 AC0492(071207) 7/12/2007 | HMW-04 AC0402(012408) 1/24/2008 | HMW-05 HMW-5 (030890) 3/8/1990 | HMW-05 HMW-5 (031292) 3/12/1992 | HMW-05D HMW-5D (031292) 3/12/1992 | HMW-05 HMW-5 (100695) 10/6/1995 | HMW-06 HMW-6 (030890) 3/8/1990 | HMW-06 HMW-6 (031292) 3/12/1992 | HMW-06 HMW-6 (100695) 10/6/1995 | HMW-06 HMW-6 (110598) 11/5/1998 | HMW-06 HMW-6 (050699) 5/6/1999 | HMW-06 AC0612(071299) 7/12/1999 | HMW-06 AC0622(062400) 6/24/2000 | HMW-06 AC0624(062400)-DUP 6/24/2000 | HMW-06 AC0632(071904) 7/19/2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Metals,Total (µg/L)*** | | -- | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | NA | NA | NA | **8.9** | **2.7** | < 2.30 | **10** | **77.3** | **14.7** | **31** | NA | NA | NA | NA | NA | NA |
| Barium | 7440-39-3 | 380 | 2000 | NA | NA | NA | **104** | **56.6** | **56.5** | **30** | **864** | **57.2** | **45** | NA | NA | NA | NA | NA | NA |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | NA | < 3.50 | < 4.40 | < 4.40 | **10** | **3.96** | < 4.40 | **10** | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | NA | **46.8** | < 7.40 | < 7.40 | **20** | **239** | < 7.40 | **20** | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 15 | 15 | < 3 U | < 5 U | < 0.5 U | < 25.00 | < 63.80 | < 63.80 | **3** | **337** | < 63.80 | **2.6** | NA | NA | NA | NA | NA | NA |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | NA | < 0.20 | < 0.18 | < 0.18 | **0.057** | < 0.20 | < 0.18 | **0.058** | NA | NA | NA | NA | NA | NA |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | NA | **4.3** | < 2.00 | < 2.00 | **5** | **14.4** | **2.1** | **5** | NA | NA | NA | NA | NA | NA |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | NA | < 5.70 | < 6.10 | < 6.10 | **20** | < 5.70 | < 6.10 | **20** | NA | NA | NA | NA | NA | NA |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date MCL | HMW-06 AC0642(011505) 1/15/2005 | HMW-06 AC0652(071705) 7/17/2005 | HMW-06 AC0662(011406) 1/14/2006 | HMW-06 AC0672(072506) 7/25/2006 | HMW-06 AC0682(012007) 1/20/2007 | HMW-06 AC0692(071107) 7/11/2007 | HMW-06 AC0602(012408) 1/24/2008 | HMW-07 HMW-7 (031292) 3/12/1992 | HMW-08 HMW-8 (031292) 3/12/1992 | HMW-08 HMW-8 (100895) 10/8/1995 | HMW-08 HMW-8 (110598) 11/5/1998 | HMW-08 HMW-8 (050699) 5/6/1999 | HMW-08 AC0812(071299) 7/12/1999 | HMW-08 AC0822(062400) 6/24/2000 | HMW-08 AC0832(071904) 7/19/2004 | HMW-08 AC0842(011505) 1/15/2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 25.00 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 15.00 | < 1.50 | < 5 | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 28.00 | < 2.80 | < 5 | NA | NA | NA | NA | NA | NA |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 25.00 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 32.00 | < 3.20 | < 5 | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | NA | NA | NA | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 25.00 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | NA | < 1 U | < 1 U | NA | **0.711 J** | **1.45** | NA | < 24.00 | < 2.40 | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 20.00 | < 2.00 | NA | NA | NA | NA | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Butanone | 78-93-3 | 560 | -- | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2-Hexanone | 591-78-6 | 3.8 | -- | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Acetone | 67-64-1 | 1400 | -- | NA | **4.3 J** | < 5 U | < 5 U | **1.53 J** | **4.4 J** | NA | NA | NA | **6 J** | NA | NA | NA | NA | NA | NA |
| Benzene | 71-43-2 | 0.46 | 5 | **28.7** | **5.7** | **8.1** | **24.8** | **20.7** | **30.4** | **9.25** | **660** | **3.5** | **110** | **90** | **850 J** | < 2 U | **165** | < 1 U | < 1 U |
| Bromochloromethane | 74-97-5 | 8.3 | -- | NA | NA | NA | NA | < 1 U | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 22.00 | < 2.20 | < 5 | NA | NA | NA | NA | NA | NA |
| Bromoform | 75-25-2 | 3.3 | 80 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 26.00 | < 2.60 | < 5 | NA | NA | NA | NA | NA | NA |
| Bromomethane | 74-83-9 | 0.75 | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 35.00 | < 3.50 | < 5 | NA | NA | NA | NA | NA | NA |
| Carbon disulfide | 75-15-0 | 81 | -- | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | < 44.00 | < 4.40 | < 5 | NA | NA | NA | NA | NA | NA |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 26.00 | < 2.60 | < 5 | NA | NA | NA | NA | NA | NA |
| CFC-11 | 75-69-4 | 520 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 14.00 | < 1.40 | < 5 | < 0.5 | < 0.5 | NA | NA | NA | NA |
| Chloroethane | 75-00-3 | 2100 | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 82.00 | < 8.20 | < 5 | NA | NA | NA | NA | NA | NA |
| Chloroform | 67-66-3 | 0.22 | 80 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 25.00 | < 2.50 | < 5 | NA | NA | NA | NA | NA | NA |
| Chloromethane | 74-87-3 | 19 | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 44.00 | < 4.40 | < 5 | NA | NA | NA | NA | NA | NA |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA | < 5 | NA | NA | NA | NA | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 20.00 | < 2.00 | < 5 | NA | NA | NA | NA | NA | NA |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 23.00 | < 2.30 | < 5 | NA | NA | NA | NA | NA | NA |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | **6.1** | **5.6** | **5.3** | **5.76** | **0.761 J** | **5.37** | **1.58** | **130** | < 1.30 | **11** | **3.4** | **38** | < 2 U | **2.9** | < 1 U | < 1 U |
| Methylene chloride | 75-09-2 | 11 | 5 | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | < 64.00 | < 6.40 | < 5 | NA | NA | NA | NA | NA | NA |
| Styrene | 100-42-5 | 120 | 100 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | < 5 | NA | NA | NA | NA | NA | NA |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | NA | NA | NA | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 19.00 | < 1.90 | < 5 | NA | NA | NA | NA | NA | NA |
| Toluene | 108-88-3 | 110 | 1000 | **1.8** | **0.53 J** | **0.6 J** | **5.5** | < 1 U | **0.563 J** | < 1 U | < 17.00 | < 1.70 | < 5 | < 0.5 | **0.6** | < 2 U | < 1 U | 1 U | < 1 U |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA | < 5 | NA | NA | NA | NA | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 16.00 | < 1.60 | < 5 | NA | NA | NA | NA | NA | NA |
| Trichloroethene | 79-01-6 | 0.28 | 5 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 30.00 | < 3.00 | < 5 | NA | NA | NA | NA | NA | NA |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | NA | < 1 U | < 1 U | **1.46** | **0.976 J** | **1.21** | NA | < 46.00 | < 4.60 | < 5 | NA | NA | NA | NA | NA | NA |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | **3.4** | **1.1** | **0.48 J** | **12.1** | **0.577 J** | **0.827 J** | < 1 U | **820** | < 3.70 | **2 J** | < 1 | **4.6** | < 6 U | **0.53 J** | < 1 U | < 1 U |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-06 AC0642(011505) 1/15/2005 | HMW-06 AC0652(071705) 7/17/2005 | HMW-06 AC0662(011406) 1/14/2006 | HMW-06 AC0672(072506) 7/25/2006 | HMW-06 AC0682(012007) 1/20/2007 | HMW-06 AC0692(071107) 7/11/2007 | HMW-06 AC0602(012408) 1/24/2008 | HMW-07 HMW-7 (031292) 3/12/1992 | HMW-08 HMW-8 (031292) 3/12/1992 | HMW-08 HMW-8 (100895) 10/8/1995 | HMW-08 HMW-8 (110598) 11/5/1998 | HMW-08 HMW-8 (050699) 5/6/1999 | HMW-08 AC0812(071299) 7/12/1999 | HMW-08 AC0822(062400) 6/24/2000 | HMW-08 AC0832(071904) 7/19/2004 | HMW-08 AC0842(011505) 1/15/2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | **3 J** | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | NA | < 21 U | < 17.9 U | < 20.2 U | < 19 U | < 19.6 UJ | < 20 U | NA | NA | < 25 | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | NA | NA | < 10 | NA | NA | < 10 U | < 0.98 U | NA | NA |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | NA | **5.7** | **8.49** | **4.27** | **3.69** | < 0.98 UJ | **1.84** | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2-Methylphenol | 95-48-7 | 93 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrophenol | 88-75-5 | -- | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 20 | NA | NA | NA | NA | NA | NA |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 4-Methylphenol | 106-44-5 | 190 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrophenol | 100-02-7 | -- | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 25 | NA | NA | NA | NA | NA | NA |
| Acenaphthene | 83-32-9 | 53 | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 10.00 | < 1.00 | < 10 | < 0.302 | < 0.302 | < 10 U | < 0.98 U | NA | NA |
| Acenaphthylene | 208-96-8 | -- | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 10.00 | < 1.00 | < 10 | **1500** | < 0.164 | < 10 U | < 0.98 U | NA | NA |
| alpha-Terpineol | 98-55-5 | -- | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Anthracene | 120-12-7 | 180 | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 10.00 | < 1.00 | < 10 | < 0.097 | < 0.097 | < 10 U | < 0.98 U | NA | NA |
| Atrazine | 1912-24-9 | 0.3 | 3 | NA | < 10.5 U | < 8.93 U | < 10.1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 15.00 | < 1.50 | < 10 | **0.064** | < 0.0311 | < 10 U | < 0.98 U | NA | NA |
| Benzaldehyde | 100-52-7 | 19 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | NA | NA | NA | NA | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 20.00 | < 2.00 | < 10 | **0.064** | < 0.0311 | < 10 U | < 0.98 U | NA | NA |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 15.00 | < 1.50 | < 10 | < 0.0311 | **0.18** | < 10 U | < 0.98 U | NA | NA |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 25.00 | < 2.50 | < 10 | < 0.157 | < 0.157 | < 10 U | < 0.98 U | NA | NA |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 15.00 | < 1.50 | < 10 | < 0.0311 | < 0.0311 | < 10 U | < 0.98 U | NA | NA |
| Benzoic acid | 65-85-0 | 7500 | -- | NA | NA | NA | NA | < 19 U | < 19.6 UJ | < 20 U | NA | NA | < 50 | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | **3 J** | NA | NA | NA | NA | NA | NA |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Carbazole | 86-74-8 | -- | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 0.952 U | < 0.98 UJ | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chrysene | 218-01-9 | 25 | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 15.00 | < 1.50 | < 10 | **0.15** | < 0.0311 | < 10 U | < 0.98 U | NA | NA |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 25.00 | < 2.50 | < 10 | < 0.031 | < 0.031 | < 10 U | < 0.98 U | NA | NA |
| Dibenzofuran | 132-64-9 | 0.79 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Diethyl phthalate | 84-66-2 | 1500 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Dimethyl phthalate | 131-11-3 | -- | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Diphenylamine | 122-39-4 | 130 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluoranthene | 206-44-0 | 80 | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 10.00 | < 1.00 | < 10 | **0.2** | < 0.123 | < 10 U | < 0.98 U | NA | NA |
| Fluorene | 86-73-7 | 29 | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 10.00 | < 100 | < 10 | < 0.092 | < 0.092 | < 10 U | < 0.98 U | NA | NA |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Hexachloroethane | 67-72-1 | 0.33 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 25.00 | < 2.50 | < 10 | **0.049** | < 0.0311 | < 10 U | < 0.98 U | NA | NA |
| Isophorone | 78-59-1 | 78 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| m+p Methylphenol | 65794-96-9 | -- | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | 91-20-3 | 0.17 | -- | NA | **34.4** | **47.3** | **42.5** | **28.6** | < 0.98 UJ | **19.3** | **13** | < 1.00 | **3 J** | < 0.214 | **3.4 J** | < 10 U | **4** | NA | NA |
| Nitrobenzene | 98-95-3 | 0.14 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 25 | NA | NA | NA | NA | NA | NA |
| Phenanthrene | 85-01-8 | -- | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 10.00 | < 1.00 | < 10 | < 0.103 | < 0.103 | < 10 U | < 0.98 U | NA | NA |
| Phenol | 108-95-2 | 580 | -- | NA | < 10.5 U | < 8.93 U | < 10.1 U | < 9.52 U | < 9.8 UJ | < 10 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA |
| Pyrene | 129-00-0 | 12 | -- | NA | < 1 U | < 0.893 U | < 1.01 U | < 0.952 U | < 0.98 UJ | < 1 U | < 10.00 | < 1.00 | < 10 | < 0.107 | < 0.107 | < 10 U | < 0.98 U | NA | NA |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | HMW-06 | HMW-06 | HMW-06 | HMW-06 | HMW-06 | HMW-06 | HMW-06 | HMW-07 | HMW-08 | HMW-08 | HMW-08 | HMW-08 | HMW-08 | HMW-08 | HMW-08 | HMW-08 |
| | | | Sample ID | AC0642(011505) | AC0652(071705) | AC0662(011406) | AC0672(072506) | AC0682(012007) | AC0692(071107) | AC0602(012408) | HMW-7 (031292) | HMW-8 (031292) | HMW-8 (100895) | HMW-8 (110598) | HMW-8 (050699) | AC0812(071299) | AC0822(062400) | AC0832(071904) | AC0842(011505) |
| | | | Sample Date | 1/15/2005 | 7/17/2005 | 1/14/2006 | 7/25/2006 | 1/20/2007 | 7/11/2007 | 1/24/2008 | 3/12/1992 | 3/12/1992 | 10/8/1995 | 11/5/1998 | 5/6/1999 | 7/12/1999 | 6/24/2000 | 7/19/2004 | 1/15/2005 |
| ***Metals,Total (µg/L)*** | | **--** | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | NA | NA | NA | NA | NA | NA | NA | **11.3** | < 2.30 | **6** | NA | NA | NA | NA | NA | NA |
| Barium | 7440-39-3 | 380 | 2000 | NA | NA | NA | NA | NA | NA | NA | **147** | **65** | **93** | NA | NA | NA | NA | NA | NA |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | NA | NA | NA | NA | NA | < 4.40 | < 4.40 | **10** | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | NA | NA | NA | NA | NA | **18.6** | < 7.40 | **20** | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 15 | 15 | NA | < 4 U | < 2 U | < 2 U | < 3 U | < 5 U | **0.55 J** | < 63.80 | < 63.80 | **3** | NA | NA | NA | NA | NA | NA |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | NA | NA | NA | NA | NA | < 0.18 | < 0.18 | **0.055** | NA | NA | NA | NA | NA | NA |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | NA | NA | NA | NA | NA | **6.5** | < 2.00 | **5** | NA | NA | NA | NA | NA | NA |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | NA | NA | NA | NA | NA | < 6.10 | < 6.10 | **20** | NA | NA | NA | NA | NA | NA |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date MCL | HMW-08 AC0852(071705) 7/17/2005 | HMW-08 AC0862(011406) 1/14/2006 | HMW-08 AC0872(072406) 7/24/2006 | HMW-08 AC0882(012107) 1/21/2007 | HMW-08 AC0892(071207) 7/12/2007 | HMW-08 AC0802(012408) 1/24/2008 | HMW-09 HMW-9 (031292) 3/12/1992 | HMW-09 HMW-9 (100895) 10/8/1995 | HMW-09 HMW-9 (110598) 11/5/1998 | HMW-09 HMW-9 (050699) 5/6/1999 | HMW-09 AC0912(071299) 7/12/1999 | HMW-09 AC0922(062400) 6/24/2000 | HMW-09 AC0932(071904) 7/19/2004 | HMW-09 AC0942(011505) 1/15/2005 | HMW-09 AC0952(071705) 7/17/2005 | HMW-09 AC0962(011406) 1/14/2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 13.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 7.50 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 14.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 13.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 16.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | NA | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 13.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 12.00 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 10.00 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 2-Butanone | 78-93-3 | 560 | -- | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U |
| 2-Hexanone | 591-78-6 | 3.8 | -- | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U |
| Acetone | 67-64-1 | 1400 | -- | **3.4 J** | < 5 U | **2.66 J** | < 5 U | NA | NA | NA | < 20 | NA | NA | NA | NA | NA | NA | **3.1 J** | < 5 U |
| Benzene | 71-43-2 | 0.46 | 5 | < 1 U | < 1 U | **26** | < 1 U | **0.538 J** | < 1 U | **15** | **25** | **41** | **0.26** | < 2 U | **1.4** | < 1 U | < 1 U | < 1 U | **16.8** |
| Bromochloromethane | 74-97-5 | 8.3 | -- | NA | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 11.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| Bromoform | 75-25-2 | 3.3 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 13.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| Bromomethane | 74-83-9 | 0.75 | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 18.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| Carbon disulfide | 75-15-0 | 81 | -- | < 5 U | < 5 U | **3.28 J** | < 5 U | NA | NA | < 22.00 | < 5 | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 13.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| CFC-11 | 75-69-4 | 520 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 7.00 | < 5 | < 0.5 | < 0.5 | NA | NA | NA | NA | < 1 U | < 1 U |
| Chloroethane | 75-00-3 | 2100 | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 41.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| Chloroform | 67-66-3 | 0.22 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 13.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| Chloromethane | 74-87-3 | 19 | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 22.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | NA | < 1 U | NA | NA | NA | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 10.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | <12.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | < 1 U | < 1 U | **0.625 J** | < 1 U | < 1 U | < 1 U | **180** | **12** | **9.9** | < 0.5 | < 2 U | **0.71 J** | < 1 U | **0.42 J** | < 1 U | **4.7** |
| Methylene chloride | 75-09-2 | 11 | 5 | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | < 32.00 | < 5 | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U |
| Styrene | 100-42-5 | 120 | 100 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 9.50 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| Toluene | 108-88-3 | 110 | 1000 | < 1 U | **0.41 J** | **0.749 J** | < 1 U | < 1 U | < 1 U | < 8.50 | < 5 | **750** | < 0.5 | < 2 U | **0.29 J** | < 1 U | **0.98 J** | < 1 U | **0.5 J** |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | NA | < 1 U | NA | NA | NA | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 8.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| Trichloroethene | 79-01-6 | 0.28 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 15.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 23.00 | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | **0.35 J** | < 1 U | **0.828 J** | **0.295 J** | < 1 U | < 1 U | **950** | **310 JL** | **110** | < 1 | < 6 U | **2.6 J** | < 1 U | **1.6** | < 1 U | **2.2** |

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**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date MCL | HMW-08 AC0852(071705) 7/17/2005 | HMW-08 AC0862(011406) 1/14/2006 | HMW-08 AC0872(072406) 7/24/2006 | HMW-08 AC0882(012107) 1/21/2007 | HMW-08 AC0892(071207) 7/12/2007 | HMW-08 AC0802(012408) 1/24/2008 | HMW-09 HMW-9 (031292) 3/12/1992 | HMW-09 HMW-9 (100895) 10/8/1995 | HMW-09 HMW-9 (110598) 11/5/1998 | HMW-09 HMW-9 (050699) 5/6/1999 | HMW-09 AC0912(071299) 7/12/1999 | HMW-09 AC0922(062400) 6/24/2000 | HMW-09 AC0932(071904) 7/19/2004 | HMW-09 AC0942(011505) 1/15/2005 | HMW-09 AC0952(071705) 7/17/2005 | HMW-09 AC0962(011406) 1/14/2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | < 10.5 U | < 9.43 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | < 21 U | < 18.9 U | < 19.6 U | < 19.4 U | < 18.8 U | < 20.4 U | NA | < 50 | NA | NA | NA | NA | NA | NA | < 21 U | < 20.2 U |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | NA | < 20 | NA | NA | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | < 1 U | < 0.943 U | **0.315 J** | < 0.971 U | < 0.942 U | < 1.02 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 1 U | **4.92** |
| 2-Methylphenol | 95-48-7 | 93 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 2-Nitrophenol | 88-75-5 | -- | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 10 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 4-Methylphenol | 106-44-5 | 190 | -- | NA | NA | NA | NA | NA | NA | NA | < 20 | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| 4-Nitrophenol | 100-02-7 | -- | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 50 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Acenaphthene | 83-32-9 | 53 | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 1.00 | < 20 | < 0.302 | < 0.302 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| Acenaphthylene | 208-96-8 | -- | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 1.00 | < 20 | < 0.164 | < 0.164 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| alpha-Terpineol | 98-55-5 | -- | -- | < 10.5 U | < 9.43 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Anthracene | 120-12-7 | 180 | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 1.00 | < 20 | < 0.097 | < 0.097 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| Atrazine | 1912-24-9 | 0.3 | 3 | < 10.5 U | < 9.43 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 1.50 | < 20 | < 0.0311 | < 0.0311 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| Benzaldehyde | 100-52-7 | 19 | -- | < 10.5 U | < 9.43 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Benzenemethanol | 100-51-6 | 200 | -- | NA | NA | NA | < 9.71 U | < 9.42 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 2.00 | < 20 | **0.13** | < 0.0311 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 1.50 | < 20 | < 0.0311 | **0.26** | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 2.50 | < 20 | < 0.157 | < 0.157 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 1.50 | < 20 | < 0.0311 | < 0.0311 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| Benzoic acid | 65-85-0 | 7500 | -- | NA | NA | NA | < 19.4 U | < 18.8 U | < 20.4 U | NA | < 50 | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Carbazole | 86-74-8 | -- | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 0.971 U | < 0.942 U | < 1.02 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Chrysene | 218-01-9 | 25 | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 1.50 | < 20 | < 0.0311 | < 0.0311 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 2.50 | < 20 | < 0.031 | < 0.031 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| Dibenzofuran | 132-64-9 | 0.79 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Diethyl phthalate | 84-66-2 | 1500 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Dimethyl phthalate | 131-11-3 | -- | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Diphenylamine | 122-39-4 | 130 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Fluoranthene | 206-44-0 | 80 | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 1.00 | < 20 | < 0.123 | < 0.123 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| Fluorene | 86-73-7 | 29 | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 100 | < 20 | < 0.092 | < 0.092 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Hexachloroethane | 67-72-1 | 0.33 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 2.50 | < 20 | < 0.0311 | < 0.0311 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| Isophorone | 78-59-1 | 78 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| m+p Methylphenol | 65794-96-9 | -- | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Naphthalene | 91-20-3 | 0.17 | -- | < 1 U | < 0.943 U | **4.96** | < 0.971 U | < 0.942 U | < 1.02 U | **33** | < 20 | < 0.214 | < 0.214 | < 10.8 U | **3.9** | NA | NA | < 1 U | **33.6** |
| Nitrobenzene | 98-95-3 | 0.14 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | NA | NA | NA | NA | NA | NA | NA | < 20 | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 50 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Phenanthrene | 85-01-8 | -- | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 1.00 | < 20 | < 0.103 | < 0.103 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |
| Phenol | 108-95-2 | 580 | -- | < 10.5 U | < 9.43 U | < 9.8 U | < 9.71 U | < 9.42 U | < 10.2 U | NA | < 20 | NA | NA | NA | NA | NA | NA | < 10.5 U | < 10.1 U |
| Pyrene | 129-00-0 | 12 | -- | < 1 U | < 0.943 U | < 0.98 U | < 0.971 U | < 0.942 U | < 1.02 U | < 1.00 | < 20 | < 0.107 | < 0.107 | < 10.8 U | < 1 U | NA | NA | < 1 U | < 1.01 U |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | HMW-08 | HMW-08 | HMW-08 | HMW-08 | HMW-08 | HMW-08 | HMW-09 | HMW-09 | HMW-09 | HMW-09 | HMW-09 | HMW-09 | HMW-09 | HMW-09 | HMW-09 | HMW-09 |
| | | | Sample ID | AC0852(071705) | AC0862(011406) | AC0872(072406) | AC0882(012107) | AC0892(071207) | AC0802(012408) | HMW-9 (031292) | HMW-9 (100895) | HMW-9 (110598) | HMW-9 (050699) | AC0912(071299) | AC0922(062400) | AC0932(071904) | AC0942(011505) | AC0952(071705) | AC0962(011406) |
| | | | Sample Date | 7/17/2005 | 1/14/2006 | 7/24/2006 | 1/21/2007 | 7/12/2007 | 1/24/2008 | 3/12/1992 | 10/8/1995 | 11/5/1998 | 5/6/1999 | 7/12/1999 | 6/24/2000 | 7/19/2004 | 1/15/2005 | 7/17/2005 | 1/14/2006 |
| | | | MCL | | | | | | | | | | | | | | | | |
| ***Metals,Total (µg/L)*** | | **--** | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | NA | NA | NA | NA | NA | NA | **5.2** | **3.6** | NA | NA | NA | NA | NA | NA | NA | NA |
| Barium | 7440-39-3 | 380 | 2000 | NA | NA | NA | NA | NA | NA | **113** | **68** | NA | NA | NA | NA | NA | NA | NA | NA |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | NA | NA | NA | NA | < 4.40 | **10** | NA | NA | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | NA | NA | NA | NA | **9.1** | **20** | NA | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 15 | 15 | < 4 U | < 2 U | < 2 U | < 3 U | < 5 U | < 0.5 U | < 63.80 | **3** | NA | NA | NA | NA | NA | NA | < 4 U | **4.1 J** |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | NA | NA | NA | NA | < 0.18 | **0.056** | NA | NA | NA | NA | NA | NA | NA | NA |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | NA | NA | NA | NA | < 2.00 | **5** | NA | NA | NA | NA | NA | NA | NA | NA |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | NA | NA | NA | NA | < 6.10 | **20** | NA | NA | NA | NA | NA | NA | NA | NA |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | MCL | Location ID / Sample ID / Sample Date | HMW-09 AC0972(072406) 7/24/2006 | HMW-09 AC0982(012107) 1/21/2007 | HMW-09 AC0992(071207) 7/12/2007 | HMW-09 AC0902(012408) 1/24/2008 | HMW-10 HMW-10 (100995) 10/9/1995 | HMW-10 HMW-10 (110598) 11/5/1998 | HMW-10 HMW-9(012511) 5/6/1999 | HMW-10 AC1012(071299) 7/12/1999 | HMW-10 AC1022(062400) 6/24/2000 | HMW-10 AC1032(071904) 7/19/2004 | HMW-10 AC1042(011505) 1/15/2005 | HMW-10 AC1052(071605) 7/16/2005 | HMW-10 AC1062(011406) 1/14/2006 | HMW-10 AC1064(011406)-DUP 1/14/2006 | HMW-10 AC1072(072306) 7/23/2006 | HMW-10 AC1082(012107) 1/21/2007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | | NA | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | | < 1 U | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | **0.79 J** | < 1 U | < 1 U | 1.6 U | **0.647 J** |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | | < 1 U | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 2-Butanone | 78-93-3 | 560 | -- | | < 5 U | < 5 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 2-Hexanone | 591-78-6 | 3.8 | -- | | < 5 U | < 5 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | | < 5 U | < 5 U | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Acetone | 67-64-1 | 1400 | -- | | **4.24 J** | < 5 U | NA | NA | **7 J** | NA | NA | NA | NA | NA | NA | **4.1 J** | < 5 U | < 5 U | **5.41** | < 5 U |
| Benzene | 71-43-2 | 0.46 | 5 | | **242** | **53.2** | **27.1** | **1.52** | **410** | **670** | **640** | **104** | **368** | **8.6** | < 1 U | **51.7** | < 1 U | < 1 U | **167** | **64.1** |
| Bromochloromethane | 74-97-5 | 8.3 | -- | | NA | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromoform | 75-25-2 | 3.3 | 80 | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromomethane | 74-83-9 | 0.75 | -- | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Carbon disulfide | 75-15-0 | 81 | -- | | < 5 U | < 5 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 5 U | 1.6 J | < 5 U | < 5 U | < 5 U |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| CFC-11 | 75-69-4 | 520 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | | < 1 U | < 1 U | NA | NA | < 5 | < 2.5 | < 5 | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | **0.268 J** | < 1 U |
| Chloroethane | 75-00-3 | 2100 | -- | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloroform | 67-66-3 | 0.22 | 80 | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloromethane | 74-87-3 | 19 | -- | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | | NA | NA | NA | NA | **2 J** | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | | **7.23** | **3.98** | **5.03** | **0.374 J** | **59** | **130** | **98** | **1.7 J** | **18.4** | < 1 U | < 1 U | **1** | < 1 U | < 1 U | **3.88** | **1.29** |
| Methylene chloride | 75-09-2 | 11 | 5 | | < 5 U | < 5 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Styrene | 100-42-5 | 120 | 100 | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Toluene | 108-88-3 | 110 | 1000 | | **0.841 J** | < 1 U | < 1 U | < 1 U | **3 J** | < 2.5 | < 5 | **0.62 J** | **1.7 J** | < 1 U | < 1 U | < 1 U | **0.42 J** | **0.5 J** | **0.756 J** | < 1 U |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | | NA | NA | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Trichloroethene | 79-01-6 | 0.28 | 5 | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | | < 1 U | < 1 U | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | **1.2** | < 1 U | < 1 U | < 1 U | < 1 U |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | | **1.3** | **3** | < 1 U | < 1 U | **180** | **460** | **510** | **46.2** | **315** | < 1 U | < 1 U | **2.9** | < 1 U | < 1 U | **61.1** | **26.3** |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date MCL | HMW-09 AC0972(072406) 7/24/2006 | HMW-09 AC0982(012107) 1/21/2007 | HMW-09 AC0992(071207) 7/12/2007 | HMW-09 AC0902(012408) 1/24/2008 | HMW-10 HMW-10 (100995) 10/9/1995 | HMW-10 HMW-10 (110598) 11/5/1998 | HMW-10 HMW-9(012511) 5/6/1999 | HMW-10 AC1012(071299) 7/12/1999 | HMW-10 AC1022(062400) 6/24/2000 | HMW-10 AC1032(071904) 7/19/2004 | HMW-10 AC1042(011505) 1/15/2005 | HMW-10 AC1052(071605) 7/16/2005 | HMW-10 AC1062(011406) 1/14/2006 | HMW-10 AC1064(011406)-DUP 1/14/2006 | HMW-10 AC1072(072306) 7/23/2006 | HMW-10 AC1082(012107) 1/21/2007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | **1 J** | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | < 20 U | < 19.8 U | < 18.9 U | < 20.4 U | < 25 | NA | NA | NA | NA | NA | NA | < 19.8 U | < 20.2 U | < 20.2 U | < 20 U | < 19.4 U |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | NA | NA | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | **8.81** | **1.08** | **6.07** | < 1.02 U | < 10 | NA | NA | NA | NA | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | **0.326 J** | < 0.971 U |
| 2-Methylphenol | 95-48-7 | 93 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 2-Nitrophenol | 88-75-5 | -- | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 20 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 4-Methylphenol | 106-44-5 | 190 | -- | NA | NA | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| 4-Nitrophenol | 100-02-7 | -- | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 25 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Acenaphthene | 83-32-9 | 53 | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | **1.4** | < 0.302 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| Acenaphthylene | 208-96-8 | -- | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | **1.2** | < 0.164 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| alpha-Terpineol | 98-55-5 | -- | -- | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | NA |
| Anthracene | 120-12-7 | 180 | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | < 0.097 | < 0.097 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| Atrazine | 1912-24-9 | 0.3 | 3 | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | < 0.0311 | < 0.0311 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| Benzaldehyde | 100-52-7 | 19 | -- | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | NA | < 9.9 U | < 9.47 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 9.71 U |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | < 0.0311 | < 0.0311 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | < 0.0311 | < 0.0311 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | < 0.157 | < 0.157 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | < 0.0311 | < 0.0311 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| Benzoic acid | 65-85-0 | 7500 | -- | NA | < 19.8 U | < 18.9 U | < 20.4 U | < 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 19.4 U |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | < 10 U | < 9.9 U | 2.16 J | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Carbazole | 86-74-8 | -- | -- | < 10 U | < 0.99 U | < 0.947 U | < 1.02 U | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 0.971 U |
| Chrysene | 218-01-9 | 25 | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | < 0.0311 | < 0.0311 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | < 0.031 | < 0.031 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| Dibenzofuran | 132-64-9 | 0.79 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Diethyl phthalate | 84-66-2 | 1500 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Dimethyl phthalate | 131-11-3 | -- | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Diphenylamine | 122-39-4 | 130 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Fluoranthene | 206-44-0 | 80 | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | < 0.123 | < 0.123 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| Fluorene | 86-73-7 | 29 | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | < 0.092 | < 0.092 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Hexachloroethane | 67-72-1 | 0.33 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | < 0.0311 | < 0.0311 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| Isophorone | 78-59-1 | 78 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| m+p Methylphenol | 65794-96-9 | -- | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Naphthalene | 91-20-3 | 0.17 | -- | **42.2** | **18.9** | **48.5** | **2.02** | < 10 | < 0.214 | **2.3 J** | < 10.3 U | **3.6** | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | **3.49** | **3.26** |
| Nitrobenzene | 98-95-3 | 0.14 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | NA | NA | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | < 25 | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Phenanthrene | 85-01-8 | -- | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | < 0.103 | < 0.103 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |
| Phenol | 108-95-2 | 580 | -- | < 10 U | < 9.9 U | < 9.47 U | < 10.2 U | **8 J** | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10.1 U | < 10.1 U | < 10 U | < 9.71 U |
| Pyrene | 129-00-0 | 12 | -- | < 1 U | < 0.99 U | < 0.947 U | < 1.02 U | < 10 | < 0.107 | < 0.107 | < 10.3 U | < 0.97 U | NA | NA | < 0.99 U | < 1.01 U | < 1.01 U | < 1 U | < 0.971 U |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-09 AC0972(072406) 7/24/2006 | HMW-09 AC0982(012107) 1/21/2007 | HMW-09 AC0992(071207) 7/12/2007 | HMW-09 AC0902(012408) 1/24/2008 | HMW-10 HMW-10 (100995) 10/9/1995 | HMW-10 HMW-10 (110598) 11/5/1998 | HMW-10 HMW-9(012511) 5/6/1999 | HMW-10 AC1012(071299) 7/12/1999 | HMW-10 AC1022(062400) 6/24/2000 | HMW-10 AC1032(071904) 7/19/2004 | HMW-10 AC1042(011505) 1/15/2005 | HMW-10 AC1052(071605) 7/16/2005 | HMW-10 AC1062(011406) 1/14/2006 | HMW-10 AC1064(011406)-DUP 1/14/2006 | HMW-10 AC1072(072306) 7/23/2006 | HMW-10 AC1082(012107) 1/21/2007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Metals,Total (µg/L)*** | | -- | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | NA | NA | NA | NA | **8.7** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Barium | 7440-39-3 | 380 | 2000 | NA | NA | NA | NA | **79** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | NA | NA | **10** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | NA | NA | **20** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 15 | 15 | < 2 U | 3 U | < 5 U | < 0.5 U | **5.3** | NA | NA | NA | NA | NA | NA | < 4 U | < 2 U | < 2 U | < 2 U | < 3 U |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | NA | NA | **0.061** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | NA | NA | **5** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | NA | NA | **20** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-10 AC1092(071107) 7/11/2007 | HMW-10 AC1002(012308) 1/23/2008 | HMW-11 HMW-11 (100895) 10/8/1995 | HMW-11 HMW-11 (110598) 11/5/1998 | HMW-11 HMW-11 (050699) 5/6/1999 | HMW-11 AC1112(071299) 7/12/1999 | HMW-11 AC1122(062400) 6/24/2000 | HMW-11 AC1132(071904) 7/19/2004 | HMW-11 AC1142(011505) 1/15/2005 | HMW-11 AC1144(011505)-DUP 1/15/2005 | HMW-11 AC1152(071705) 7/17/2005 | HMW-11 AC1162(011406) 1/14/2006 | HMW-11 AC1172(072306) 7/23/2006 | HMW-11 AC1182(012007) 1/20/2007 | HMW-11 AC1184(012007)-DUP 1/20/2007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | < 10.9 UJ | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | < 10.9 UJ | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | **0.581 J** | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | **0.292 J** | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | < 10.9 UJ | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | < 10.9 UJ | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 2-Butanone | 78-93-3 | 560 | -- | < 5 U | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 2-Hexanone | 591-78-6 | 3.8 | -- | < 5 U | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | < 5 U | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Acetone | 67-64-1 | 1400 | -- | **3.58 J** | NA | < 20 | NA | NA | NA | NA | NA | NA | NA | **3.2 J** | < 5 U | **3.68 J** | **2.06 J** | < 5 U |
| Benzene | 71-43-2 | 0.46 | 5 | **73.6** | < 1 U | **34** | **80** | **130 J** | **39** | **167** | **4.7** | < 1 U | < 1 U | **17.9** | **17.5** | **1.27** | **8.3** | **8.8** |
| Bromochloromethane | 74-97-5 | 8.3 | -- | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromoform | 75-25-2 | 3.3 | 80 | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromomethane | 74-83-9 | 0.75 | -- | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Carbon disulfide | 75-15-0 | 81 | -- | < 5 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| CFC-11 | 75-69-4 | 520 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | < 1 U | NA | < 5 | < 2.5 | < 2.5 | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloroethane | 75-00-3 | 2100 | -- | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloroform | 67-66-3 | 0.22 | 80 | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloromethane | 74-87-3 | 19 | -- | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | NA | NA | **2 J** | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | NA | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | **1.53** | < 1 U | **22** | **20** | **13 J** | **5.7** | **9.5** | **1.2** | **0.28 J** | **0.37 J** | **15.9** | **14.6** | **0.392 J** | **0.627 J** | **0.55 J** |
| Methylene chloride | 75-09-2 | 11 | 5 | < 5 U | NA | < 5 | NA | NA | | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Styrene | 100-42-5 | 120 | 100 | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | **0.599 J** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Toluene | 108-88-3 | 110 | 1000 | **0.277 J** | < 1 U | < 5 | < 2.5 | < 2.5 | **0.7 J** | **4 J** | 1 U | < 1 U | **0.6 J** | **0.27 J** | **1.2** | **0.564 J** | < 1 U | < 1 U |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | NA | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | NA | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Trichloroethene | 79-01-6 | 0.28 | 5 | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | < 1 U | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | **25.1** | < 1 U | **810** | **790** | **340 J** | **378** | **333** | **2** | **1.3** | **1.8** | **216** | **160** | **1.98** | **5.1** | **4.55** |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | MCL | Location ID | HMW-10 | HMW-10 | HMW-11 | HMW-11 | HMW-11 | HMW-11 | HMW-11 | HMW-11 | HMW-11 | HMW-11 | HMW-11 | HMW-11 | HMW-11 | HMW-11 | HMW-11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample ID | AC1092(071107) | AC1002(012308) | HMW-11 (100895) | HMW-11 (110598) | HMW-11 (050699) | AC1112(071299) | AC1122(062400) | AC1132(071904) | AC1142(011505) | AC1144(011505)-DUP | AC1152(071705) | AC1162(011406) | AC1172(072306) | AC1182(012007) | AC1184(012007)-DUP |
| | | | | Sample Date | 7/11/2007 | 1/23/2008 | 10/8/1995 | 11/5/1998 | 5/6/1999 | 7/12/1999 | 6/24/2000 | 7/19/2004 | 1/15/2005 | 1/15/2005 | 7/17/2005 | 1/14/2006 | 7/23/2006 | 1/20/2007 | 1/20/2007 |
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | | < 21.7 UJ | < 20.4 U | < 25 | NA | NA | NA | NA | NA | NA | NA | < 20.5 U | < 20.2 U | < 20 U | < 19.8 U | < 20 U |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | | < 1.09 UJ | < 1.02 U | < 10 | NA | NA | < 10.2 U | < 0.97 U | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | | < 10.9 UJ | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | | < 1.09 UJ | < 1.02 U | **15** | NA | NA | NA | NA | NA | NA | NA | **10.3** | **12.4** | < 1 U | < 0.99 U | < 1 U |
| 2-Methylphenol | 95-48-7 | 93 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | | < 10.9 UJ | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 2-Nitrophenol | 88-75-5 | -- | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | | < 10.9 UJ | < 10.2 U | < 20 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | | < 10.9 UJ | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | | < 10.9 UJ | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | **11.1** | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 4-Methylphenol | 106-44-5 | 190 | -- | | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | | < 10.9 UJ | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| 4-Nitrophenol | 100-02-7 | -- | -- | | < 10.9 UJ | < 10.2 U | < 25 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Acenaphthene | 83-32-9 | 53 | -- | | < 1.09 UJ | < 1.02 U | < 10 | **6.9** | **3.7** | < 10.2 U | < 0.97 U | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| Acenaphthylene | 208-96-8 | -- | -- | | < 1.09 UJ | < 1.02 U | < 10 | < 0.164 | < 0.164 | < 10.2 U | < 0.97 U | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| alpha-Terpineol | 98-55-5 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | NA | NA |
| Anthracene | 120-12-7 | 180 | -- | | < 1.09 UJ | < 1.02 U | < 10 | **0.26** | < 0.097 | < 10.2 U | < 0.97 U | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| Atrazine | 1912-24-9 | 0.3 | 3 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | NA | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | | < 1.09 UJ | < 1.02 U | < 10 | < 0.0311 | < 0.0311 | < 10.2 U | < 0.97 U | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| Benzaldehyde | 100-52-7 | 19 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | NA | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | | < 10.9 UJ | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 9.9 U | < 10 U |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | | < 1.09 UJ | < 1.02 U | < 10 | **0.083** | < 0.0311 | < 10.2 U | < 0.97 U | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | | < 1.09 UJ | < 1.02 U | < 10 | < 0.0311 | < 0.0311 | < 10.2 U | < 0.97 U | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | | < 1.09 UJ | < 1.02 U | < 10 | < 0.157 | < 0.157 | < 10.2 U | < 0.97 U | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | | < 1.09 UJ | < 1.02 U | < 10 | < 0.0311 | < 0.0311 | < 10.2 U | < 0.97 U | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| Benzoic acid | 65-85-0 | 7500 | -- | | < 21.7 UJ | < 20.4 U | < 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 19.8 U | < 20 U |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | | < 10.9 UJ | < 10.2 UJ | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | | 4.54 J | 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | **3.77 J** | **4.5 J** |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Carbazole | 86-74-8 | -- | -- | | < 1.09 UJ | < 1.02 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 0.99 U | < 1 U |
| Chrysene | 218-01-9 | 25 | -- | | < 1.09 UJ | < 1.02 U | < 10 | **0.46** | **0.45** | < 10.2 U | < 0.97 U | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | | < 1.09 UJ | < 1.02 U | < 10 | < 0.031 | < 0.031 | < 10.2 U | < 0.97 U | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| Dibenzofuran | 132-64-9 | 0.79 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Diethyl phthalate | 84-66-2 | 1500 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Dimethyl phthalate | 131-11-3 | -- | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Diphenylamine | 122-39-4 | 130 | -- | | < 10.9 UJ | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Fluoranthene | 206-44-0 | 80 | -- | | < 1.09 UJ | < 1.02 U | < 10 | **2.4** | < 0.123 | < 10.2 U | **0.57 J** | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| Fluorene | 86-73-7 | 29 | -- | | < 1.09 UJ | < 1.02 U | < 10 | **1.7** | **2.5** | **0.82 J** | **1.8** | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Hexachloroethane | 67-72-1 | 0.33 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | | < 1.09 UJ | < 1.02 U | < 10 | < 0.0311 | < 0.0311 | < 10.2 U | < 0.97 U | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| Isophorone | 78-59-1 | 78 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| m+p Methylphenol | 65794-96-9 | -- | -- | | < 10.9 UJ | < 10.2 U | NA | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Naphthalene | 91-20-3 | 0.17 | -- | | < 1.09 UJ | < 1.02 U | **42** | < 0.214 | < 0.214 | **34.8** | **61.7** | NA | NA | NA | **38.6** | **47.5** | < 1 U | **5.57** | **7.73** |
| Nitrobenzene | 98-95-3 | 0.14 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | | NA | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | | < 10.9 UJ | < 10.2 U | < 25 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Phenanthrene | 85-01-8 | -- | -- | | < 1.09 UJ | < 1.02 U | < 10 | **2.8** | **1.6 J** | < 10.2 U | **1.4** | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |
| Phenol | 108-95-2 | 580 | -- | | < 10.9 UJ | < 10.2 U | < 10 | NA | NA | NA | NA | NA | NA | NA | < 10.2 U | < 10.1 U | < 10 U | < 9.9 U | < 10 U |
| Pyrene | 129-00-0 | 12 | -- | | < 1.09 UJ | < 1.02 U | < 10 | < 0.107 | < 0.107 | < 10.2 U | **0.76 J** | NA | NA | NA | < 1 U | < 1.01 U | < 1 U | < 0.99 U | < 1 U |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-10 AC1092(071107) 7/11/2007 | HMW-10 AC1002(012308) 1/23/2008 | HMW-11 HMW-11 (100895) 10/8/1995 | HMW-11 HMW-11 (110598) 11/5/1998 | HMW-11 HMW-11 (050699) 5/6/1999 | HMW-11 AC1112(071299) 7/12/1999 | HMW-11 AC1122(062400) 6/24/2000 | HMW-11 AC1132(071904) 7/19/2004 | HMW-11 AC1142(011505) 1/15/2005 | HMW-11 AC1144(011505)-DUP 1/15/2005 | HMW-11 AC1152(071705) 7/17/2005 | HMW-11 AC1162(011406) 1/14/2006 | HMW-11 AC1172(072306) 7/23/2006 | HMW-11 AC1182(012007) 1/20/2007 | HMW-11 AC1184(012007)-DUP 1/20/2007 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Metals,Total (µg/L)*** | | -- | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | NA | NA | **6.8** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Barium | 7440-39-3 | 380 | 2000 | NA | NA | **47** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | **10** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | **20** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 15 | 15 | < 5 U | **0.63 J** | **3.8** | NA | NA | NA | NA | NA | NA | NA | < 4 U | < 2 U | < 2 U | < 3 U | < 3 U |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | **0.053** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | **5** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | **20** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-11 AC1192(071207) 7/12/2007 | HMW-11 AC1102(012408) 1/24/2008 | HMW-11 AC1104(012408)-DUP 1/24/2008 | HMW-12 HMW-12 (100895) 10/8/1995 | HMW-12 HMW-12-W_1/19/2000 1/19/2000 | HMW-13 HMW-13 (100995) 10/9/1995 | HMW-13 HMW-13 (110598) 11/5/1998 | HMW-13 HMW-13 (050699) 5/6/1999 | HMW-13 AC1312(071299) 7/12/1999 | HMW-13 AC1314(071299)-DUP 7/12/1999 | HMW-13 AC1322(062400) 6/24/2000 | HMW-13 AC1324(062400)-DUP 6/24/2000 | HMW-13 AC1332(071904) 7/19/2004 | HMW-13 AC1334(071904)-DUP 7/19/2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | NA | NA | NA | < 5 | < 5 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | NA | NA | NA | < 5 | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | NA | NA | NA | < 5 | < 5 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | NA | NA | NA | < 5 | < 5 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | NA | NA | NA | < 5 | < 5 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | < 10.3 U | < 10.2 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | < 10.3 U | < 10.2 U | < 9.8 U | NA | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | NA | NA | NA | < 5 | < 5 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | < 10.3 U | < 10.2 U | < 9.8 U | NA | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | < 10.3 U | < 10.2 U | < 9.8 U | NA | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Butanone | 78-93-3 | 560 | -- | NA | NA | NA | < 10 | < 25 U | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Hexanone | 591-78-6 | 3.8 | -- | NA | NA | NA | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | NA | NA | NA | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Acetone | 67-64-1 | 1400 | -- | NA | NA | NA | < 20 | < 20 U | **21** | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzene | 71-43-2 | 0.46 | 5 | < 1 U | < 1 U | **0.832 J** | < 5 | < 5 U | **1200** | **650** | **480** | **322** | **271** | **306** | **299** | **91.3** | **89.4** |
| Bromochloromethane | 74-97-5 | 8.3 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | NA | NA | NA | < 5 | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Bromoform | 75-25-2 | 3.3 | 80 | NA | NA | NA | < 5 | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Bromomethane | 74-83-9 | 0.75 | -- | NA | NA | NA | < 5 | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Carbon disulfide | 75-15-0 | 81 | -- | NA | NA | NA | < 5 | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | NA | NA | NA | < 5 | < 5 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| CFC-11 | 75-69-4 | 520 | -- | NA | NA | NA | NA | < 5 U | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | NA | NA | NA | < 5 | < 5 U | < 5 | < 2.5 | < 2.5 | NA | NA | NA | NA | NA | NA |
| Chloroethane | 75-00-3 | 2100 | -- | NA | NA | NA | < 5 | < 10 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Chloroform | 67-66-3 | 0.22 | 80 | NA | NA | NA | < 5 | < 5 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Chloromethane | 74-87-3 | 19 | -- | NA | NA | NA | < 5 | < 3 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | NA | NA | NA | < 5 | < 5 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | NA | NA | NA | < 5 | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | NA | NA | NA | < 5 | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | < 1 U | < 1 U | < 1 U | < 5 | < 5 U | **630** | **250** | **160** | **86.4** | **86.6** | **115** | **111** | **46** | **45.4** |
| Methylene chloride | 75-09-2 | 11 | 5 | NA | NA | NA | < 5 | < 5 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Styrene | 100-42-5 | 120 | 100 | NA | NA | NA | < 5 | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | NA | NA | NA | < 5 | < 5 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Toluene | 108-88-3 | 110 | 1000 | < 1 U | < 1 U | < 1 U | < 5 | < 5 U | **5** | < 2.5 | < 5 | **1.2 J** | **1.3 J** | < 5 U | < 5 U | 1 U | 1 U |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | NA | NA | NA | < 5 | < 5 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | NA | NA | NA | < 5 | NA | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Trichloroethene | 79-01-6 | 0.28 | 5 | NA | NA | NA | < 5 | < 5 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | NA | NA | NA | < 5 | < 2 U | < 5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | < 1 U | < 1 U | < 1 U | < 5 | < 5 U | **520** | **920** | **310** | **276** | **182** | **366** | **356** | **169** | **166** |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | MCL | Location ID / Sample ID / Sample Date | HMW-11 AC1192(071207) 7/12/2007 | HMW-11 AC1102(012408) 1/24/2008 | HMW-11 AC1104(012408)-DUP 1/24/2008 | HMW-12 HMW-12 (100895) 10/8/1995 | HMW-12 HMW-12-W_1/19/2000 1/19/2000 | HMW-13 HMW-13 (100995) 10/9/1995 | HMW-13 HMW-13 (110598) 11/5/1998 | HMW-13 HMW-13 (050699) 5/6/1999 | HMW-13 AC1312(071299) 7/12/1999 | HMW-13 AC1314(071299)-DUP 7/12/1999 | HMW-13 AC1322(062400) 6/24/2000 | HMW-13 AC1324(062400)-DUP 6/24/2000 | HMW-13 AC1332(071904) 7/19/2004 | HMW-13 AC1334(071904)-DUP 7/19/2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | < 10 U | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | < 10 U | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | < 10 U | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | | < 20.7 U | < 20.4 U | < 19.6 U | < 25 | NA | < 25 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | NA | < 10 | NA | NA | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | NA | **55** | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylphenol | 95-48-7 | 93 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrophenol | 88-75-5 | -- | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 20 | NA | < 20 | NA | NA | NA | NA | NA | NA | NA | NA |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | | < 10.3 U | < 10.2 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | < 10 U | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Methylphenol | 106-44-5 | 190 | -- | | NA | NA | NA | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrophenol | 100-02-7 | -- | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 25 | NA | < 25 | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthene | 83-32-9 | 53 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | < 0.302 | < 0.302 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| Acenaphthylene | 208-96-8 | -- | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | < 0.164 | < 0.164 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| alpha-Terpineol | 98-55-5 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Anthracene | 120-12-7 | 180 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | < 0.097 | < 0.097 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| Atrazine | 1912-24-9 | 0.3 | 3 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | **0.16** | < 0.0311 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| Benzaldehyde | 100-52-7 | 19 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | < 0.0311 | < 0.0311 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | < 0.0311 | < 0.0311 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | **0.19** | < 0.157 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | < 0.0311 | < 0.0311 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| Benzoic acid | 65-85-0 | 7500 | -- | | < 20.7 U | < 20.4 U | < 19.6 U | < 50 | NA | < 50 | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | | **10.3 J** | < 10.2 U | < 9.8 U | < 10 | < 10 U | **3 J** | NA | NA | NA | NA | NA | NA | NA | NA |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Carbazole | 86-74-8 | -- | -- | | < 1.03 U | < 1.02 U | < 0.98 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chrysene | 218-01-9 | 25 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | < 0.0311 | < 0.0311 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | < 0.031 | < 0.031 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| Dibenzofuran | 132-64-9 | 0.79 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Diethyl phthalate | 84-66-2 | 1500 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | < 10 U | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Dimethyl phthalate | 131-11-3 | -- | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | < 10 U | **1 J** | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Diphenylamine | 122-39-4 | 130 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluoranthene | 206-44-0 | 80 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | < 0.123 | < 0.123 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| Fluorene | 86-73-7 | 29 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | < 0.092 | < 0.092 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachloroethane | 67-72-1 | 0.33 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | < 0.0311 | < 0.0311 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| Isophorone | 78-59-1 | 78 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| m+p Methylphenol | 65794-96-9 | -- | -- | | < 10.3 U | < 10.2 U | < 9.8 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | 91-20-3 | 0.17 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | **190** | < 0.214 | < 0.214 | **121** | **131** | **212** | **207** | NA | NA |
| Nitrobenzene | 98-95-3 | 0.14 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | | NA | NA | NA | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | | < 10.3 U | < 10.2 U | < 9.8 U | < 25 | NA | < 25 | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenanthrene | 85-01-8 | -- | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | **1.9** | < 0.103 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |
| Phenol | 108-95-2 | 580 | -- | | < 10.3 U | < 10.2 U | < 9.8 U | < 10 | NA | < 10 | NA | NA | NA | NA | NA | NA | NA | NA |
| Pyrene | 129-00-0 | 12 | -- | | < 1.03 U | < 1.02 U | < 0.98 U | < 10 | < 10 U | < 10 | < 0.107 | < 0.107 | < 10 U | < 10.2 U | < 10 U | < 10 U | NA | NA |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | HMW-11 | HMW-11 | HMW-11 | HMW-12 | HMW-12 | HMW-13 | HMW-13 | HMW-13 | HMW-13 | HMW-13 | HMW-13 | HMW-13 | HMW-13 | HMW-13 | HMW-13 |
| | | | Sample ID | AC1192(071207) | AC1102(012408) | AC1104(012408)-DUP | HMW-12 (100895) | HMW-12-W_1/19/2000 | HMW-13 (100995) | HMW-13 (110598) | HMW-13 (050699) | AC1312(071299) | AC1314(071299)-DUP | AC1322(062400) | AC1324(062400)-DUP | AC1332(071904) | AC1334(071904)-DUP | |
| | | | Sample Date | 7/12/2007 | 1/24/2008 | 1/24/2008 | 10/8/1995 | 1/19/2000 | 10/9/1995 | 11/5/1998 | 5/6/1999 | 7/12/1999 | 7/12/1999 | 6/24/2000 | 6/24/2000 | 7/19/2004 | 7/19/2004 | |
| ***Metals,Total (µg/L)*** | | -- | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | NA | NA | NA | **13** | < 10 U | **30** | NA | NA | NA | NA | NA | NA | NA | NA | |
| Barium | 7440-39-3 | 380 | 2000 | NA | NA | NA | **58** | 26 J | **131** | NA | NA | NA | NA | NA | NA | NA | NA | |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | NA | **10** | NA | **10** | NA | NA | NA | NA | NA | NA | NA | NA | |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | NA | **14.5** | NA | **46** | NA | NA | NA | NA | NA | NA | NA | NA | |
| Lead | 7439-92-1 | 15 | 15 | < 5 U | **0.53 J** | **0.54 J** | **4.8** | < 3 U | **18.8** | NA | NA | NA | NA | NA | NA | NA | NA | |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | NA | **0.099** | NA | **0.176** | NA | NA | NA | NA | NA | NA | NA | NA | |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | NA | **3.6** | NA | **4** | NA | NA | NA | NA | NA | NA | NA | NA | |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | NA | **20** | NA | **20** | NA | NA | NA | NA | NA | NA | NA | NA | |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-13 AC1342(011505) 1/15/2005 | HMW-13 AC1352(071605) 7/16/2005 | HMW-13 AC1362(011406) 1/14/2006 | HMW-13 AC1372(072406) 7/24/2006 | HMW-13 AC1374(072406)-DUP 7/24/2006 | HMW-13 AC1382(012107) 1/21/2007 | HMW-13 AC1392(071207) 7/12/2007 | HMW-13 AC1302(012508) 1/25/2008 | HMW-14R AS1412(072004) 7/20/2004 | HMW-14R AS1422(011605) 1/16/2005 | HMW-14R AS1432(071605) 7/16/2005 | HMW-14R AS1442(011606) 1/16/2006 | HMW-14R AS1452(072506) 7/25/2006 | HMW-14R AS1462(012007) 1/20/2007 | HMW-14R AS1472(071307) 7/13/2007 | HMW-14R AS1482(012508) 1/25/2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | NA | NA | NA | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | **1390 J** | **696** | **276** | **533** | **703** | **130** | **439** | **710 J** |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | NA | **2** | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Butanone | 78-93-3 | 560 | -- | NA | **13 J** | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | < 125 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 2-Hexanone | 591-78-6 | 3.8 | -- | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | < 125 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | NA | **2.2 J** | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | < 125 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Acetone | 67-64-1 | 1400 | -- | NA | **102 J** | **6.4** | **6.76** | **6.35** | **4.5 J** | NA | NA | < 125 U | < 5 U | 4.9 J | < 5 U | < 5 U | < 5 U | **1.33 J** | < 5 U |
| Benzene | 71-43-2 | 0.46 | 5 | **116** | **219** | **78.3** | **105** | **111** | **15.1** | **82.1** | **18.7** | < 25 U | < 1 U | < 1 U | **0.399 J** | **0.443 J** | < 1 U | **0.316 J** | **0.306 J** |
| Bromochloromethane | 74-97-5 | 8.3 | -- | NA | NA | NA | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromoform | 75-25-2 | 3.3 | 80 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromomethane | 74-83-9 | 0.75 | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Carbon disulfide | 75-15-0 | 81 | -- | NA | < 5 U | < 5 U | < 5 U | **5.76** | < 5 U | NA | NA | < 125 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| CFC-11 | 75-69-4 | 520 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloroethane | 75-00-3 | 2100 | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloroform | 67-66-3 | 0.22 | 80 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloromethane | 74-87-3 | 19 | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | **52.7** | **120** | **50.2** | **39.9** | **41.4** | **14.6** | **37.2** | **17.9** | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Methylene chloride | 75-09-2 | 11 | 5 | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | < 125 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Styrene | 100-42-5 | 120 | 100 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Toluene | 108-88-3 | 110 | 1000 | **0.75 J** | **0.44 J** | **0.94 J** | **1.05** | **1.18** | < 1 U | **0.356 J** | **0.283 J** | 31.9 U | < 1 U | 1 U | **0.858 J** | **0.43 J** | < 1 U | < 1 U | < 1 U |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Trichloroethene | 79-01-6 | 0.28 | 5 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | **1.3** | **0.55 J** | **1.33** | **0.807 J** | < 1 U | **0.799 J** | **1.92** |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | < 25 U | **1.3** | **0.96 J** | **1.06** | **1.76** | **0.538 J** | < 1 U | < 1 U |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | **154** | **339** | **119** | **134** | **140** | **1.76** | **47.3** | **13** | **29.4** | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-13 AC1342(011505) 1/15/2005 | HMW-13 AC1352(071605) 7/16/2005 | HMW-13 AC1362(011406) 1/14/2006 | HMW-13 AC1372(072406) 7/24/2006 | HMW-13 AC1374(072406)-DUP 7/24/2006 | HMW-13 AC1382(012107) 1/21/2007 | HMW-13 AC1392(071207) 7/12/2007 | HMW-13 AC1302(012508) 1/25/2008 | HMW-14R AS1412(072004) 7/20/2004 | HMW-14R AS1422(011605) 1/16/2005 | HMW-14R AS1432(071605) 7/16/2005 | HMW-14R AS1442(011606) 1/16/2006 | HMW-14R AS1452(072506) 7/25/2006 | HMW-14R AS1462(012007) 1/20/2007 | HMW-14R AS1472(071307) 7/13/2007 | HMW-14R AS1482(012508) 1/25/2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | NA | < 19.8 U | < 19.2 U | < 80 U | < 80 U | < 19.6 U | < 80 U | < 20.6 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | NA | **48.4** | **42.8** | **51** | **47.1** | **31.9** | **67.6** | **29.9** | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylphenol | 95-48-7 | 93 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrophenol | 88-75-5 | -- | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Methylphenol | 106-44-5 | 190 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrophenol | 100-02-7 | -- | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthene | 83-32-9 | 53 | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthylene | 208-96-8 | -- | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| alpha-Terpineol | 98-55-5 | -- | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Anthracene | 120-12-7 | 180 | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Atrazine | 1912-24-9 | 0.3 | 3 | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzaldehyde | 100-52-7 | 19 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | NA | NA | NA | NA | NA | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzoic acid | 65-85-0 | 7500 | -- | NA | NA | NA | NA | NA | < 19.6 U | < 80 U | < 20.6 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Carbazole | 86-74-8 | -- | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Chrysene | 218-01-9 | 25 | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Dibenzofuran | 132-64-9 | 0.79 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Diethyl phthalate | 84-66-2 | 1500 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Dimethyl phthalate | 131-11-3 | -- | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Diphenylamine | 122-39-4 | 130 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluoranthene | 206-44-0 | 80 | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluorene | 86-73-7 | 29 | -- | NA | **0.44 J** | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachloroethane | 67-72-1 | 0.33 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Isophorone | 78-59-1 | 78 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| m+p Methylphenol | 65794-96-9 | -- | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | 91-20-3 | 0.17 | -- | NA | **105 J** | **133** | **131** | **123** | **112** | **200** | **92.7** | NA | NA | NA | NA | NA | NA | NA | NA |
| Nitrobenzene | 98-95-3 | 0.14 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenanthrene | 85-01-8 | -- | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenol | 108-95-2 | 580 | -- | NA | < 9.9 U | < 9.62 U | < 40 U | < 40 U | < 9.8 U | < 40 U | < 10.3 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Pyrene | 129-00-0 | 12 | -- | NA | < 0.99 U | < 0.962 U | < 4 U | < 4 U | < 0.98 U | < 4 U | < 1.03 U | NA | NA | NA | NA | NA | NA | NA | NA |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-13 AC1342(011505) 1/15/2005 | HMW-13 AC1352(071605) 7/16/2005 | HMW-13 AC1362(011406) 1/14/2006 | HMW-13 AC1372(072406) 7/24/2006 | HMW-13 AC1374(072406)-DUP 7/24/2006 | HMW-13 AC1382(012107) 1/21/2007 | HMW-13 AC1392(071207) 7/12/2007 | HMW-13 AC1302(012508) 1/25/2008 | HMW-14R AS1412(072004) 7/20/2004 | HMW-14R AS1422(011605) 1/16/2005 | HMW-14R AS1432(071605) 7/16/2005 | HMW-14R AS1442(011606) 1/16/2006 | HMW-14R AS1452(072506) 7/25/2006 | HMW-14R AS1462(012007) 1/20/2007 | HMW-14R AS1472(071307) 7/13/2007 | HMW-14R AS1482(012508) 1/25/2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Metals,Total (µg/L)*** | | -- | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Barium | 7440-39-3 | 380 | 2000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 15 | 15 | NA | < 4 U | < 2 U | < 2 U | < 2 U | 3 U | < 5 U | < 0.5 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | MCL | Location ID / Sample ID / Sample Date | HMW-17 DUP_W_1/19/2000 1/19/2000 | HMW-17 HMW-17_1/19/2000 1/19/2000 | HMW-18 HMW-18-W_1/20/2000 1/20/2000 | HMW-19 HMW-19-W_1/20/2000 1/20/2000 | HMW-20 HMW-20_1/20/2000 1/20/2000 | HMW-21 AS2112(072004) 7/20/2004 | HMW-21 AS2122(011605) 1/16/2005 | HMW-21 AS2132(071705) 7/17/2005 | HMW-21 AS2142(011506) 1/15/2006 | HMW-21 AS2152(072506) 7/25/2006 | HMW-21 AS2162(012007) 1/20/2007 | HMW-21 AS2172(071407) 7/14/2007 | HMW-21 AS2182(012508) 1/25/2008 | HMW-23 AC2332(071904) 7/19/2004 | HMW-23 AC2342(011505) 1/15/2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | | NA | NA | NA | NA | NA | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | **2.4** | **0.77 J** | **3.3** | **3.46** | **3.71** | < 1 U | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | | NA | NA | NA | NA | NA | **721** | **122** | **805** | **442** | **1100** | **1170** | **1630** | **9.6** | NA | NA |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | | NA | NA | NA | NA | NA | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Butanone | 78-93-3 | 560 | -- | | < 25 U | < 25 U | < 25 U | < 25 U | < 25 U | < 50 U | < 5 U | < 5 U | < 5 U | < 5 U | **19.8** | < 5 U | < 5 U | NA | NA |
| 2-Hexanone | 591-78-6 | 3.8 | -- | | NA | NA | NA | NA | NA | < 50 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | | NA | NA | NA | NA | NA | < 50 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA |
| Acetone | 67-64-1 | 1400 | -- | | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U | < 50 U | < 5 U | < 5 UJ | < 5 U | < 5 U | **2.47 J** | < 5 U | < 5 UJ | NA | NA |
| Benzene | 71-43-2 | 0.46 | 5 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | **0.95 J** | < 1 U | **1.1** | **1.22** | **1.5** | < 1 U | **336** | **166** |
| Bromochloromethane | 74-97-5 | 8.3 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | NA | NA |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | | NA | NA | NA | NA | NA | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Bromoform | 75-25-2 | 3.3 | 80 | | NA | NA | NA | NA | NA | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Bromomethane | 74-83-9 | 0.75 | -- | | NA | NA | NA | NA | NA | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Carbon disulfide | 75-15-0 | 81 | -- | | NA | NA | NA | NA | NA | < 50 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| CFC-11 | 75-69-4 | 520 | -- | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Chloroethane | 75-00-3 | 2100 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Chloroform | 67-66-3 | 0.22 | 80 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Chloromethane | 74-87-3 | 19 | -- | | < 3 U | < 3 U | < 3 U | < 3 U | < 3 U | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | | NA | NA | NA | NA | NA | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | | NA | NA | NA | NA | NA | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | **12.5** | **13.7** |
| Methylene chloride | 75-09-2 | 11 | 5 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 50 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | 5 U | NA | NA |
| Styrene | 100-42-5 | 120 | 100 | | NA | NA | NA | NA | NA | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | **0.294 J** | < 1 U | < 1 U | NA | NA |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Toluene | 108-88-3 | 110 | 1000 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | 1 U | **1.6** | **0.362 J** | **0.371 J** | **0.432 J** | < 1 U | < 5 U | **0.4 J** |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | | NA | NA | NA | NA | NA | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA |
| Trichloroethene | 79-01-6 | 0.28 | 5 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | < 1 U | < 1 U | **0.367 J** | **0.419 J** | **0.52 J** | < 1 U | NA | NA |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 10 U | < 1 U | **8.6** | **2.2** | **11.1** | **10.8** | **20.7** | < 1 U | NA | NA |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 5 U | < 1 U |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | MCL | Location ID | HMW-17 | HMW-17 | HMW-18 | HMW-19 | HMW-20 | HMW-21 | HMW-21 | HMW-21 | HMW-21 | HMW-21 | HMW-21 | HMW-21 | HMW-21 | HMW-23 | HMW-23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample ID | DUP_W_1/19/2000 | HMW-17_1/19/2000 | HMW-18-W_1/20/2000 | HMW-19-W_1/20/2000 | HMW-20_1/20/2000 | AS2112(072004) | AS2122(011605) | AS2132(071705) | AS2142(011506) | AS2152(072506) | AS2162(012007) | AS2172(071407) | AS2182(012508) | AC2332(071904) | AC2342(011505) |
| | | | | Sample Date | 1/19/2000 | 1/19/2000 | 1/20/2000 | 1/20/2000 | 1/20/2000 | 7/20/2004 | 1/16/2005 | 7/17/2005 | 1/15/2006 | 7/25/2006 | 1/20/2007 | 7/14/2007 | 1/25/2008 | 7/19/2004 | 1/15/2005 |
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylphenol | 95-48-7 | 93 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Nitrophenol | 88-75-5 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Methylphenol | 106-44-5 | 190 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrophenol | 100-02-7 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthene | 83-32-9 | 53 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Acenaphthylene | 208-96-8 | -- | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| alpha-Terpineol | 98-55-5 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Anthracene | 120-12-7 | 180 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Atrazine | 1912-24-9 | 0.3 | 3 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzaldehyde | 100-52-7 | 19 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzoic acid | 65-85-0 | 7500 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Carbazole | 86-74-8 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chrysene | 218-01-9 | 25 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dibenzofuran | 132-64-9 | 0.79 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Diethyl phthalate | 84-66-2 | 1500 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Dimethyl phthalate | 131-11-3 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Diphenylamine | 122-39-4 | 130 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluoranthene | 206-44-0 | 80 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluorene | 86-73-7 | 29 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Hexachloroethane | 67-72-1 | 0.33 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Isophorone | 78-59-1 | 78 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| m+p Methylphenol | 65794-96-9 | -- | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | 91-20-3 | 0.17 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nitrobenzene | 98-95-3 | 0.14 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenanthrene | 85-01-8 | -- | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenol | 108-95-2 | 580 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pyrene | 129-00-0 | 12 | -- | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-17 DUP_W_1/19/2000 1/19/2000 | HMW-17 HMW-17_1/19/2000 1/19/2000 | HMW-18 HMW-18-W_1/20/2000 1/20/2000 | HMW-19 HMW-19-W_1/20/2000 1/20/2000 | HMW-20 HMW-20_1/20/2000 1/20/2000 | HMW-21 AS2112(072004) 7/20/2004 | HMW-21 AS2122(011605) 1/16/2005 | HMW-21 AS2132(071705) 7/17/2005 | HMW-21 AS2142(011506) 1/15/2006 | HMW-21 AS2152(072506) 7/25/2006 | HMW-21 AS2162(012007) 1/20/2007 | HMW-21 AS2172(071407) 7/14/2007 | HMW-21 AS2182(012508) 1/25/2008 | HMW-23 AC2332(071904) 7/19/2004 | HMW-23 AC2342(011505) 1/15/2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Metals,Total (µg/L)*** | | -- | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Barium | 7440-39-3 | 380 | 2000 | **26 J** | < 20 U | **37 J** | **56 J** | < 20 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 15 | 15 | < 3 U | < 3 U | < 3 U | < 3 U | < 3 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date MCL | HMW-23 AC2352(071705) 7/17/2005 | HMW-23 AC2362(011406) 1/14/2006 | HMW-23 AC2372(072506) 7/25/2006 | HMW-23 AC2382(012107) 1/21/2007 | HMW-23 AC2392(071207) 7/12/2007 | HMW-23 AC2302(012308) 1/23/2008 | HMW-24 AC2432(071904) 7/19/2004 | HMW-24 AC2442(011505) 1/15/2005 | HMW-24 AC2452(071705) 7/17/2005 | HMW-24 AC2454(071705)-DUP 7/17/2005 | HMW-24 AC2462(011506) 1/15/2006 | HMW-24 AC2472(072506) 7/25/2006 | HMW-24 AC2482(012107) 1/21/2007 | HMW-24 AC2492(071207) 7/12/2007 | HMW-24 AC2494(071207)-DUP 7/12/2007 | HMW-24 AC2402(012408) 1/24/2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (µg/L) (EPA Method 8260)*** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 800 | 200 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0.076 | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 76-13-1 | 1000 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 0.041 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| 1,1-Dichloroethane | 75-34-3 | 2.8 | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| 1,1-Dichloroethene | 75-35-4 | 28 | 7 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 26 | 70 | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 1,2-Dibromoethane | 106-93-4 | 0.16 | 0.05 | NA | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | NA | NA | NA |
| 1,2-Dichlorobenzene | 95-50-1 | 930 | 600 | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 1,2-Dichloroethane | 107-06-2 | 2 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | < 1 U | < 1 U | **0.318 J** | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| 1,2-Dichloropropane | 78-87-5 | 1.2 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 2-Butanone | 78-93-3 | 560 | -- | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 50 U | < 5 U | NA | NA | NA |
| 2-Hexanone | 591-78-6 | 3.8 | -- | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 50 U | < 5 U | NA | NA | NA |
| 4-Methyl-2-pentanone | 108-10-1 | 630 | -- | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 50 U | < 5 U | NA | NA | NA |
| Acetone | 67-64-1 | 1400 | -- | **4.4 J** | **4.3 J** | < 5 U | **4.22 J** | NA | NA | NA | NA | **3.8 J** | **6.1** | **1.9 J** | < 50 U | **4.15 J** | NA | NA | NA |
| Benzene | 71-43-2 | 0.46 | 5 | **139** | **134** | **137** | **45.2** | **26.9** | **8.52** | **32.5** | < 1 U | **81.5** | **89.8** | **14** | **963** | **13.2** | **84.5** | **77** | < 1 U |
| Bromochloromethane | 74-97-5 | 8.3 | -- | NA | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | < 1 U | NA | NA | NA |
| Bromodichloromethane | 75-27-4 | 0.13 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| Bromoform | 75-25-2 | 3.3 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| Bromomethane | 74-83-9 | 0.75 | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| Carbon disulfide | 75-15-0 | 81 | -- | < 5 U | **1.4 J** | < 5 U | < 5 U | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | **14.9 J** | < 5 U | NA | NA | NA |
| Carbon tetrachloride | 56-23-5 | 0.46 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| CFC-11 | 75-69-4 | 520 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chlorobenzene | 108-90-7 | 7.8 | 100 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| Chloroethane | 75-00-3 | 2100 | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| Chloroform | 67-66-3 | 0.22 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| Chloromethane | 74-87-3 | 19 | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | **0.58 J** | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| cis-1,2-Dichloroethene | 156-59-2 | 3.6 | 70 | NA | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| cis-1,3-Dichloropropene | 10061-01-5 | -- | -- | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| Dibromochloromethane | 124-48-1 | 0.87 | 80 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| Ethylbenzene | 100-41-4 | 1.5 | 700 | **9.4** | **16.1** | **9.97** | **10.9** | **10.3** | **10.4** | **2.4** | < 1 U | **18.4** | **19.7** | **3.9** | **164** | **7.63** | **25.4** | **23.3** | < 1 U |
| Methylene chloride | 75-09-2 | 11 | 5 | < 5 U | < 5 U | < 5 U | < 5 U | NA | NA | NA | NA | < 5 U | < 5 U | < 5 U | < 50 U | < 5 U | NA | NA | NA |
| Styrene | 100-42-5 | 120 | 100 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| tert-Butyl methyl ether | 1634-04-4 | 14 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethene | 127-18-4 | 4.1 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| Toluene | 108-88-3 | 110 | 1000 | < 1 U | **1.4** | **6.57** | < 1 U | **0.251 J** | < 1 U | 1 U | < 1 U | < 1 U | < 1 U | **0.39 J** | < 10 U | < 1 U | < 1 U | < 1 U | < 1 U |
| trans-1,2-Dichloroethene | 156-60-5 | 36 | 100 | NA | < 1 U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| trans-1,3-Dichloropropene | 10061-02-6 | -- | -- | < 2 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| Trichloroethene | 79-01-6 | 0.28 | 5 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| Vinyl chloride | 75-01-4 | 0.019 | 2 | < 1 U | < 1 U | < 1 U | < 1 U | NA | NA | NA | NA | < 1 U | < 1 U | < 1 U | < 10 U | < 1 U | NA | NA | NA |
| Xylenes (total) | 1330-20-7 | 19 | 10000 | **3.7** | < 1 U | **17.6** | < 1 U | < 1 U | < 1 U | **0.87 J** | < 1 U | **16.8** | **16.9** | **1.1** | **443** | **0.267 J** | **12.6** | **10.5** | < 1 U |

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | MCL | Location ID / Sample ID / Sample Date | HMW-23 AC2352(071705) 7/17/2005 | HMW-23 AC2362(011406) 1/14/2006 | HMW-23 AC2372(072506) 7/25/2006 | HMW-23 AC2382(012107) 1/21/2007 | HMW-23 AC2392(071207) 7/12/2007 | HMW-23 AC2302(012308) 1/23/2008 | HMW-24 AC2432(071904) 7/19/2004 | HMW-24 AC2442(011505) 1/15/2005 | HMW-24 AC2452(071705) 7/17/2005 | HMW-24 AC2454(071705)-DUP 7/17/2005 | HMW-24 AC2462(011506) 1/15/2006 | HMW-24 AC2472(072506) 7/25/2006 | HMW-24 AC2482(012107) 1/21/2007 | HMW-24 AC2492(071207) 7/12/2007 | HMW-24 AC2494(071207)-DUP 7/12/2007 | HMW-24 AC2402(012408) 1/24/2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Semi-Volatile Organic Compounds (µg/L)(EPA Method 8270)*** | | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 92-52-4 | 0.083 | -- | | < 10.5 U | < 9.9 U | < 10 U | NA | NA | NA | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | NA | NA | NA | NA |
| 1,2,4-Trichlorobenzene | 120-82-1 | 0.4 | 70 | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 1,2-Dichlorobenzene | 95-50-1 | 30 | 600 | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 1,3-Dichlorobenzene | 541-73-1 | -- | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 1,4-Dichlorobenzene | 106-46-7 | 0.48 | 75 | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 2,4,5-Trichlorophenol | 95-95-4 | 120 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 R | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 R | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| 2,4,6-Trichlorophenol | 88-06-2 | 1.2 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 R | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 R | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| 2,4-Dichlorophenol | 120-83-2 | 4.6 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 R | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 R | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| 2,4-Dimethylphenol | 105-67-9 | 36 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 R | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 R | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| 2,4-Dinitrophenol | 51-28-5 | 3.9 | -- | | < 21 U | < 19.8 U | < 20 U | < 19.2 R | < 38.8 U | < 81.6 U | NA | NA | < 21 U | < 12.8 U | < 20.2 U | < 79.2 R | < 19.2 R | < 19.8 U | < 20 U | < 20.4 U |
| 2,4-Dinitrotoluene | 121-14-2 | 0.24 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 2,6-Dinitrotoluene | 606-20-2 | 0.049 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 2-Chloronaphthalene | 91-58-7 | 75 | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| 2-Chlorophenol | 95-57-8 | 9.1 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 R | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 R | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 0.15 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 R | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 R | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| 2-Methylnaphthalene | 91-57-6 | 3.6 | -- | | **17.7** | **23.6** | **9.75** | **22.7** | **20** | **20.1** | NA | NA | **3.2** | **2.1** | < 1.01 U | **55.9** | **6.91** | **6.46** | **6.89** | < 1.02 U |
| 2-Methylphenol | 95-48-7 | 93 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 R | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 R | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| 2-Nitrobenzenamine | 88-74-4 | 19 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 2-Nitrophenol | 88-75-5 | -- | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 R | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 R | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.13 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 3-Nitrobenzenamine | 99-09-2 | -- | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 4-Bromophenyl phenyl ether | 101-55-3 | -- | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 4-Chloro-3-methylphenol | 59-50-7 | 140 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 R | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 R | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| 4-Chlorobenzenamine | 106-47-8 | 0.37 | -- | | < 10.5 U | < 9.9 U | < 10 UJ | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 UJ | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | -- | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 4-Methylphenol | 106-44-5 | 190 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 100-01-6 | 3.8 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| 4-Nitrophenol | 100-02-7 | -- | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 R | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 R | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| Acenaphthene | 83-32-9 | 53 | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Acenaphthylene | 208-96-8 | -- | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| alpha-Terpineol | 98-55-5 | -- | -- | | < 10.5 U | < 9.9 U | < 10 U | NA | NA | NA | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | NA | NA | NA | NA |
| Anthracene | 120-12-7 | 180 | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Atrazine | 1912-24-9 | 0.3 | 3 | | < 10.5 U | < 9.9 U | < 10 U | NA | NA | NA | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | NA | NA | NA | NA |
| Benz(a)anthracene | 56-55-3 | 0.03 | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Benzaldehyde | 100-52-7 | 19 | -- | | < 10.5 U | < 9.9 U | < 10 U | NA | NA | NA | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | NA | NA | NA | NA |
| Benzenemethanol | 100-51-6 | 200 | -- | | NA | NA | NA | < 9.62 R | < 19.4 U | < 40.8 U | NA | NA | NA | NA | NA | NA | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| Benzo(a)pyrene | 50-32-8 | 0.025 | 0.2 | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Benzo(b)fluoranthene | 205-99-2 | 0.25 | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Benzo(ghi)perylene | 191-24-2 | -- | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Benzo(k)fluoranthene | 207-08-9 | 2.5 | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Benzoic acid | 65-85-0 | 7500 | -- | | NA | NA | NA | < 19.2 R | < 38.8 U | < 81.6 U | NA | NA | NA | NA | NA | NA | < 19.2 R | < 19.8 U | < 20 U | < 20.4 U |
| Bis(2-chloroethoxy)methane | 111-91-1 | 5.9 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Bis(2-chloroethyl) ether | 111-44-4 | 0.014 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 71 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 UJ | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 5.6 | 6 | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Butyl benzyl phthalate | 85-68-7 | 16 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Carbazole | 86-74-8 | -- | -- | | < 10.5 U | < 9.9 U | < 10 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Chrysene | 218-01-9 | 25 | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Dibenz(a,h)anthracene | 53-70-3 | 0.025 | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Dibenzofuran | 132-64-9 | 0.79 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Diethyl phthalate | 84-66-2 | 1500 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Dimethyl phthalate | 131-11-3 | -- | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Di-n-butyl phthalate | 84-74-2 | 90 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Di-n-octylphthalate | 117-84-0 | 20 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Diphenylamine | 122-39-4 | 130 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Fluoranthene | 206-44-0 | 80 | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Fluorene | 86-73-7 | 29 | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Hexachlorobenzene | 118-74-1 | 0.0098 | 1 | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Hexachlorobutadiene | 87-68-3 | 0.14 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Hexachlorocyclopentadiene | 77-47-4 | 0.041 | 50 | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Hexachloroethane | 67-72-1 | 0.33 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.25 | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Isophorone | 78-59-1 | 78 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| m+p Methylphenol | 65794-96-9 | -- | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 R | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 R | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| Naphthalene | 91-20-3 | 0.17 | -- | | **73.8** | **108** | **49.1** | **110** | **126** | **108** | NA | NA | **15.6** | **11.6** | **4.95** | **192** | **28.6** | **33.7** | **34.9** | < 1.02 U |
| Nitrobenzene | 98-95-3 | 0.14 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.011 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 U | < 9.62 U | < 9.9 U | < 10 U | < 10.2 U |
| N-Nitrosodiphenylamine | 86-30-6 | 12 | -- | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 87-86-5 | 0.041 | 1 | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 U | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 R | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| Phenanthrene | 85-01-8 | -- | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |
| Phenol | 108-95-2 | 580 | -- | | < 10.5 U | < 9.9 U | < 10 U | < 9.62 R | < 19.4 U | < 40.8 U | NA | NA | < 10.5 U | < 6.4 U | < 10.1 U | < 39.6 R | < 9.62 R | < 9.9 U | < 10 U | < 10.2 U |
| Pyrene | 129-00-0 | 12 | -- | | < 1 U | < 0.99 U | < 1 U | < 0.962 U | < 1.94 U | < 4.08 U | NA | NA | < 1 U | < 0.64 U | < 1.01 U | < 3.96 U | < 0.962 U | < 0.99 U | < 1 U | < 1.02 U |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | CASRN | RSL | Location ID / Sample ID / Sample Date / MCL | HMW-23 AC2352(071705) 7/17/2005 | HMW-23 AC2362(011406) 1/14/2006 | HMW-23 AC2372(072506) 7/25/2006 | HMW-23 AC2382(012107) 1/21/2007 | HMW-23 AC2392(071207) 7/12/2007 | HMW-23 AC2302(012308) 1/23/2008 | HMW-24 AC2432(071904) 7/19/2004 | HMW-24 AC2442(011505) 1/15/2005 | HMW-24 AC2452(071705) 7/17/2005 | HMW-24 AC2454(071705)-DUP 7/17/2005 | HMW-24 AC2462(011506) 1/15/2006 | HMW-24 AC2472(072506) 7/25/2006 | HMW-24 AC2482(012107) 1/21/2007 | HMW-24 AC2492(071207) 7/12/2007 | HMW-24 AC2494(071207)-DUP 7/12/2007 | HMW-24 AC2402(012408) 1/24/2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Metals,Total (µg/L)*** | | -- | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.052 | 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Barium | 7440-39-3 | 380 | 2000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Cadmium | 7440-43-9 | 0.92 | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | -- | 100 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 15 | 15 | < 4 U | **2.2 J** | < 2 U | < 3 U | < 5 U | < 0.5 U | NA | NA | < 4 U | < 4 U | 3.1 J | < 2 U | 3 U | < 5 U | < 5 U | **1.1 J** |
| Mercury | 7439-97-6 | 0.063 | 2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Selenium | 7782-49-2 | 10 | 50 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Silver | 7440-22-4 | 9.4 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

Notes appear on last page

**Table 4-1**
**1990 – 2008 Historical Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

Notes:

**BOLD** indicates the analyte was detected.

Grey shaded cells indicate the analyte was detected above screening level.

-- - No standard in place.

Data are screened to the MCL; if no MCL is available, the RSL is used instead.

CASRN - Chemical Abstracts Service Registration Number

DUP - Duplicate sample

MCL - USEPA Maximum Contaminant Level - National Primary Drinking Water Regulations (06/2017).

µg/L - Micrograms per Liter

NA - Not analyzed

RSL - USEPA Regional Screening Level for Tap Water (06/2017).

Laboratory Qualifiers:

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

JL - The analyte is possibly biased low or a false negative based on QC data.

U - The analyte was not detected above the reporting limit.

UJ - The analyte was not detected above the reporting limit; however, the reported quantitation limit is approximate and may, or may not represent the actual limit of quantitation necessary to accurately and precisely measure analyte in the sample.

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | BH-10 | BH-10 | BH-11 | BH-11 | BH-12 | BH-12 | BH-13 | BH-13 | BH-13 | EB-E6 | EB-E7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 0 - 1 | 7.5 - 8.5 | 0 - 1 | 7.5 - 8.5 | 0 - 1 | 6.5 - 7.5 | 0 - 1 | 6.5 - 7.5 | | 6.54 | 6.95 |
| | | | | Sample Date | 1/1/1987 | 1/1/1987 | 1/1/1987 | 1/1/1987 | 1/1/1987 | 1/1/1987 | 1/1/1987 | 1/1/1987 | 1/1/1987 | 2/26/1998 | 2/26/1998 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 5 U | **190 J** |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromomethane | 680 | 3,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 320 | 1,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND | **7,700** |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 8,100 | 39,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toluene | 490,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND | ND |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| trans-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Xylenes (total) | 58,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND | **8,200** |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND | **6,900** |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | < 1 U | **19,000** | < 1 U | **12,000** | < 1 U | **10,000** | < 1 U | < 1 U | < 2 U | ND | **9,600** |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthylene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(b)fluoranthene | 1100 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(ghi)perylene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | < 1 U | **1.7** | < 1 U | **900** | < 1 U | **300** | < 1 U | < 1 U | < 3 U | -- | -- |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenz(a,h)anthracene | 110 | 2100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | **200** | < 1 U | < 1 U | < 2 U | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | < 1 U | **1,300** | < 1 U | **600** | < 1 U | **2,400** | < 1 U | < 1 U | < 2 U | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluorene | 240,000 | 3,000,000 | | < 1 U | **400** | < 1 U | < 1 U | < 1 U | **200** | < 1 U | < 1 U | < 3 U | -- | -- |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | < 1 U | **10,000** | < 1 U | **7,000** | < 1 U | **5,800** | < 1 U | < 1 U | < 2 U | ND | **3,900** |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | < 1 U | **900** | < 1 U | < 1 U | < 1 U | **200** | < 1 U | < 1 U | < 3 U | ND | ND |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | BH-10 | BH-10 | BH-11 | BH-11 | BH-12 | BH-12 | BH-13 | BH-13 | BH-13 | EB-E6 | EB-E7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 0 - 1 | 7.5 - 8.5 | 0 - 1 | 7.5 - 8.5 | 0 - 1 | 6.5 - 7.5 | 0 - 1 | 6.5 - 7.5 | | 6.54 | 6.95 |
| | | | | Sample Date | 1/1/1987 | 1/1/1987 | 1/1/1987 | 1/1/1987 | 1/1/1987 | 1/1/1987 | 1/1/1987 | 1/1/1987 | 1/1/1987 | 2/26/1998 | 2/26/1998 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND | ND |
| DDE, p,p'- | 2,000 | 9,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND | ND |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND | ND |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | **0.00599** | **0.002** | **0.0139** | **0.00388** | **0.004** | < 0.00196 U | **0.00775** | **0.00394** | **0.012** | -- | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | **0.0644** | **0.00919** | **0.0335** | **0.0181** | **0.00719** | **0.00812** | **0.0198** | **0.00828** | **0.0271** | **14,000** | **10,000** |
| Cadmium | 7,100 | 98,000 | 2,600 | < 0.00198 U | < 0.00198 U | **0.00199** | < 0.00198 U | < 0.00198 U | < 0.00198 U | **0.00387** | < 0.00198 U | **0.00002** | ND | ND |
| Chromium | | | 7,700 | **0.0128** | < 0.00396 U | **0.00416** | < 0.00396 U | **0.00519** | < 0.00396 U | **0.0091** | < 0.00396 U | **0.00284** | ND | ND |
| Lead | 400,000 | 800,000 | 53,000 | **0.645** | **0.0359** | **1.16** | ND | **0.102** | **0.0193** | **1.19** | **0.0138** | **1.18** | ND | ND |
| Mercury | 1,100 | 4,600 | 390 | **0.0004** | **0.00039** | **0.00038** | **0.00038** | **0.0004** | **0.00038** | **0.00038** | **0.00039** | **0.00079** | -- | -- |
| Selenium | 39000 | 580,000 | 1900 | < 0.0002 U | < 0.0002 U | < 0.0002 U | < 0.0002 U | **0.00079** | **0.0006** | **0.00033** | < 0.0002 U | **0.00022** | -- | -- |
| Silver | 39,000 | 580,000 | 2,600 | < 0.00399 U | < 0.00399 U | < 0.00399 U | < 0.00399 U | < 0.00399 U | < 0.00399 U | < 0.00399 U | < 0.00399 U | < 0.00798 U | -- | -- |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND | **920,000** |
| TPH-DRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ND | ND |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | EB-E7 (DUP) | EB-E8 | EB-F5 | EB-F5 (DUP) | EB-F6 | EB-F7 | EB-F8 | EB-G5 | EB-G6 | EB-G7 | EB-G8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 6.95 | 5.8 | 6.64 | 6.64 | 8.32 | 7.7 | 6.04 | 6.35 | 5.77 | 6.26 | 5.5 |
| | | | | Sample Date | 3/3/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | -- | **120 J** | **14 J** | **140 J** | **170 J** | **1,400** | **1400 J** | < 25 U | **400 J** | < 1300 U | **470 J** |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromomethane | 680 | 3,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 320 | 1,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | -- | **3,300** | ND | ND | **570** | **20,000** | **18,000** | ND | **6,700** | **1,300** | **10,000** |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 8,100 | 39,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toluene | 490,000 | 4,700,000 | | -- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| trans-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Xylenes (total) | 58,000 | 250,000 | | -- | **9,500** | **64** | **4,600** | **22,000** | **11,000** | **62,000** | ND | **12,000** | **39,000** | **4,800** |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | **13,000** | **480** | ND | **5,000** | **15,000** | **5,500** | ND | **6,200** | **10,000** | **10,000** |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | -- | **5,800** | ND | ND | **6,900** | **25,000** | ND | ND | **9,200** | **15,000** | **9,500** |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthylene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(b)fluoranthene | 1100 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(ghi)perylene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenz(a,h)anthracene | 110 | 2100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluorene | 240,000 | 3,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | -- | ND | ND | ND | **2,500** | **14,000** | ND | ND | **4,800** | **7,400** | ND |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | -- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | Location ID | EB-E7 (DUP) | EB-E8 | EB-F5 | EB-F5 (DUP) | EB-F6 | EB-F7 | EB-F8 | EB-G5 | EB-G6 | EB-G7 | EB-G8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth Interval | 6.95 | 5.8 | 6.64 | 6.64 | 8.32 | 7.7 | 6.04 | 6.35 | 5.77 | 6.26 | 5.5 |
| | | | Sample Date | 3/3/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | -- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| DDE, p,p'- | 2,000 | 9,300 | | -- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | -- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | -- | **11,000** | **11,000** | **11,000** | **11,000** | **10,000** | **13,000** | **8,100** | **9,700** | **11,000** | **13,000** |
| Cadmium | 7,100 | 98,000 | 2,600 | -- | **600** | ND | ND | ND | **900** | ND | **600** | **600** | ND | ND |
| Chromium | | | 7,700 | -- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Lead | 400,000 | 800,000 | 53,000 | -- | **15,000** | ND | **5,500** | ND | **23,000** | **7,200** | ND | **15,000** | **12,000** | ND |
| Mercury | 1,100 | 4,600 | 390 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Selenium | 39000 | 580,000 | 1900 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Silver | 39,000 | 580,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | **2,590,000** | **2,000,000** | **62,000** | **35,000** | **820,000** | **3,100,000** | **1,100,000** | **12,000** | **620,000** | **1,700,000** | **2,100,000** |
| TPH-DRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | -- | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | EB-G8 (DUP) | EB-H4 | EB-H5 | EB-H6 | EB-H7 | EB-H8 | EB-I4 | EB-I5 | EB-I5 (DUP) | EB-I6 | EB-I7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 5.5 | 5.5 | 5.43 | 5.43 | 5.43 | 5.43 | 6.18 | 5.43 | 5.43 | 5.43 | 6.11 |
| | | | | Sample Date | 2/26/1998 | 3/3/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 3/3/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | **680** | < 10 U | **1100 J** | **960 J** | **430 J** | < 2500 U | < 5 U | < 5 U | < 5 U | < 2500 U | **560 J** |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromomethane | 680 | 3,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 320 | 1,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | **6,000** | ND | **19,000** | **12,000** | **9,000** | **9,000** | ND | ND | ND | ND | **13,000** |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 8,100 | 39,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toluene | 490,000 | 4,700,000 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| trans-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Xylenes (total) | 58,000 | 250,000 | | **1,800** | ND | **25,000** | **16,000** | **9,300** | **38,000** | ND | ND | ND | **29,000** | **34,000** |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | **7,600** | ND | **8,600** | **8,300** | **6,400** | **5,500** | ND | ND | ND | **30,000** | **11,000** |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | **3,600** | ND | **12,000** | **11,000** | **8,700** | **7,500** | ND | ND | ND | **39,000** | **15,000** |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthylene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(b)fluoranthene | 1100 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(ghi)perylene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenz(a,h)anthracene | 110 | 2100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluorene | 240,000 | 3,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | ND | ND | **8,400** | **4,500** | **5,500** | **4,500** | ND | ND | ND | **14,000** | **10,000** |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | EB-G8 (DUP) | EB-H4 | EB-H5 | EB-H6 | EB-H7 | EB-H8 | EB-I4 | EB-I5 | EB-I5 (DUP) | EB-I6 | EB-I7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 5.5 | 5.5 | 5.43 | 5.43 | 5.43 | 5.43 | 6.18 | 5.43 | 5.43 | 5.43 | 6.11 |
| | | | | Sample Date | 2/26/1998 | 3/3/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 3/3/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| DDE, p,p'- | 2,000 | 9,300 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | **13,000** | **7,800** | **6,500** | **10,000** | **14,000** | **15,000** | **7,200** | **6,800** | **6,800** | **11,000** | **8,100** |
| Cadmium | 7,100 | 98,000 | 2,600 | ND | ND | **900** | ND | ND | **1,000** | ND | ND | **900** | ND | ND |
| Chromium | | | 7,700 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Lead | 400,000 | 800,000 | 53,000 | ND | ND | **16,000** | ND | ND | **20,000** | ND | ND | **13,000** | ND | ND |
| Mercury | 1,100 | 4,600 | 390 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Selenium | 39000 | 580,000 | 1900 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Silver | 39,000 | 580,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | **2,100,000** | **19,000** | **1,900,000** | **1,600,000** | **1,200,000** | **990,000** | ND | ND | ND | **6,500,000** | **2,200,000** |
| TPH-DRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | EB-I8 | EB-J4 | EB-J5 | EB-J6 | EB-J6 (DUP) | EB-J7 | EB-J8 | EB-K4 | EB-K5 | EB-K6 | EB-K7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 6.29 | 6.1 | 5.41 | 7.89 | 7.89 | 8.33 | 7.32 | 5.68 | 4.94 | 8.25 | 8.11 |
| | | | | Sample Date | 2/26/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | < 2500 U | **10** | **16** | **3,900** | -- | **3,400** | **1,300** | **930** | **89 J** | **1,300** | **6,900** |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromomethane | 680 | 3,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 320 | 1,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | **5,100** | ND | ND | **32,000** | -- | **26,000** | **13,000** | **13,000** | ND | **13,000** | **47,000** |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 8,100 | 39,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toluene | 490,000 | 4,700,000 | | ND | ND | ND | ND | -- | ND | ND | ND | ND | **370** | **32,000** |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| trans-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Xylenes (total) | 58,000 | 250,000 | | ND | ND | ND | **28,000** | -- | **1,400** | ND | ND | ND | **13,000** | **230,000** |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | **5,200** | ND | ND | **25,000** | -- | **9,500** | **2,400** | **26,000** | ND | **10,000** | **20,000** |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | **7,200** | ND | ND | **27,000** | -- | **8,100** | **560** | **22,000** | ND | ND | **26,000** |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthylene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(b)fluoranthene | 1100 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(ghi)perylene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenz(a,h)anthracene | 110 | 2100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluorene | 240,000 | 3,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | **4,400** | ND | ND | **11,000** | -- | ND | ND | **11,000** | **11,000** | ND | **8,200** |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | ND | ND | ND | ND | -- | ND | **400** | ND | ND | ND | ND |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | EB-I8 | EB-J4 | EB-J5 | EB-J6 | EB-J6 (DUP) | EB-J7 | EB-J8 | EB-K4 | EB-K5 | EB-K6 | EB-K7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 6.29 | 6.1 | 5.41 | 7.89 | 7.89 | 8.33 | 7.32 | 5.68 | 4.94 | 8.25 | 8.11 |
| | | | | Sample Date | 2/26/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | ND | **6.3** | **9** | ND | -- | ND | ND | ND | **8.5** | ND | ND | |
| DDE, p,p'- | 2,000 | 9,300 | | ND | ND | **15** | ND | -- | ND | ND | **4.5** | **19** | ND | ND | |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | ND | ND | ND | ND | -- | ND | ND | ND | ND | ND | ND | |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | **9,400** | **10,000** | **7,900** | **13,000** | -- | **13,000** | **21,000** | **15,000** | **11,000** | **14,000** | **18,000** | |
| Cadmium | 7,100 | 98,000 | 2,600 | ND | ND | ND | ND | -- | ND | ND | ND | ND | ND | ND | |
| Chromium | | | 7,700 | ND | ND | ND | ND | -- | ND | ND | ND | **5,800** | ND | ND | |
| Lead | 400,000 | 800,000 | 53,000 | ND | **10,000** | **5,800** | **6,300** | -- | **6,400** | ND | **49,000** | **11,000** | ND | **7,800** | |
| Mercury | 1,100 | 4,600 | 390 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Selenium | 39000 | 580,000 | 1900 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Silver | 39,000 | 580,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | **840,000** | **13,000** | **36,000** | **7,200,000** | **10,700,000** | **4,400,000** | **1,600,000** | **3,700,000** | **1,400,000** | **2,100,000** | **8,000,000** | |
| TPH-DRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | ND | ND | ND | ND | -- | ND | ND | ND | ND | ND | ND | |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | EB-K8 | EB-L5 | EB-L6 | EB-L7 | EB-L8 | EW-E6-a | EW-E6-b | EW-E7-a | EW-E8-a | EW-E8-b | EW-F5 |
| | | | Depth Interval | 7.05 | 5.43 | 7.78 | 7.28 | 7.59 | 3.5 | 3.67 | 3.5 | 3 | 3.17 | 3.07 |
| | | | Sample Date | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | **1,400** | **1,200** | **2,500** | **5,000** | < 2500 U | **130 J** | **22** | **1,200** | **13 J** | < 5 U | **13 J** |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromomethane | 680 | 3,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 320 | 1,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | **12,000** | **9,400** | **23,000** | **37,000** | **11,000** | **8,000** | **410** | **47,000** | **31** | ND | ND |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 8,100 | 39,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toluene | 490,000 | 4,700,000 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| trans-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Xylenes (total) | 58,000 | 250,000 | | **44,000** | **960** | **2,300** | **29,000** | **51,000** | **20,000** | **130** | **150,000** | **100** | ND | ND |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | **6,900** | **35,000** | **7,200** | **15,000** | **11,000** | **7,800** | ND | **21,000** | ND | ND | ND |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | **5,400** | **47,000** | **11,000** | **21,000** | **16,000** | **11,000** | ND | **31,000** | ND | ND | ND |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthylene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(b)fluoranthene | 1100 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(ghi)perylene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenz(a,h)anthracene | 110 | 2100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluorene | 240,000 | 3,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | ND | **36,000** | **7,300** | **14,000** | **9,500** | **4,900** | ND | **17,000** | ND | ND | ND |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | ND | ND | **550** | ND | ND | ND | ND | ND | ND | ND | ND |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | EB-K8 | EB-L5 | EB-L6 | EB-L7 | EB-L8 | EW-E6-a | EW-E6-b | EW-E7-a | EW-E8-a | EW-E8-b | EW-F5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 7.05 | 5.43 | 7.78 | 7.28 | 7.59 | 3.5 | 3.67 | 3.5 | 3 | 3.17 | 3.07 |
| | | | | Sample Date | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 | 2/26/1998 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | ND | **15** | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| DDE, p,p'- | 2,000 | 9,300 | | ND | **24** | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | **11,000** | **9,900** | **11,000** | **13,000** | **10,000** | **12,000** | **12,000** | **15,000** | **11,000** | **13,000** | **10,000** |
| Cadmium | 7,100 | 98,000 | 2,600 | ND | ND | ND | ND | ND | **1,300** | **1,200** | ND | ND | ND | **900** |
| Chromium | | | 7,700 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Lead | 400,000 | 800,000 | 53,000 | ND | **9,700** | ND | **16,000** | ND | **15,000** | **22,000** | **6,200** | ND | ND | **18,000** |
| Mercury | 1,100 | 4,600 | 390 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Selenium | 39000 | 580,000 | 1900 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Silver | 39,000 | 580,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | **1,800,000** | **12,000,000** | **2,800,000** | **8,900,000** | **4,000,000** | **1,500,000** | **11,000** | **4,300,000** | ND | ND | ND |
| TPH-DRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | ND | ND | ND | **26** | ND | ND | ND | ND | ND | ND | ND | ND |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | EW-G5-a | EW-G5-b | EW-H4 | EW-I4-a | EW-I4-b | EW-J4 | EW-K4 | EW-K4 (DUP) | EW-L4 | EW-L5-a | EW-L5-b |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 2.78 | 2.66 | 3.16 | 2.58 | 2.67 | 3.05 | 2.5 | 2.5 | 2.29 | 2.59 | 2.49 |
| | | | | Sample Date | 2/26/1998 | 2/26/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | **2.8 J** | **7.8** | < 10 U | < 1000 U | < 5 U | < 5 U | < 25 U | < 25 U | **100 J** | **450** | **60 J** |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromomethane | 680 | 3,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 320 | 1,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | **11** | **21** | ND | ND | ND | ND | ND | ND | ND | **1,500** | ND |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 8,100 | 39,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toluene | 490,000 | 4,700,000 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| trans-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Xylenes (total) | 58,000 | 250,000 | | **21** | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | ND | ND | ND | **7,700** | ND | ND | ND | ND | **8,200** | **15,000** | ND |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | ND | ND | ND | **11,000** | ND | ND | ND | ND | ND | ND | ND |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthylene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(b)fluoranthene | 1100 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(ghi)perylene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenz(a,h)anthracene | 110 | 2100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluorene | 240,000 | 3,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | ND | ND | ND | **8,400** | ND | ND | ND | ND | ND | ND | ND |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | Location ID | EW-G5-a | EW-G5-b | EW-H4 | EW-I4-a | EW-I4-b | EW-J4 | EW-K4 | EW-K4 (DUP) | EW-L4 | EW-L5-a | EW-L5-b |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth Interval | 2.78 | 2.66 | 3.16 | 2.58 | 2.67 | 3.05 | 2.5 | 2.5 | 2.29 | 2.59 | 2.49 |
| | | | Sample Date | 2/26/1998 | 2/26/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | ND | ND | **7.6** | **4.3** | **8.5** | **11** | **3.5** | **4.2** | **12** | **6.2** | ND |
| DDE, p,p'- | 2,000 | 9,300 | | ND | ND | **7.5** | **3.2** | **6.4** | **4.3** | ND | ND | **12** | **9.5** | ND |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | **10** |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | **9,500** | **10,000** | **7,800** | **7,100** | **9,200** | **9,400** | **8,100** | **15,000** | **8,900** | **12,000** | **11,000** |
| Cadmium | 7,100 | 98,000 | 2,600 | ND | **1,000** | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Chromium | | | 7,700 | ND | ND | ND | ND | **9,400** | ND | ND | ND | ND | ND | ND |
| Lead | 400,000 | 800,000 | 53,000 | ND | **16,000** | **5,600** | **8,900** | **5,100** | ND | **16,000** | **53,000** | **10,000** | **16,000** | ND |
| Mercury | 1,100 | 4,600 | 390 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Selenium | 39000 | 580,000 | 1900 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Silver | 39,000 | 580,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | ND | **16,000** | ND | **1,500,000** | ND | **10,000** | **290,000** | **69,000** | **11,000,000** | **2,800,000** | **25,000** |
| TPH-DRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | EW-L6 | EW-L6 (DUP) | EW-L7 | EW-L8-a | EW-L8-B | FTASB-04 | FTASB-04 | FTASB-06 | FTASB-06 | FTASB-09 | FTASB-09 |
| | | | Depth Interval | 3.42 | 3.42 | 3.31 | 3.32 | 3.8 | .5 - 1 | 9 - 10.5 | .5 - 1 | 8.5 - 10 | .5 - 1 | 6 - 7 |
| | | | Sample Date | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 8/23/1995 | 8/23/1995 | 8/23/1995 | 8/23/1995 | 8/23/1995 | 8/23/1995 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | < 5 U | < 5 U | **5.9** | < 5 U | **2,900** | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Bromomethane | 680 | 3,000 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Chloroform | 320 | 1,400 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| cis-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | ND | ND | ND | ND | **23,000** | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | **2 J** | **3 J** | < 6 U | < 6 U |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Tetrachloroethene | 8,100 | 39,000 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | **1 J** | < 6 U | **3 J** | < 6 U |
| Toluene | 490,000 | 4,700,000 | | ND | ND | ND | ND | ND | < 6 U | **2 J** | **20** | **5 J** | **3 J** | **11** |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| trans-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | < 11 U | < 12 U | < 10 U | < 13 U | < 13 U | < 11 U |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| Xylenes (total) | 58,000 | 250,000 | | ND | ND | ND | ND | **100,000** | < 6 U | < 6 U | < 5 U | < 6 U | < 6 U | < 6 U |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | ND | ND | ND | ND | **40,000** | -- | -- | -- | -- | -- | -- |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | < 920 U | < 1000 U | < 860 U | < 1100 U | < 1100 U | < 940 U |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | < 920 U | < 400 U | < 860 U | < 1100 U | < 1100 U | < 940 U |
| 2-Methylnaphthalene | 24,000 | 300,000 | | ND | ND | ND | ND | **50,000** | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | < 750 U | < 810 U | < 700 U | < 860 U | < 850 U | < 760 U |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | < 920 U | < 1000 U | < 860 U | < 1100 U | < 1100 U | < 940 U |
| Acenaphthene | 360,000 | 4,500,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Acenaphthylene | | | | -- | -- | -- | -- | -- | < 370 U | **120 J** | < 340 U | < 430 U | < 420 U | < 370 U |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | -- | -- | -- | -- | -- | < 370 U | **150 J** | **140 J** | < 430 U | < 420 U | **140 J** |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | -- | -- | -- | -- | -- | < 370 U | **100 J** | **170 J** | < 430 U | < 420 U | **64 J** |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | < 750 U | < 810 U | < 700 U | < 860 U | < 850 U | < 760 U |
| Benzo(a)pyrene | 110 | 210 | | -- | -- | -- | -- | -- | < 370 U | **120 J** | **240 JL** | < 430 U | < 420 JL | **81 J** |
| Benzo(b)fluoranthene | 1100 | 2,100 | | -- | -- | -- | -- | -- | < 370 U | **220 JL** | **470 LJL** | < 430 U | < 420 JL | **140 JL** |
| Benzo(ghi)perylene | | | | -- | -- | -- | -- | -- | < 370 U | < 400 U | **160 JL** | < 430 U | < 420 JL | < 370 U |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 JL | < 430 U | < 420 JL | < 370 U |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | < 1900 U | < 2000 U | < 1800 U | < 2200 U | < 2200 U | < 1900 U |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | -- | -- | -- | -- | -- | **86 J** | **320 J** | **160 JL** | **230 J** | **230 J** | **410** |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | -- | -- | -- | -- | -- | < 370 U | **120 J** | **260 J** | < 430 U | < 420 U | **55 J** |
| Dibenz(a,h)anthracene | 110 | 2100 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 JL | < 430 U | < 420 JL | < 370 U |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 JL | < 430 U | < 420 JL | < 370 U |
| Fluoranthene | 240,000 | 3,000,000 | | -- | -- | -- | -- | -- | < 370 U | **240 J** | **360** | < 430 U | < 420 U | < 370 U |
| Fluorene | 240,000 | 3,000,000 | | -- | -- | -- | -- | -- | < 370 U | **190 J** | **160 JL** | < 430 U | < 420 U | < 370 U |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | **190 JL** | < 430 U | < 420 JL | **80 J** |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Naphthalene | 3,800 | 17,000 | | ND | ND | ND | ND | ND | < 370 U | **110 J** | **100 J** | < 430 U | < 420 U | < 370 U |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | < 920 U | < 1000 U | < 860 U | < 1100 U | < 1100 U | < 940 U |
| Phenanthrene | | | | ND | ND | ND | ND | ND | < 370 U | **180 J** | **300 J** | < 430 U | < 420 U | **140 J** |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 340 U | < 430 U | < 420 U | < 370 U |
| Pyrene | 180,000 | 2,300,000 | | -- | -- | -- | -- | -- | < 370 U | **180 J** | **470** | < 430 U | < 420 U | < 370 U |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | EW-L6 | EW-L6 (DUP) | EW-L7 | EW-L8-a | EW-L8-B | FTASB-04 | FTASB-04 | FTASB-06 | FTASB-06 | FTASB-09 | FTASB-09 |
| | | | Depth Interval | 3.42 | 3.42 | 3.31 | 3.32 | 3.8 | .5 - 1 | 9 - 10.5 | .5 - 1 | 8.5 - 10 | .5 - 1 | 6 - 7 |
| | | | Sample Date | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 3/3/1998 | 8/23/1995 | 8/23/1995 | 8/23/1995 | 8/23/1995 | 8/23/1995 | 8/23/1995 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | ND | ND | ND | ND | ND | -- | -- | -- | -- | -- | -- |
| DDE, p,p'- | 2,000 | 9,300 | | ND | ND | ND | ND | ND | -- | -- | -- | -- | -- | -- |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | ND | ND | ND | ND | ND | -- | -- | -- | -- | -- | -- |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | -- | -- | -- | -- | -- | **820** | **660 J** | **560** | **740 J** | **660** | **1070 J** |
| Barium | 1,500,000 | 22,000,000 | 28,000 | **10,000** | **13,000** | **9,400** | **14,000** | **12,000** | **11,000** | **12,000** | **7,450** | **11700 J** | **11,000** | **15,000** |
| Cadmium | 7,100 | 98,000 | 2,600 | ND | ND | ND | ND | ND | **2,200** | < 2400 U | **2,100** | < 2600 U | **2,500** | < 2300 U |
| Chromium | | | 7,700 | ND | ND | ND | ND | ND | **3,000** | **2400 J** | **5,100** | **2200 J** | **2,400** | **5,500** |
| Lead | 400,000 | 800,000 | 53,000 | ND | ND | ND | ND | **11,000** | **2,700** | **3,500** | **15,000** | **2,400** | **4,700** | **59,000** |
| Mercury | 1,100 | 4,600 | 390 | -- | -- | -- | -- | -- | **20** | **22 J** | **35** | < 130 U | **25** | **33 J** |
| Selenium | 39000 | 580,000 | 1900 | -- | -- | -- | -- | -- | **350** | **170 J** | **438** | **150 J** | **590** | **430 J** |
| Silver | 39,000 | 580,000 | 2,600 | -- | -- | -- | -- | -- | **2200** | < 2400 U | **2100** | < 2600 U | **2500** | < 2300 U |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | **8,000** | **8,000** | **100,000** | **9,000** | **100,000** | **8,000** |
| TPH | | | | ND | ND | ND | **1,400,000** | **13,000,000** | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | -- | -- | -- | -- | -- | **8,000** | **8,000** | **100,000** | **9,000** | **100,000** | **8,000** |
| TPH-GRO | | | | -- | -- | -- | -- | -- | **8,000** | **8,000** | **100,000** | **9,000** | **100,000** | **8,000** |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | ND | ND | ND | ND | **81** | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | -- | -- | -- | -- | -- | **10.1** | **16.8** | **3.9** | **22.5** | **21.4** | **11.6** |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | FTASB-10 | FTASB-10 | FTASB-11 | FTASB-11 | FTASB-12 | FTASB-12 | FTASB-13 | FTASB-13 | FTASB-14 | FTASB-14 | FTASB-15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | .5 - 1 | 9 - 10.4 | .5 - 1 | 9.5 - 10 | .5 - 1 | 8 - 10 | .5 - 2.5 | 2.5 - 4.5 | .5 - 2.5 | 4.5 - 6.5 | .5 - 2.5 |
| | | | | Sample Date | 8/24/1995 | 8/24/1995 | 8/24/1995 | 8/24/1995 | 8/24/1995 | 8/24/1995 | 10/3/1995 | 10/3/1995 | 10/4/1995 | 10/4/1995 | 10/4/1995 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | < 6 U | **18,000** | < 5 U | **87** | **24** | **4,900** | < 6 U | < 7 U | < 6 U | **64** | < 5 U |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| Bromomethane | 680 | 3,000 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| Carbon disulfide | 77,000 | 350,000 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| Carbon tetrachloride | 650 | 2,900 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | < 6 U | < 770 U | < 5 U | **7** | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| Chloroethane | 1,400,000 | 5,700,000 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| Chloroform | 320 | 1,400 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| Chloromethane | 11,000 | 46,000 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| cis-1,3-Dichloropropene | | | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | **7** | **120,000** | < 5 U | **4,000** | **65 J** | **61,000** | < 6 U | < 7 U | < 6 U | **2,400** | < 5 U |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | < 6 U | < 770 U | **5 J** | < 6 U | < 6 U | < 770 U | < 6 U | **3 JH** | **3 JQ** | < 30 U | < 5 U |
| Styrene | 600,000 | 3,500,000 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | **1 JH** | < 6 U | < 30 U | < 5 U |
| Tetrachloroethene | 8,100 | 39,000 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| Toluene | 490,000 | 4,700,000 | | **1 J** | **920** | < 5 U | **21** | **140 J** | **16,000** | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| trans-1,3-Dichloropropene | | | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| Tribromomethane | 67,000 | 290,000 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| Trichloroethene | 410 | 1,900 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| Vinyl acetate | 91,000 | 380,000 | | < 11 U | < 1600 U | < 11 U | < 12 U | < 12 U | < 1600 U | < 11 U | < 13 U | < 11 U | < 59 U | < 11 U |
| Vinyl chloride | 59 | 1,700 | | < 6 U | < 770 U | < 5 U | < 6 U | < 6 U | < 770 U | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| Xylenes (total) | 58,000 | 250,000 | | **9** | **220,000** | < 5 U | **340** | **310 J** | **260,000** | < 6 U | < 7 U | < 6 U | < 30 U | < 5 U |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | < 940 U | < 4000 JL | < 900 U | < 1000 U | < 970 JL | < 4000 U | < 920 U | < 1100 U | < 920 U | < 990 U | < 900 U |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | **650** | < 360 U |
| 2,6-Dinitrotoluene | 360 | 1,500 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 2-Chlorophenol | 39,000 | 580,000 | | < 370 U | < 1600 U | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | < 940 JL | < 4000 U | < 900 U | < 1000 U | < 980 JL | < 4000 JL | < 920 U | < 1100 U | < 920 U | < 990 U | < 900 U |
| 2-Methylnaphthalene | 24,000 | 300,000 | | **2,400** | **99000 JL** | < 360 U | **4,500** | **8,500** | **43,000** | < 360 U | < 430 U | < 370 U | **34,000** | < 360 U |
| 2-Methylphenol | 320,000 | 4,100,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 JL | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 2-Nitrophenol | | | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | < 760 JL | < 3300 JL | < 730 U | < 820 U | < 780 JL | < 3300 JL | < 740 U | < 870 U | < 750 U | < 800 U | < 720 U |
| 3-Nitrobenzenamine | | | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | < 370 JL | < 1600 U | < 360 U | < 400 U | < 390 JL | < 1600 JL | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 4-Chlorophenyl phenyl ether | | | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 JL | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 4-Methylphenol | 630,000 | 8,200,000 | | < 370 U | < 1600 U | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430000 U | < 370 U | < 390 U | < 360 U |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 JL | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| 4-Nitrophenol | | | | < 940 U | < 4000 JL | < 900 U | < 1000 U | < 980 JL | < 4000 U | < 920 U | < 1100 U | < 920 U | < 990 U | < 900 U |
| Acenaphthene | 360,000 | 4,500,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 JL | < 1600 U | < 360 U | < 430 U | < 370 U | **620** | < 360 U |
| Acenaphthylene | | | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 JL | < 1600 U | < 360 U | < 430 U | **150 JQ** | < 390 U | **260 JQ** |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | **180 JL** | **300 J** | < 360 U | < 400 U | < 390 JL | < 1600 JL | < 360 U | < 430 U | **130 JQ** | **94 JQ** | **150 JQ** |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | **130 JL** | < 1600 JL | **230 J** | < 400 U | **210 J** | **300 JL** | **160 JQ** | **99 JQ** | **930** | **200 JQ** | **730** |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | < 760 U | < 3300 U | < 730 U | < 820 U | < 790 U | < 3300 U | < 740 U | < 870 U | < 750 U | < 800 U | < 720 U |
| Benzo(a)pyrene | 110 | 210 | | **77 JL** | < 1600 JL | **290 J** | < 400 U | **190 JL** | < 1600 JL | **160 JQ** | < 430 U | **1,200** | **160 JQ** | **790** |
| Benzo(b)fluoranthene | 1100 | 2,100 | | **180 JL** | < 1600 JL | **590** | < 400 U | **420 LJL** | < 1600 JL | **320 JQ** | < 430 U | **2,600** | **370 J** | **2,200** |
| Benzo(ghi)perylene | | | | < 370 JL | < 1600 JL | **260 J** | < 400 U | **150 JL** | < 1600 JL | **95 JQ** | < 430 U | **850** | **80 JQ** | **660** |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | < 370 JL | < 1600 JL | < 360 U | < 400 U | < 390 JL | < 1600 JL | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Benzoic acid | 25,000,000 | 330,000,000 | | < 1900 U | < 8200 JL | < 1800 U | < 2100 U | < 2000 U | < 8200 U | < 1900 U | **640 JQ** | < 1900 U | < 2000 U | < 1800 U |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | < 370 U | < 1600 U | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | < 370 U | < 1600 U | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | **840 JL** | **2000 JL** | < 360 U | **240 J** | **510** | **1700 JL** | < 360 U | < 430 U | < 370 U | **98 JB** | < 360 U |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | < 370 JL | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 JL | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | **130 JL** | < 1600 JL | **250 J** | < 400 U | **240 J** | **400 JL** | **200 JQ** | **110 JQ** | **1,000** | **200 JQ** | **750** |
| Dibenz(a,h)anthracene | 110 | 2100 | | < 370 JL | < 1600 JL | < 360 U | < 400 U | < 390 JL | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | **200 JQ** |
| Dibenzofuran | 7,300 | 100,000 | | **210 J** | **2300 JL** | < 360 U | **150 J** | **520** | **950 J** | < 360 U | < 430 U | < 370 U | **660** | < 360 U |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Dimethyl phthalate | | | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | < 370 JL | < 1600 JL | < 360 U | < 400 U | **110 JL** | < 1600 JL | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Di-n-octylphthalate | 63,000 | 820,000 | | < 370 JL | < 1600 JL | < 360 U | < 400 U | < 390 JL | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Fluoranthene | 240,000 | 3,000,000 | | **350 JL** | **480 J** | **260 J** | < 400 U | **460 JL** | **640 JL** | **220 JQ** | **130 JQ** | **730** | **530** | **670** |
| Fluorene | 240,000 | 3,000,000 | | **280 J** | **2300 JL** | < 360 U | **210 J** | **780** | **1400 J** | < 360 U | < 430 U | < 370 U | **820** | < 360 U |
| Hexachlorobenzene | 210 | 960 | | < 370 JL | < 1600 U | < 360 U | < 400 U | < 390 JL | < 1600 JL | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Hexachlorobutadiene | 1,200 | 5,300 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Hexachlorocyclopentadiene | 180 | 750 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Hexachloroethane | 1,800 | 8,000 | | < 370 U | < 1600 U | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | < 370 JL | < 1600 JL | **270 J** | < 400 U | **160 JL** | < 1600 JL | **92 JQ** | < 430 U | **790** | < 390 U | **600** |
| Isophorone | 570,000 | 2,400,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Naphthalene | 3,800 | 17,000 | | **1,600** | **79000 JL** | < 360 U | **3,400** | **3,400** | **35,000** | < 360 U | < 430 U | < 370 U | **21,000** | < 360 U |
| Nitrobenzene | 5,100 | 22,000 | | < 370 U | < 1600 JL | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | < 370 U | < 1600 U | < 360 U | < 400 U | < 390 JL | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | < 370 JL | < 1600 U | < 360 U | < 400 U | < 390 JL | < 1600 JL | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Pentachlorophenol | 1000 | 4,000 | | < 940 JL | < 4000 U | < 900 U | < 1100 U | < 980 JL | < 4000 JL | < 920 U | < 1100 U | < 920 U | < 990 U | < 900 U |
| Phenanthrene | | | | **710 JL** | **2,000** | < 360 U | **360 J** | **1600 JL** | **4200 JL** | **49 JQ** | < 430 U | **98 JQ** | **760** | **62 JQ** |
| Phenol | 1,900,000 | 25,000,000 | | < 370 U | < 1600 U | < 360 U | < 400 U | < 390 U | < 1600 U | < 360 U | < 430 U | < 370 U | < 390 U | < 360 U |
| Pyrene | 180,000 | 2,300,000 | | **310 J** | **950 J** | **240 JH** | < 400 U | **370 JH** | **1200 J** | **260 JQ** | **130 JQ** | **1,200** | **460** | **780** |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | FTASB-10 | FTASB-10 | FTASB-11 | FTASB-11 | FTASB-12 | FTASB-12 | FTASB-13 | FTASB-13 | FTASB-14 | FTASB-14 | FTASB-15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | .5 - 1 | 9 - 10.4 | .5 - 1 | 9.5 - 10 | .5 - 1 | 8 - 10 | .5 - 2.5 | 2.5 - 4.5 | .5 - 2.5 | 4.5 - 6.5 | .5 - 2.5 |
| | | | | Sample Date | 8/24/1995 | 8/24/1995 | 8/24/1995 | 8/24/1995 | 8/24/1995 | 8/24/1995 | 10/3/1995 | 10/3/1995 | 10/4/1995 | 10/4/1995 | 10/4/1995 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDE, p,p'- | 2,000 | 9,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | **1,820** | **670 J** | **860** | **380 J** | **1,070** | **800 J** | **1,560** | **1620 JQ** | **1,280** | **730 JQ** | **1,950** |
| Barium | 1,500,000 | 22,000,000 | 28,000 | **34,000** | **14,000** | **69,000** | **10600 J** | **9,300** | **15,000** | **12,000** | **33,000** | **12,000** | **8770 JQ** | **18,000** |
| Cadmium | 7,100 | 98,000 | 2,600 | **660** | < 2400 U | **2,200** | < 2400 U | **2,400** | < 2500 U | **2,200** | < 2600 U | **2,200** | < 2300 U | **2,200** |
| Chromium | | | 7,700 | **14,700** | **2100 J** | **4,800** | **2700 J** | **4,600** | **2500 J** | **5,700** | **4400 J** | **4,400** | **4,700** | **4,100** |
| Lead | 400,000 | 800,000 | 53,000 | **111,000** | **11,100** | **15,000** | **6,200** | **11,400** | **11,300** | **7,700** | **22,000** | **11,400** | **8,800** | **13,900** |
| Mercury | 1,100 | 4,600 | 390 | **42** | **33 J** | **34** | < 120 U | **42** | **20 J** | **45** | **71 JQ** | **32** | **41 JQ** | **26** |
| Selenium | 39000 | 580,000 | 1900 | **320** | **140 J** | **280** | **130 J** | **270** | **180 J** | **170** | **310 JQ** | **1100** | **170** | **1100** |
| Silver | 39,000 | 580,000 | 2,600 | **2300** | < 2400 U | **2200** | < 2400 U | **2400** | < 2500 U | **2200** | < 2600 U | **2,200** | < 2300 U | **2,200** |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | **50,000** | **19,000,000** | **10,000** | **750,000** | **15,000** | **11,000,000** | **8,000** | **10,000** | **10,000** | **5,100,000** | **30,000** |
| TPH | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | **820,000** | **900,000** | **10,000** | **50,000** | **8,000** | **900,000** | **8,000** | **70,000** | **10,000** | **800,000** | **30,000** |
| TPH-GRO | | | | **50,000** | **900,000** | **10,000** | **50,000** | **8,000** | **900,000** | **8,000** | **10,000** | **10,000** | **800,000** | **30,000** |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | **11.8** | **17.8** | **7.8** | **18.2** | **15.6** | **18.5** | **9.5** | **23.2** | **10.1** | **15.9** | **7.4** |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | FTASB-15 | FTASB-16 | FTASB-16 | FTASB-17 | FTASB-17 | HA01-MW-09 | HA01-MW-09 | HA01-MW-10 | HA01-MW-10 | HA01-MW-11 | HA01-MW-11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 4.5 - 6.5 | .5 - 2.5 | 6.5 - 8.1 | .5 - 2.5 | 4.5 - 6.5 | 1 - 2 | 9 - 10 | 1 - 2 | 3 - 4 | 1 - 2 | 2 - 3 |
| | | | | Sample Date | 10/4/1995 | 10/4/1995 | 10/4/1995 | 10/4/1995 | 10/4/1995 | 11/4/2009 | 11/4/2009 | 11/9/2009 | 11/9/2009 | 11/9/2009 | 11/9/2009 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | < 5.5 U | < 5.1 U | < 8.8 U | **8.4** | < 6.7 U | < 5.8 U |
| Bromodichloromethane | 290 | 1,300 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Bromomethane | 680 | 3,000 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Carbon disulfide | 77,000 | 350,000 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Carbon tetrachloride | 650 | 2,900 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Chlorobenzene | 28,000 | 130,000 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Chloroethane | 1,400,000 | 5,700,000 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Chloroform | 320 | 1,400 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Chloromethane | 11,000 | 46,000 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| cis-1,3-Dichloropropene | | | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Dibromochloromethane | 730 | 3,200 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | < 5.5 U | **9.5** | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Methylene chloride | 35,000 | 320,000 | | **2 JQ** | < 5 U | **5 JQ** | **4 JQ** | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Styrene | 600,000 | 3,500,000 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Tetrachloroethene | 8,100 | 39,000 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Toluene | 490,000 | 4,700,000 | | < 6 U | < 5 U | < 6 U | **2 JQ** | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| trans-1,3-Dichloropropene | | | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Tribromomethane | 67,000 | 290,000 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Trichloroethene | 410 | 1,900 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Vinyl acetate | 91,000 | 380,000 | | < 12 U | < 11 U | < 12 U | < 11 U | < 11 JL | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| Xylenes (total) | 58,000 | 250,000 | | < 6 U | < 5 U | < 6 U | < 5 U | < 6 U | **3.5 J** | **3.2 J** | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | < 970 U | < 880 U | < 990 U | < 890 U | < 930 U | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | < 970 U | < 880 U | < 990 U | < 890 U | < 930 U | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 2-Methylphenol | 320,000 | 4,100,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | < 780 U | < 710 U | < 800 U | < 720 U | < 750 U | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | < 390 U | < 350000 U | < 390 U | < 350 U | < 370 JL | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | < 970 U | < 88 U | < 990 U | < 890 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Acenaphthylene | | | | < 390 U | < 350 U | < 390 U | **240 JQ** | **390** | -- | -- | -- | -- | -- | -- |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | < 390 U | < 350 U | < 390 U | **150 JQ** | **190 JQ** | -- | -- | -- | -- | -- | -- |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | < 390 U | < 350 U | < 390 U | **630** | **1,400** | -- | -- | -- | -- | -- | -- |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | < 780 U | < 710 U | < 800 U | < 720 U | < 750 U | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | < 390 U | < 350 U | < 390 U | **760** | **1,300** | -- | -- | -- | -- | -- | -- |
| Benzo(b)fluoranthene | 1100 | 2,100 | | < 390 U | < 350 U | < 390 U | **2,000** | **1,600** | -- | -- | -- | -- | -- | -- |
| Benzo(ghi)perylene | | | | < 390 U | < 350 U | < 390 U | **580** | **650** | -- | -- | -- | -- | -- | -- |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Benzoic acid | 25,000,000 | 330,000,000 | | < 2000 U | < 1800 U | < 2000 U | < 1800 U | < 1900 U | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | < 390 U | < 350 U | **90 JQ** | **160 JQ** | **100 JQ** | -- | -- | -- | -- | -- | -- |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | < 390 U | < 350 U | < 390 U | **710** | **1,800** | -- | -- | -- | -- | -- | -- |
| Dibenz(a,h)anthracene | 110 | 2100 | | < 390 U | < 350 U | < 390 U | **91 JQ** | **240 JQ** | -- | -- | -- | -- | -- | -- |
| Dibenzofuran | 7,300 | 100,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Dimethyl phthalate | | | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | < 390 U | < 350 U | < 390 U | **1,100** | **1,300** | -- | -- | -- | -- | -- | -- |
| Fluorene | 240,000 | 3,000,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Hexachlorobenzene | 210 | 960 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | < 390 U | < 350 U | < 390 U | **520** | **490** | -- | -- | -- | -- | -- | -- |
| Isophorone | 570,000 | 2,400,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Nitrobenzene | 5,100 | 22,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | < 970 U | < 880 U | < 990 U | < 890 U | < 930 U | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | < 390 U | < 350 U | < 390 U | **300 JQ** | **420** | -- | -- | -- | -- | -- | -- |
| Phenol | 1,900,000 | 25,000,000 | | < 390 U | < 350 U | < 390 U | < 350 U | < 370 U | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | < 390 U | < 350 U | < 390 U | **1,000** | **2300 JL** | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | Location ID | FTASB-15 | FTASB-16 | FTASB-16 | FTASB-17 | FTASB-17 | HA01-MW-09 | HA01-MW-09 | HA01-MW-10 | HA01-MW-10 | HA01-MW-11 | HA01-MW-11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth Interval | 4.5 - 6.5 | .5 - 2.5 | 6.5 - 8.1 | .5 - 2.5 | 4.5 - 6.5 | 1 - 2 | 9 - 10 | 1 - 2 | 3 - 4 | 1 - 2 | 2 - 3 |
| | | | Sample Date | 10/4/1995 | 10/4/1995 | 10/4/1995 | 10/4/1995 | 10/4/1995 | 11/4/2009 | 11/4/2009 | 11/9/2009 | 11/9/2009 | 11/9/2009 | 11/9/2009 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| DDD | 2,300 | 9,600 | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| DDE, p,p'- | 2,000 | 9,300 | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| Dieldrin | 33 | 140 | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| Endosulfan I | | | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | < 1.8 UJ | -- | < 2 U | -- | < 2 U | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | < 1.8 U | -- | < 2 U | -- | < 2 U | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- | -- | -- | < 7 U | -- | < 7.9 U | -- | < 7.9 U | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | < 86 U | -- | < 98 U | -- | < 98 U | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | **610 JQ** | **1,430** | **1290 JQ** | **2,140** | **260 JQ** | **670** | **920** | **1,000** | **470 J** | **300 J** | **460 J** |
| Barium | 1,500,000 | 22,000,000 | 28,000 | **7270 JQ** | **11,000** | **10700 J** | **18,000** | **6380 JQ** | **23,000** | **17,000** | **10,000** | **8,700** | **8,200** | **13,000** |
| Cadmium | 7,100 | 98,000 | 2,600 | < 2300 U | **2,100** | < 2400 U | **2,200** | < 2200 U | < 110 U | **16 J** | < 120 U | < 130 U | < 120 U | < 130 U |
| Chromium | | | 7,700 | **2600 JQ** | **3,400** | **3700 JQ** | **4,700** | **2100 JQ** | **4,000** | **4,000** | **2,000** | **2,300** | **3,200** | **6,000** |
| Lead | 400,000 | 800,000 | 53,000 | **5,400** | **3,400** | **3,100** | **12,400** | **2,000** | **3,800** | **5,900** | **6,000** | **2,200** | **4,500** | **6,500** |
| Mercury | 1,100 | 4,600 | 390 | **45** | **19** | **31** | **45** | **110** | **17 J** | **14 J** | **35 J** | **27 J** | **25 J** | **60 J** |
| Selenium | 39000 | 580,000 | 1900 | **160** | **1100** | **1200** | **1100** | **1100** | < 530 U | < 590 U | < 580 U | **230 J** | < 620 U | < 630 U |
| Silver | 39,000 | 580,000 | 2,600 | < 2300 U | **2,100** | < 2400 U | **2,200** | < 2200 U | < 270 U | < 290 U | < 290 U | < 320 U | **95 J** | **220 J** |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | **8,000** | **7,000** | **8,000** | **8,000** | **8,000** | -- | -- | -- | -- | -- | -- |
| TPH | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | **8,000** | **7,000** | **8,000** | **8,000** | **8,000** | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | **8,000** | **7,000** | **8,000** | **8,000** | **8,000** | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | **14.5** | **6.2** | **15.9** | **7** | **10.6** | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | -- | -- | -- | -- | -- | **93.7** | **83.1** | **84.2** | **76.4** | **80** | **77.1** |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Compound | Residential RSL | Industrial RSL | UBC | Location ID | HA01-MW-11 (DU | HA01-MW-12 | HA01-MW-12 | HA01-MW-13 | HA01-MW-13 | HA01-MW-14 | HA01-MW-14 | HA01-MW-15 | HA01-MW-15 | HA01-MW-16 | HA01-MW-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 2 - 12 | 1 - 2 | 2 - 12 | 1 - 2 | 4 - 5 | 1 - 2 | 3 - 4 | 1 - 2 | 5 - 6 | 1 - 2 | 10 - 11 |
| | | | | Sample Date | 11/9/2009 | 11/6/2009 | 11/6/2009 | 11/10/2009 | 11/9/2009 | 11/6/2009 | 11/6/2009 | 11/5/2009 | 11/5/2009 | 11/4/2009 | 11/4/2009 |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | | < 5.1 U | < 6.9 UJ | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 UJ | < 5.9 UJ | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Bromodichloromethane | 290 | 1,300 | | | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Bromomethane | 680 | 3,000 | | | < 5.1 U | < 6.9 UJ | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 UJ | < 5.9 UJ | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Carbon disulfide | 77,000 | 350,000 | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | **8** |
| Carbon tetrachloride | 650 | 2,900 | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | **4.6 J** | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| CFC-11 | 73,000 | 310,000 | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| CFC-12 | 8,700 | 37,000 | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Chlorobenzene | 28,000 | 130,000 | | | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Chloroethane | 1,400,000 | 5,700,000 | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Chloroform | 320 | 1,400 | | | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Chloromethane | 11,000 | 46,000 | | | < 5.1 U | **6.9 J** | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| cis-1,3-Dichloropropene | | | | | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Cyclohexane | 650,000 | 2,700,000 | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Dibromochloromethane | 730 | 3,200 | | | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Diethyl ether | 1,600,000 | 23,000,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Methyl acetate | 7,800,000 | 120,000,000 | | | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Methyl tert-butyl ether | 47,000 | 210,000 | | | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Methylcyclohexane | | | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Methylene chloride | 35,000 | 320,000 | | | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Styrene | 600,000 | 3,500,000 | | | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Tetrachloroethene | 8,100 | 39,000 | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Toluene | 490,000 | 4,700,000 | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| trans-1,3-Dichloropropene | | | | | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Tribromomethane | 67,000 | 290,000 | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Trichloroethene | 410 | 1,900 | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Vinyl acetate | 91,000 | 380,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Xylenes (total) | 58,000 | 250,000 | | | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylphenol | 320,000 | 4,100,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthylene | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acetophenone | 780,000 | 12,000,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Atrazine | 2,400 | 10,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzaldehyde | 170,000 | 820,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(b)fluoranthene | 1100 | 2,100 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(ghi)perylene | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzoic acid | 25,000,000 | 330,000,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenz(a,h)anthracene | 110 | 2100 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibenzofuran | 7,300 | 100,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dimethyl phthalate | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluorene | 240,000 | 3,000,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobenzene | 210 | 960 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Isophorone | 570,000 | 2,400,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Nitrobenzene | 5,100 | 22,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenol | 1,900,000 | 25,000,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Compound | Residential RSL | Industrial RSL | UBC | Location ID A01-MW-11 (DU | HA01-MW-12 | HA01-MW-12 | HA01-MW-13 | HA01-MW-13 | HA01-MW-14 | HA01-MW-14 | HA01-MW-15 | HA01-MW-15 | HA01-MW-16 | HA01-MW-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth Interval | 2 - 12 | 1 - 2 | 2 - 12 | 1 - 2 | 4 - 5 | 1 - 2 | 3 - 4 | 1 - 2 | 5 - 6 | 1 - 2 | 10 - 11 |
| | | | Sample Date | 11/9/2009 | 11/6/2009 | 11/6/2009 | 11/10/2009 | 11/9/2009 | 11/6/2009 | 11/6/2009 | 11/5/2009 | 11/5/2009 | 11/4/2009 | 11/4/2009 |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| alpha-Chlordane | | | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| DDD | 2,300 | 9,600 | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| DDE, p,p'- | 2,000 | 9,300 | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| DDT | 1,900 | 8,500 | | -- | < 1.9 U | -- | < 1.8 U | -- | **4.9** | -- | < 1.9 U | -- | < 1.8 U | -- |
| delta BHC | | | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Dieldrin | 33 | 140 | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Endosulfan I | | | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Endosulfan II | | | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Endosulfan Sulfate | | | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Endrin | 1,900 | 25,000 | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Endrin Aldehyde | | | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Endrin ketone | | | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| gamma-Chlordane | | | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Heptachlor | 130 | 630 | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Heptachlor epoxide | 70 | 330 | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Lindane | 570 | 2,500 | | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | < 7.5 U | -- | < 7.2 U | -- | < 7.1 U | -- | < 7.4 U | -- | < 7.3 U | -- |
| Toxaphene | 490 | 2,100 | | -- | < 93 U | -- | < 89 U | -- | < 87 U | -- | < 92 U | -- | < 90 U | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | **480 J** | **470 J** | **480 J** | **250 J** | **290 J** | **1,700** | **470 J** | **1,400** | **720** | **570** | **650** |
| Barium | 1,500,000 | 22,000,000 | 28,000 | **15,000** | **4,300** | **6,300** | **2,400** | **23,000** | **25,000** | **3,100** | **13,000** | **9,000** | **3,600** | **25,000** |
| Cadmium | 7,100 | 98,000 | 2,600 | < 120 U | **14 J** | < 120 U | < 110 U | < 110 U | **20 J** | **25 J** | < 110 U | **12 J** | **17 J** | < 110 U |
| Chromium | | | 7,700 | **6,100** | **1,700** | **2,200** | **910** | **9,900** | **8,600** | **1,400** | **6,800** | **1,000** | **3,000** | **6,300** |
| Lead | 400,000 | 800,000 | 53,000 | **8,500** | **4,200** | **3,200** | **2,100** | **5,200** | **6,800** | **2,000** | **3,600** | **1,800** | **2,900** | **4,200** |
| Mercury | 1,100 | 4,600 | 390 | **47 J** | **38 J** | **27 J** | < 94 U | **42 J** | **13 J** | **18 J** | **28 J** | **15 J** | **30 J** | **28 J** |
| Selenium | 39000 | 580,000 | 1900 | **380 J** | < 550 U | < 590 U | < 570 U | < 550 U | < 530 U | < 600 U | < 570 U | < 560 U | < 530 U | < 560 U |
| Silver | 39,000 | 580,000 | 2,600 | **240 J** | < 280 U | < 300 U | < 290 U | < 280 U | < 260 U | **1100** | < 290 U | < 280 U | **200 J** | **420** |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | **77.8** | **85.9** | **80.8** | **85.5** | **87.8** | **92.5** | **82.9** | **86.8** | **86.7** | **90.9** | **86.7** |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Compound | Residential RSL | Industrial RSL | UBC | Location ID | HA01-MW-17 | HA01SB001 | HA01SB001 | HA01SB002 | HA01SB003 | HA01SB004 | HA01SB005 | HMW-10 | HMW-10 | HMW-11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 1 - 2 | 6 - 7 | 8 - 10 | 8 - 10 | 6 - 6.5 | 8 - 10 | 2 - 4 | 0 - 2 | 0 - 2 | 2 - 4 | 2 - 4 |
| | | | | Sample Date | 11/4/2009 | 11/4/2009 | 11/10/2009 | 11/3/2009 | 11/3/2009 | 11/3/2009 | 11/3/2009 | 11/3/2009 | 10/3/1995 | 10/3/1995 | 10/3/1995 |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | < 6.1 U | **3.9 J** | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Bromomethane | 680 | 3,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Carbon disulfide | 77,000 | 350,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Carbon tetrachloride | 650 | 2,900 | | < 6.1 U | **4.7 J** | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| CFC-11 | 73,000 | 310,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Chloroethane | 1,400,000 | 5,700,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Chloroform | 320 | 1,400 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Chloromethane | 11,000 | 46,000 | | < 6.1 U | **4.1 J** | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| cis-1,3-Dichloropropene | | | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Cyclohexane | 650,000 | 2,700,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Methyl acetate | 7,800,000 | 120,000,000 | | < 6.1 UJ | < 5.8 UJ | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Styrene | 600,000 | 3,500,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Tetrachloroethene | 8,100 | 39,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Toluene | 490,000 | 4,700,000 | | **13** | **2.2 J** | < 5.1 U | -- | -- | -- | -- | -- | < 6 U | **2 JQ** | **2 JQ** |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| trans-1,3-Dichloropropene | | | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Tribromomethane | 67,000 | 290,000 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Trichloroethene | 410 | 1,900 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | -- | -- | < 11 U | < 12 U | < 12 U |
| Vinyl chloride | 59 | 1,700 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | < 6 U | < 6 U |
| Xylenes (total) | 58,000 | 250,000 | | **12** | < 5.8 U | -- | -- | -- | -- | -- | -- | < 6 U | **1 JQ** | < 6 U |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | < 390 U | < 350 U | < 410 U | -- | -- | < 940 U | < 1000 U | < 1000 U |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | < 390 U | < 350 U | < 410 U | -- | -- | < 940 U | < 1000 U | < 1000 U |
| 2-Methylnaphthalene | 24,000 | 300,000 | | -- | -- | -- | < 78 U | **16,000** | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 2-Nitrophenol | | | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | < 390 U | < 350 U | < 410 U | -- | -- | < 760 U | < 830 U | < 810 U |
| 3-Nitrobenzenamine | | | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | < 78 U | **21 J** | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- | < 370 U | < 410 U | < 400 U |
| 4-Nitrophenol | | | | -- | -- | -- | < 390 U | < 350 U | < 410 U | -- | -- | < 940 U | < 1000 U | < 1000 U |
| Acenaphthene | 360,000 | 4,500,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | **170 JQ** |
| Acenaphthylene | | | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | **710** |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | **42 JQ** | < 410 U | **1,900** |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | **340 JQ** | < 410 U | **8,000** |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | < 760 U | < 830 U | < 810 U |
| Benzo(a)pyrene | 110 | 210 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | **300 JQ** | < 410 U | **5,700** |
| Benzo(b)fluoranthene | 1100 | 2,100 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | **720** | < 410 U | **12,000** |
| Benzo(ghi)perylene | | | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | **210 JQ** | < 410 U | **2,000** |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | **510 JQ** | < 2100 U | **550 JQ** |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | -- | -- | -- | < 78 U | **540** | < 83 U | -- | -- | **140 JQ** | **110 JQ** | **380 JQ** |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- | < 370 U | < 410 U | **120 JQ** |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | **390** | < 410 U | **6,300** |
| Dibenz(a,h)anthracene | 110 | 2100 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | **240 JQ** |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Dimethyl phthalate | | | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Fluoranthene | 240,000 | 3,000,000 | | -- | -- | -- | < 78 U | **210** | < 83 U | -- | -- | **510** | < 410 U | **19,000** |
| Fluorene | 240,000 | 3,000,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | **420** |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | < 390 U | < 350 U | < 410 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | **210 JQ** | < 410 U | **2,200** |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Naphthalene | 3,800 | 17,000 | | -- | -- | -- | < 78 U | **5,300** | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | < 78 U | **960** | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | < 390 U | < 350 U | < 410 U | -- | -- | < 940 U | < 1000 U | < 1000 U |
| Phenanthrene | | | | -- | -- | -- | < 78 U | **660** | < 83 U | -- | -- | **170 JQ** | < 410 U | **6,300** |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- | < 370 U | < 410 U | < 400 U |
| Pyrene | 180,000 | 2,300,000 | | -- | -- | -- | < 78 U | **220** | < 83 U | -- | -- | **670** | < 410 U | **14,000** |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | HA01-MW-17 | HA01-MW-17 | HA01SB001 | HA01SB001 | HA01SB002 | HA01SB003 | HA01SB004 | HA01SB005 | HMW-10 | HMW-10 | HMW-11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 1 - 2 | 6 - 7 | 8 - 10 | 8 - 10 | 6 - 6.5 | 8 - 10 | 2 - 4 | 0 - 2 | 0 - 2 | 2 - 4 | 2 - 4 |
| | | | | Sample Date | 11/4/2009 | 11/4/2009 | 11/10/2009 | 11/3/2009 | 11/3/2009 | 11/3/2009 | 11/3/2009 | 11/3/2009 | 10/3/1995 | 10/3/1995 | 10/3/1995 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDE, p,p'- | 2,000 | 9,300 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDT | 1,900 | 8,500 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan I | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | < 7.4 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | < 92 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | **730** | < 2900 U | **2,300** | **500 J** | -- | -- | -- | -- | **1,640** | **260 JQ** | **840 JQ** |
| Barium | 1,500,000 | 22,000,000 | 28,000 | **3,600** | **17,000** | **20,000** | **14,000** | -- | -- | -- | -- | **16,000** | **6250 JQ** | **11700 J** |
| Cadmium | 7,100 | 98,000 | 2,600 | **17 J** | **83 J** | < 120 U | < 120 U | -- | -- | -- | -- | **2,300** | < 2400 U | < 2400 U |
| Chromium | | | 7,700 | **1,800** | **9,300** | **6,900** | **4,200** | -- | -- | **4,900** | **2,600** | **7,700** | **3300 JQ** | **8,100** |
| Lead | 400,000 | 800,000 | 53,000 | **2,300** | **5,200** | **4,200** | **2,000** | -- | -- | -- | -- | **17,000** | **11,800** | **2,700** |
| Mercury | 1,100 | 4,600 | 390 | **32 J** | **23 J** | < 95 U | **20 J** | -- | -- | **44 J** | **21 J** | **46** | **33** | **34** |
| Selenium | 39000 | 580,000 | 1900 | < 570 U | < 2900 U | < 580 U | < 580 U | -- | -- | -- | -- | **200** | **220** | **250** |
| Silver | 39,000 | 580,000 | 2,600 | **54 J** | < 1400 U | < 290 U | **120 J** | -- | -- | -- | -- | **2300** | < 2400 U | < 2400 U |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | -- | -- | -- | **8,000** | **9,000** | **100,000** |
| TPH | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | **50,000** | **50,000** | **100,000** |
| TPH-GRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | **8,000** | **9,000** | **100,000** |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | -- | -- | -- | -- | -- | -- | -- | -- | **11.5** | **19** | **16.9** |
| Percent Solid | | | | **86.6** | **85.9** | **84.9** | **85.1** | **91.9** | **79.9** | **81.9** | **88.4** | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | HMW-11 | HMW-12 | HMW-12 | HMW-13 | HMW-13 | HMW-14 | HMW-14 | HMW-14R | HMW-14R | HMW-15 | HMW-15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 6 - 8 | 1.5 - 3 | 4.5 - 6 | 2 - 4 | 8 - 10 | 0 - 1.5 | 7.5 - 7.5 | 0 - 2 | 7 - 9 | 0 - 1.5 | 7.5 - 7.5 |
| | | | | Sample Date | 10/3/1995 | 10/2/1995 | 10/2/1995 | 10/3/1995 | 10/3/1995 | 7/28/1999 | 7/28/1999 | 1/5/2000 | 1/5/2000 | 7/28/1999 | 7/28/1999 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | **13** | < 6 U | < 6 U | **1,900** | **44** | -- | -- | -- | -- | -- | -- | |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Bromodichloromethane | 290 | 1,300 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Bromomethane | 680 | 3,000 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Carbon disulfide | 77,000 | 350,000 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Carbon tetrachloride | 650 | 2,900 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Chlorobenzene | 28,000 | 130,000 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Chloroethane | 1,400,000 | 5,700,000 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Chloroform | 320 | 1,400 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Chloromethane | 11,000 | 46,000 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | < 5.7 U | < 6 U | < 5.2 U | **270** | < 7 U | < 6.2 U | |
| cis-1,3-Dichloropropene | | | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Dibromochloromethane | 730 | 3,200 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Ethylbenzene | 5,800 | 25,000 | | **35** | < 6 U | < 6 U | **65,000** | **540** | < 5.7 U | < 6 U | < 5.2 U | < 5.4 U | < 7 U | < 6.2 U | |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Methylene chloride | 35,000 | 320,000 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Styrene | 600,000 | 3,500,000 | | < 6 U | **1 JH** | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Tetrachloroethene | 8,100 | 39,000 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | < 5.7 U | < 6 U | < 5.2 U | < 5.4 U | < 7 U | < 6.2 U | |
| Toluene | 490,000 | 4,700,000 | | **8** | **1 JH** | **1 JQ** | **2,200** | **13 JQ** | < 5.7 U | < 6 U | < 5.2 U | < 5.4 U | < 7 U | < 6.2 U | |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | < 5.7 U | < 6 U | < 5.2 U | **13** | < 7 U | < 6.2 U | |
| trans-1,3-Dichloropropene | | | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Tribromomethane | 67,000 | 290,000 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Trichloroethene | 410 | 1,900 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Vinyl acetate | 91,000 | 380,000 | | < 13 U | < 12 U | < 12 U | < 3000 U | < 58 U | -- | -- | -- | -- | -- | -- | |
| Vinyl chloride | 59 | 1,700 | | < 6 U | < 6 U | < 6 U | < 1600 U | < 29 U | -- | -- | -- | -- | -- | -- | |
| Xylenes (total) | 58,000 | 250,000 | | **3,100** | **2 JTH** | < 6 U | **310,000** | **3,100** | < 5.7 U | < 6 U | < 5.2 U | < 5.4 U | < 7 U | < 6.2 U | |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | < 1100 U | < 1000 U | < 1000 U | < 1000 U | < 970 U | -- | -- | -- | -- | -- | -- | |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 2,6-Dinitrotoluene | 360 | 1,500 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 2-Chlorophenol | 39,000 | 580,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | < 1100 U | < 1000 U | < 1000 U | < 1000 U | < 970 U | -- | -- | -- | -- | -- | -- | |
| 2-Methylnaphthalene | 24,000 | 300,000 | | **640** | < 400 U | < 400 U | **32,000** | **280 JQ** | -- | -- | -- | -- | -- | -- | |
| 2-Methylphenol | 320,000 | 4,100,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 2-Nitrophenol | | | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | < 870 U | < 820 U | < 810 U | < 810 U | < 780 U | -- | -- | -- | -- | -- | -- | |
| 3-Nitrobenzenamine | | | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 4-Bromophenyl phenyl ether | | | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 4-Chlorophenyl phenyl ether | | | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 4-Methylphenol | 630,000 | 8,200,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| 4-Nitrophenol | | | | < 1100 U | < 1000 U | < 1000 U | < 1000 U | < 970 U | -- | -- | -- | -- | -- | -- | |
| Acenaphthene | 360,000 | 4,500,000 | | **110 JQ** | < 400 U | < 400 U | < 400 U | < 380 U | < 360 U | < 360 U | < 340 U | < 360 U | < 380 U | < 360 U | |
| Acenaphthylene | | | | **590** | **110 JQ** | **150 JQ** | < 400 U | < 380 U | < 360 U | **470** | < 340 U | < 360 U | < 380 U | < 360 U | |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Anthracene | 1,800,000 | 23,000,000 | | **720** | **110 JQ** | **160 JQ** | < 400 U | < 380 U | < 360 U | < 360 U | < 340 U | < 360 U | < 380 U | < 360 U | |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Benz(a)anthracene | 1100 | 2,100 | | **3,600** | **840** | **1,100** | **61 JQ** | < 380 U | < 360 U | **1,800** | < 340 U | < 360 U | < 380 U | < 360 U | |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Benzenemethanol | 620,000 | 8,200,000 | | < 870 U | < 820 U | < 810 U | < 810 U | < 780 U | -- | -- | -- | -- | -- | -- | |
| Benzo(a)pyrene | 110 | 210 | | **3,200** | **910** | **1,200** | < 400 U | < 380 U | < 360 U | **1,900** | < 340 U | < 360 U | < 380 U | < 360 U | |
| Benzo(b)fluoranthene | 1100 | 2,100 | | **4,900** | **1,800** | **2,300** | **110 JQ** | < 380 U | < 360 U | **1,600** | < 340 U | < 360 U | < 380 U | < 360 U | |
| Benzo(ghi)perylene | | | | **1,400** | **440** | **590** | < 400 U | < 380 U | < 360 U | **1,200** | < 340 U | < 360 U | < 380 U | < 360 U | |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | < 360 U | **2,000** | < 340 U | < 360 U | < 380 U | < 360 U | |
| Benzoic acid | 25,000,000 | 330,000,000 | | **620 JQ** | < 2100 U | < 2000 U | < 2000 U | < 2000 U | -- | -- | -- | -- | -- | -- | |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | **1,100** | **390 J** | **430** | **420** | **290 JQ** | < 360 U | < 360 U | < 340 U | **430** | < 380 U | < 360 U | |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | **330 JQ** | **100 JQ** | **120 JQ** | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Chrysene | 110,000 | 2,100,000 | | **4,000** | **830** | **1,100** | **72 JQ** | < 380 U | < 360 U | **1,900** | < 340 U | < 360 U | < 380 U | < 360 U | |
| Dibenz(a,h)anthracene | 110 | 2100 | | < 430 U | **160 JQ** | < 400 U | < 400 U | < 380 U | < 360 U | **430** | < 340 U | < 360 U | < 380 U | < 360 U | |
| Dibenzofuran | 7,300 | 100,000 | | **82 JQ** | < 400 U | < 400 U | **660** | < 380 U | -- | -- | -- | -- | -- | -- | |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Dimethyl phthalate | | | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Di-n-octylphthalate | 63,000 | 820,000 | | < 430 U | < 400 U | < 400 U | < 400 U | **110 JQ** | -- | -- | -- | -- | -- | -- | |
| Fluoranthene | 240,000 | 3,000,000 | | **5,200** | **870** | **1,200** | **120 JQ** | < 380 U | < 360 U | **2,400** | < 340 U | < 360 U | < 380 U | < 360 U | |
| Fluorene | 240,000 | 3,000,000 | | **630** | < 400 U | < 400 U | **640** | < 380 U | < 360 U | < 360 U | < 340 U | < 360 U | < 380 U | < 360 U | |
| Hexachlorobenzene | 210 | 960 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Hexachlorobutadiene | 1,200 | 5,300 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Hexachlorocyclopentadiene | 180 | 750 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Hexachloroethane | 1,800 | 8,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | **1,300** | **440** | **580** | < 400 U | < 380 U | < 360 U | **1,200** | < 340 U | < 360 U | < 380 U | < 360 U | |
| Isophorone | 570,000 | 2,400,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Naphthalene | 3,800 | 17,000 | | **1,000** | < 400 U | < 400 U | **22,000** | **220 JQ** | < 360 U | < 360 U | < 340 U | < 360 U | < 380 U | < 360 U | |
| Nitrobenzene | 5,100 | 22,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Pentachlorophenol | 1000 | 4,000 | | < 1100 U | < 1000 U | < 1000 U | < 1000 U | < 970 U | -- | -- | -- | -- | -- | -- | |
| Phenanthrene | | | | **3,300** | **71 JQ** | **130 JQ** | **300 JQ** | < 380 U | < 360 U | < 360 U | < 340 U | < 360 U | < 380 U | < 360 U | |
| Phenol | 1,900,000 | 25,000,000 | | < 430 U | < 400 U | < 400 U | < 400 U | < 380 U | -- | -- | -- | -- | -- | -- | |
| Pyrene | 180,000 | 2,300,000 | | **7,200** | **900** | **1,300** | **140 JQ** | < 380 U | < 360 U | **2,000** | < 340 U | < 360 U | < 380 U | < 360 U | |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | HMW-11 | HMW-12 | HMW-12 | HMW-13 | HMW-13 | HMW-14 | HMW-14 | HMW-14R | HMW-14R | HMW-15 | HMW-15 |
| | | | Depth Interval | 6 - 8 | 1.5 - 3 | 4.5 - 6 | 2 - 4 | 8 - 10 | 0 - 1.5 | 7.5 - 7.5 | 0 - 2 | 7 - 9 | 0 - 1.5 | 7.5 - 7.5 |
| | | | Sample Date | 10/3/1995 | 10/2/1995 | 10/2/1995 | 10/3/1995 | 10/3/1995 | 7/28/1999 | 7/28/1999 | 1/5/2000 | 1/5/2000 | 7/28/1999 | 7/28/1999 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDE, p,p'- | 2,000 | 9,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | **750 JQ** | **510 JQ** | **1040 JQ** | **720 JQ** | **600 JQ** | -- | -- | -- | -- | -- | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | **7370 JQ** | **5960 JQ** | **5680 JQ** | **7850 JQ** | **27,000** | -- | -- | -- | -- | -- | -- |
| Cadmium | 7,100 | 98,000 | 2,600 | < 2600 U | < 2400 U | < 2400 U | < 2400 U | < 2300 U | -- | -- | -- | -- | -- | -- |
| Chromium | | | 7,700 | **7,500** | **3600 JQ** | **4600 J** | **3000 JQ** | **31,700** | -- | -- | -- | -- | -- | -- |
| Lead | 400,000 | 800,000 | 53,000 | **2,200** | **2,500** | **2,000** | **16,400** | **3,200** | -- | -- | -- | -- | -- | -- |
| Mercury | 1,100 | 4,600 | 390 | **32** | **35** | **32** | **33** | **30** | -- | -- | -- | -- | -- | -- |
| Selenium | 39000 | 580,000 | 1900 | **370** | **230** | **540** | **440** | **230** | -- | -- | -- | -- | -- | -- |
| Silver | 39,000 | 580,000 | 2,600 | < 2600 U | < 2400 U | < 2400 U | < 2400 U | < 2300 U | -- | -- | -- | -- | -- | -- |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | **500,000** | **9,000** | **10,000** | **13,000,000** | **10,000** | -- | -- | -- | -- | -- | -- |
| TPH | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | **500,000** | **9,000** | **10,000** | **800,000** | **10,000** | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | **500,000** | **9,000** | **10,000** | **800,000** | **30,000** | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | **22.7** | **18.1** | **16.8** | **16.8** | **14.1** | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | HMW-16A | HMW-16A | HMW-17 | HMW-17 | HMW-18 | HMW-18 | HSB-1 | HSB-2 | HSB-3 | HSB-4 | HSB-5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 0 - 1.5 | 7 - 7 | 0 - 1.5 | 6.5 - 6.5 | 0 - 2 | 2 - 3 | 8 - 10 | 3 - 5 | 6 - 8 | 2 - 4 | 5 - 8 |
| | | | | Sample Date | 7/29/1999 | 7/29/1999 | 7/28/1999 | 7/28/1999 | 1/6/2000 | 1/6/2000 | 2/12/1990 | 2/13/1990 | 2/13/1990 | 2/13/1990 | 2/13/1990 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | < 1.2 U | < 1.3 U | < 170 U | < 1.3 U | < 1800 U |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- | -- | -- | -- | < 1 U | < 1.1 U | < 150 U | < 1.2 U | < 1600 U |
| Bromomethane | 680 | 3,000 | | -- | -- | -- | -- | -- | -- | < 1.2 U | < 1.3 U | < 170 U | < 1.4 U | < 1900 U |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- | -- | -- | -- | < 3.3 U | < 3.6 U | < 60 U | < 3.7 U | < 5000 U |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- | -- | -- | -- | < 1 U | < 1.1 U | < 140 U | < 1.1 U | < 1500 U |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- | -- | -- | -- | < 0.69 U | < 0.74 U | < 97 U | < 0.76 U | < 1000 U |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- | -- | -- | -- | < 1.8 U | < 2 U | < 260 U | < 2.1 U | < 2800 U |
| Chloroform | 320 | 1,400 | | -- | -- | -- | -- | -- | -- | < 1.2 U | < 1.3 U | < 180 U | < 1.4 U | < 1900 U |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- | -- | -- | -- | < 26 U | < 28 U | < 3600 U | < 28 U | **39,000** |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | < 6.2 U | < 6.5 U | < 6 U | < 6.3 U | < 6.4 U | < 5.8 U | -- | -- | -- | -- | -- |
| cis-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | < 1.6 U | < 1.8 U | < 230 U | < 1.8 U | < 2400 U |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- | -- | -- | -- | < 1.4 U | < 1.5 U | < 200 U | < 1.5 U | < 2100 U |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | < 6.2 U | < 6.5 U | < 6 U | < 6.3 U | < 6.4 U | < 5.8 U | < 1.1 U | < 1.1 U | **1,500** | < 1.2 U | **10,000** |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- | -- | -- | -- | < 1.7 U | < 1.8 U | < 240 U | < 1.9 U | < 2600 U |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | -- | < 1.7 U | < 1.8 U | < 240 U | < 1.9 U | < 2500 U |
| Tetrachloroethene | 8,100 | 39,000 | | < 6.2 U | < 6.5 U | < 6 U | < 6.3 U | < 6.4 U | < 5.8 U | < 0.54 U | < 0.58 U | < 76 U | < 0.6 U | < 810 U |
| Toluene | 490,000 | 4,700,000 | | < 6.2 U | < 6.5 U | < 6 U | < 6.3 U | < 6.4 UJ | < 5.8 UJ | **2.8** | **2.9** | < 100 U | < 0.82 U | < 1100 U |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | < 6.2 U | < 6.5 U | < 6 U | < 6.3 U | < 6.4 U | < 5.8 U | -- | -- | -- | -- | -- |
| trans-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | < 0.91 U | < 0.98 U | < 130 U | < 1 U | < 1400 U |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- | -- | -- | -- | < 2.6 U | < 2.8 U | < 370 U | < 2.9 U | < 3900 U |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- | -- | -- | -- | < 0.92 U | < 1 U | < 130 U | < 1 U | < 1400 U |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | < 2.7 U | < 2.9 U | < 380 U | < 3 U | < 4100 U |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- | -- | -- | -- | < 1.6 U | < 1.8 U | < 230 U | < 1.8 U | < 2500 U |
| Xylenes (total) | 58,000 | 250,000 | | < 6.2 U | < 6.5 U | < 6 U | < 6.3 U | < 6.4 U | < 5.8 U | < 1.1 U | < 1.2 U | < 150 U | < 1.2 U | **57,000** |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | **6,750** | **7,620** | **9,150** | **8,940** | **9,730** |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | **3,300** | **3,880** | **4,510** | **4,250** | **4,490** |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | **8,940** | **9,410** | **10,200** | **10,600** | **10,400** |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | **52** | **46** | **62** | **50** | **54** |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | < 3500 U | < 790 U | < 360 U | < 370 U | < 420 U | < 380 U | < 130 U | **300** | < 150 U | < 150 U | < 160 U |
| Acenaphthylene | | | | **3,600** | **1,500** | < 360 U | < 370 U | < 420 U | < 380 U | < 96 U | **400** | < 110 U | < 110 U | < 120 U |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | **7,500** | **2,200** | < 360 U | < 370 U | < 420 U | < 380 U | < 75 U | **1,300** | < 85 U | < 83 U | < 91 U |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | **34,000** | **13,000** | < 360 U | < 370 U | < 420 U | < 380 U | < 62 U | **4,900** | < 70 U | < 68 U | < 75 U |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | **26,000** | **10,000** | < 360 U | < 370 U | < 420 U | < 380 U | < 180 U | **3,400** | < 210 U | < 200 U | < 220 U |
| Benzo(b)fluoranthene | 1100 | 2,100 | | **28,000** | **9,100** | < 360 U | < 370 U | < 420 U | < 380 U | < 130 U | **5,000** | < 150 U | < 150 U | < 160 U |
| Benzo(ghi)perylene | | | | **14,000** | **5,700** | < 360 U | < 370 U | < 420 U | < 380 U | < 74 U | **2,200** | < 84 U | < 81 U | < 89 U |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | **27,000** | **13,000** | < 360 U | < 370 U | < 420 U | < 380 U | < 170 U | **2,500** | < 190 U | < 180 U | < 200 U |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | < 3500 U | < 790 U | < 360 U | < 370 U | < 420 U | < 380 U | -- | -- | -- | -- | -- | -- |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | **33,000** | **12,000** | < 360 U | < 370 U | < 420 U | < 380 U | < 97 U | **5,100** | < 110 U | < 110 U | < 120 U |
| Dibenz(a,h)anthracene | 110 | 2100 | | < 3500 U | **860** | < 360 U | < 370 U | < 420 U | < 380 U | < 63 U | **1,100** | < 72 U | < 70 U | < 77 U |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | **72,000** | **24,000** | < 360 U | < 370 U | < 420 U | < 380 U | < 110 U | **13,000** | **140** | < 130 U | **360** |
| Fluorene | 240,000 | 3,000,000 | | < 3500 U | < 790 U | < 360 U | < 370 U | < 420 U | < 380 U | < 110 U | **720** | < 120 U | < 120 U | < 130 U |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | **16,000** | **6,400** | < 360 U | < 370 U | < 420 U | < 380 U | < 95 U | **2,900** | < 110 U | < 110 U | < 120 U |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | < 3500 U | < 790 U | < 360 U | < 370 U | < 420 U | < 380 U | < 210 U | < 230 U | **5,700** | < 230 U | **11,000** |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | **32,000** | **10,000** | < 360 U | < 370 U | < 420 U | < 380 U | < 67 U | **8,100** | **150** | < 74 U | **290** |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | **49,000** | **17,000** | < 360 U | < 370 U | < 420 U | < 380 U | < 72 U | **9,700** | **140** | < 79 U | **540** |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | HMW-16A | HMW-16A | HMW-17 | HMW-17 | HMW-18 | HMW-18 | HSB-1 | HSB-2 | HSB-3 | HSB-4 | HSB-5 |
| | | | Depth Interval | 0 - 1.5 | 7 - 7 | 0 - 1.5 | 6.5 - 6.5 | 0 - 2 | 2 - 3 | 8 - 10 | 3 - 5 | 6 - 8 | 2 - 4 | 5 - 8 |
| | | | Sample Date | 7/29/1999 | 7/29/1999 | 7/28/1999 | 7/28/1999 | 1/6/2000 | 1/6/2000 | 2/12/1990 | 2/13/1990 | 2/13/1990 | 2/13/1990 | 2/13/1990 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDE, p,p'- | 2,000 | 9,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | -- | -- | -- | -- | < 4.2 U | -- | -- | -- | -- | -- | -- |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- | -- | < 22 U | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | -- | -- | -- | -- | -- | -- | < 480 U | < 520 U | < 540 U | **650** | **850** |
| Barium | 1,500,000 | 22,000,000 | 28,000 | -- | -- | -- | -- | -- | -- | **3,830** | **5,970** | **6,210** | **4,440** | **15,400** |
| Cadmium | 7,100 | 98,000 | 2,600 | -- | -- | -- | -- | -- | -- | < 370 U | < 400 U | < 420 U | < 410 U | < 450 U |
| Chromium | | | 7,700 | -- | -- | -- | -- | -- | -- | **780** | **3,490** | **3,850** | **5,870** | **1,930** |
| Lead | 400,000 | 800,000 | 53,000 | -- | -- | -- | -- | -- | -- | < 5260 U | < 5710 U | < 5970 U | < 5810 U | **7,400** |
| Mercury | 1,100 | 4,600 | 390 | -- | -- | -- | -- | -- | -- | < 100 U | < 110 U | < 110 U | < 110 U | < 120 U |
| Selenium | 39000 | 580,000 | 1900 | -- | -- | -- | -- | -- | -- | < 420 U | < 450 U | < 470 U | < 460 U | **670** |
| Silver | 39,000 | 580,000 | 2,600 | -- | -- | -- | -- | -- | -- | < 600 U | < 650 U | < 680 U | < 660 U | < 730 U |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | -- | -- | -- | -- | -- | -- | **5** | **12.4** | **16.2** | **14** | **21.6** |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | HSB-6 | PSB-1 | PSB-1 | PSB-2 | PSB-2 | PSB-2 | PSB-2 | PSB-2 | PSB-3 | PSB-3 | PSB-4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 8 - 10 | 0 - 1 | 3 - 4 | 0 - 1 | 0 - 1 | 3 - 4 | 3 - 4 | 3 - 4 | 0 - 1 | 3.5 - 4.5 | 0 - 1 |
| | | | | Sample Date | 2/13/1990 | 3/3/1992 | 3/3/1992 | 3/3/1992 | 3/3/1992 | 3/3/1992 | 3/3/1992 | 3/3/1992 | 3/4/1992 | 3/4/1992 | 3/4/1992 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | < 1.3 U | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Bromodichloromethane | 290 | 1,300 | | < 1.2 U | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| Bromomethane | 680 | 3,000 | | < 1.4 U | < 11 U | < 60 U | < 12 U | < 12 U | < 12 U | -- | < 12 U | < 11 U | < 11 U | < 11 U | |
| Carbon disulfide | 77,000 | 350,000 | | < 3.7 U | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| Carbon tetrachloride | 650 | 2,900 | | < 1.1 U | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| CFC-11 | 73,000 | 310,000 | | -- | **14** | < 30 U | **12** | **11** | **12** | -- | **10** | **10** | **5.8** | **7.3** | |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Chlorobenzene | 28,000 | 130,000 | | < 0.77 U | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| Chloroethane | 1,400,000 | 5,700,000 | | < 2.1 U | < 11 U | < 60 U | < 12 U | < 12 U | < 12 U | -- | < 12 U | < 11 U | < 11 U | < 11 U | |
| Chloroform | 320 | 1,400 | | < 1.4 U | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| Chloromethane | 11,000 | 46,000 | | < 29 U | < 11 U | < 60 U | < 12 U | < 12 U | < 12 U | -- | < 12 U | < 11 U | < 11 U | < 11 U | |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| cis-1,3-Dichloropropene | | | | < 1.8 U | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Dibromochloromethane | 730 | 3,200 | | < 1.5 U | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | < 10 U | < 60 U | < 10 U | < 10 U | < 10 U | -- | < 10 U | < 10 U | < 10 U | < 10 U | |
| Ethylbenzene | 5,800 | 25,000 | | < 1.2 U | < 5.6 U | **36** | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Methylene chloride | 35,000 | 320,000 | | **6.7** | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | < 6 U | -- | < 5.4 U | < 5.7 U | < 5.6 U | |
| Styrene | 600,000 | 3,500,000 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Tetrachloroethene | 8,100 | 39,000 | | < 0.6 U | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| Toluene | 490,000 | 4,700,000 | | **5.5** | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| trans-1,3-Dichloropropene | | | | < 1 U | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| Tribromomethane | 67,000 | 290,000 | | < 2.9 U | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| Trichloroethene | 410 | 1,900 | | < 1 U | < 5.6 U | < 30 U | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.4 U | |
| Vinyl acetate | 91,000 | 380,000 | | < 3 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Vinyl chloride | 59 | 1,700 | | < 1.8 U | < 11 U | < 60 U | < 12 U | < 12 U | < 12 U | -- | < 12 U | < 11 U | < 11 U | < 11 U | |
| Xylenes (total) | 58,000 | 250,000 | | < 1.2 U | < 5.6 U | **200** | < 5.8 U | < 5.8 U | < 6 U | -- | < 6 U | < 5.4 U | < 5.7 U | < 5.6 U | |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2,4,6-Tribromophenol | | | | **8,490** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2-Fluorobiphenyl | | | | **3,640** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2-Fluorophenol | | | | **10,300** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2-Methylnaphthalene | 24,000 | 300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 4-Bromofluorobenzene | | | | **50** | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Acenaphthene | 360,000 | 4,500,000 | | < 150 U | < 78 U | < 85000 U | < 81 U | < 81 U | < 84 U | -- | < 83 U | < 380 U | < 80 U | < 78 U | |
| Acenaphthylene | | | | < 110 U | < 170 U | < 1800 U | < 170 U | < 81 U | < 180 U | -- | < 83 U | < 810 U | < 170 U | < 170 U | |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Anthracene | 1,800,000 | 23,000,000 | | < 85 U | < 78 U | < 85000 U | < 81 U | < 81 U | < 84 U | -- | < 83 U | **670** | < 80 U | < 78 U | |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Benz(a)anthracene | 1100 | 2,100 | | < 70 U | **370** | < 1200 U | **170** | **140** | < 120 U | -- | < 120 U | **5,300** | < 110 U | **160** | |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Benzo(a)pyrene | 110 | 210 | | < 210 U | **320** | < 1700 U | **220** | **180** | < 170 U | -- | < 170 U | **4,800** | < 160 U | **180** | |
| Benzo(b)fluoranthene | 1100 | 2,100 | | < 150 U | **560** | < 1200 U | **370** | **160** | < 120 U | -- | < 120 U | **6,900** | < 110 U | **260** | |
| Benzo(ghi)perylene | | | | < 84 U | < 180 U | < 1900 U | < 180 U | < 180 U | < 190 U | -- | < 190 U | < 870 U | < 180 U | < 180 U | |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | < 190 U | **250** | < 1200 U | **150** | **150** | < 120 U | -- | < 120 U | **2,700** | < 110 U | < 110 U | |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Chrysene | 110,000 | 2,100,000 | | < 110 U | **560** | < 1200 U | **200** | **130** | < 120 U | -- | < 120 U | **5,300** | < 110 U | < 170 U | |
| Dibenz(a,h)anthracene | 110 | 2100 | | < 72 U | < 180 U | < 1900 U | < 180 U | < 160 U | < 190 U | -- | < 190 U | < 870 U | < 180 U | < 180 U | |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Dichlorobenzene | | | | -- | < 11 U | < 60 U | < 12 U | < 12 U | < 12 U | -- | < 12 U | < 11 U | < 11 U | < 11 U | |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Fluoranthene | 240,000 | 3,000,000 | | < 130 U | **690** | < 850 U | **120** | **160** | < 84 U | -- | < 83 U | **8,100** | < 80 U | **170** | |
| Fluorene | 240,000 | 3,000,000 | | < 120 U | < 78 U | < 850 U | < 81 U | < 81 U | < 84 U | -- | < 83 U | < 380 U | < 80 U | < 78 U | |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | < 110 U | < 180 U | < 1900 U | < 180 U | < 180 U | < 190 U | -- | < 190 U | < 870 U | < 180 U | < 180 U | |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Naphthalene | 3,800 | 17,000 | | < 240 U | < 78 U | **3,500** | < 81 U | < 81 U | < 84 U | -- | < 83 U | < 380 U | < 80 U | < 78 U | |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Phenanthrene | | | | < 76 U | **440** | < 850 U | < 81 U | < 81 U | < 84 U | -- | < 83 U | **670** | < 80 U | < 78 U | |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Pyrene | 180,000 | 2,300,000 | | < 81 U | **580** | < 850 U | **190** | **130** | < 84 U | -- | < 83 U | **5,200** | < 80 U | **140** | |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Location ID** | **HSB-6** | **PSB-1** | **PSB-1** | **PSB-2** | **PSB-2** | **PSB-2** | **PSB-2** | **PSB-2** | **PSB-3** | **PSB-3** | **PSB-4** |
| | | | **Depth Interval** | 8 - 10 | 0 - 1 | 3 - 4 | 0 - 1 | 0 - 1 | 3 - 4 | 3 - 4 | 3 - 4 | 0 - 1 | 3.5 - 4.5 | 0 - 1 |
| | | | **Sample Date** | 2/13/1990 | 3/3/1992 | 3/3/1992 | 3/3/1992 | 3/3/1992 | 3/3/1992 | 3/3/1992 | 3/3/1992 | 3/4/1992 | 3/4/1992 | 3/4/1992 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDE, p,p'- | 2,000 | 9,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | < 550 U | **1,020** | **630** | **1,280** | **1,320** | **2,440** | -- | **1,310** | **510** | **330** | **330** |
| Barium | 1,500,000 | 22,000,000 | 28,000 | **11,200** | **11,400** | **12,800** | **14,900** | **19,100** | **23,400** | -- | **23,600** | **18,300** | **13,900** | **9,600** |
| Cadmium | 7,100 | 98,000 | 2,600 | < 420 U | < 520 U | < 570 U | < 540 U | < 540 U | < 550 U | -- | < 560 U | < 510 U | < 540 U | < 510 U |
| Chromium | | | 7,700 | **2,390** | **5,610** | **2,810** | **5,880** | **6,640** | **5,510** | -- | **6,030** | **3,550** | **2,160** | **3,020** |
| Lead | 400,000 | 800,000 | 53,000 | < 5970 U | **28,000** | < 7620 U | **17,300** | **15,800** | **8,820** | -- | **7,580** | **7,390** | < 7280 U | < 6900 U |
| Mercury | 1,100 | 4,600 | 390 | < 120 U | < 90 U | < 100 U | < 100 U | < 100 U | < 100 U | -- | < 100 U | < 90 U | < 100 U | < 90 U |
| Selenium | 39000 | 580,000 | 1900 | < 470 U | < 270 U | < 290 U | < 280 U | < 280 U | < 290 U | -- | < 290 U | < 260 U | < 280 U | < 270 U |
| Silver | 39,000 | 580,000 | 2,600 | < 680 U | < 780 U | < 860 U | < 810 U | < 810 U | < 830 U | -- | < 840 U | < 770 U | < 820 U | < 770 U |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | **16.3** | **10.4** | **17.3** | **13.5** | **13.5** | **16.3** | -- | **16.1** | **7.7** | **12.9** | **10** |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | PSB-4 | PSB-4 | PSB-5 | PSB-5 | PSB-6 | PSB-6 | PSB-6 | PSB-7 | PSB-7 | PSB-7 | SB-018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 3.5 - 4.5 | 5.5 - 6.5 | 0 - 1 | 3.5 - 4 | 0 - 1 | 3 - 4 | 7.5 - 8.5 | 0 - 1 | 3 - 4 | 6 - 7 | 0 - 1.5 |
| | | | | Sample Date | 3/4/1992 | 3/4/1992 | 3/4/1992 | 3/4/1992 | 3/3/1992 | 3/3/1992 | 3/3/1992 | 3/4/1992 | 3/4/1992 | 3/4/1992 | 7/22/1999 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | **39** | < 5.5 U | < 5.5 U | < 5.7 U | -- |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | < 28 U | < 5.5 U | < 5.5 U | < 5.7 U | -- |
| Bromomethane | 680 | 3,000 | | < 11 U | < 12 U | < 11 U | < 12 U | < 12 U | < 58 U | < 56 U | < 11 U | < 11 U | < 11 U | -- |
| Carbon disulfide | 77,000 | 350,000 | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | < 28 U | < 5.5 U | < 5.5 U | < 5.7 U | -- |
| Carbon tetrachloride | 650 | 2,900 | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | < 28 U | < 5.5 U | < 5.5 U | < 5.7 U | -- |
| CFC-11 | 73,000 | 310,000 | | **10** | **8.9** | < 5.3 U | < 5.8 U | **14** | **31** | < 28 U | < 5.5 U | < 5.5 U | **7** | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | < 28 U | < 5.5 U | < 5.5 U | < 5.7 U | -- |
| Chloroethane | 1,400,000 | 5,700,000 | | < 11 U | < 12 U | < 11 U | < 12 U | < 12 U | < 58 U | < 56 U | < 11 U | < 11 U | < 11 U | -- |
| Chloroform | 320 | 1,400 | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | < 28 U | < 5.5 U | < 5.5 U | < 5.7 U | -- |
| Chloromethane | 11,000 | 46,000 | | < 11 U | < 12 U | < 11 U | < 12 U | < 12 U | < 58 U | < 56 U | < 11 U | < 11 U | < 11 U | -- |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 5.6 U |
| cis-1,3-Dichloropropene | | | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | < 28 U | < 5.5 U | < 5.5 U | < 5.7 U | -- |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | < 28 U | < 5.5 U | < 5.5 U | < 5.7 U | -- |
| Diethyl ether | 1,600,000 | 23,000,000 | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 60 U | < 60 U | < 10 U | < 10 U | < 10 U | -- |
| Ethylbenzene | 5,800 | 25,000 | | < 5.7 U | **9.9** | < 5.3 U | < 5.8 U | < 5.8 U | **65** | **540** | < 5.5 U | < 5.5 U | < 5.7 U | < 5.6 U |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | < 28 U | < 5.5 U | < 5.5 U | < 5.7 U | -- |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 8,100 | 39,000 | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | < 28 U | < 5.5 U | < 5.5 U | < 5.7 U | **6.1** |
| Toluene | 490,000 | 4,700,000 | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | < 28 U | < 5.5 U | < 5.5 U | < 5.7 U | < 5.6 U |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 5.6 U |
| trans-1,3-Dichloropropene | | | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | < 28 U | < 5.5 U | < 5.5 U | < 5.7 U | -- |
| Tribromomethane | 67,000 | 290,000 | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | < 28 U | < 5.5 U | < 5.5 U | < 5.7 U | -- |
| Trichloroethene | 410 | 1,900 | | < 5.7 U | < 5.8 U | < 5.3 U | < 5.8 U | < 5.8 U | < 29 U | < 28 U | < 5.5 U | < 5.5 U | < 5.7 U | -- |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | < 11 U | < 12 U | < 11 U | < 12 U | < 12 U | < 58 U | < 56 U | < 11 U | < 11 U | < 11 U | -- |
| Xylenes (total) | 58,000 | 250,000 | | **24** | **60** | < 5.3 U | < 5.8 U | < 5.8 U | **220** | **990** | < 5.5 U | < 5.5 U | < 5.7 U | < 5.6 U |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | < 80 U | < 81 U | < 74 U | < 82 U | < 82 U | < 81 U | < 3900 U | < 76 U | < 77 U | < 80 U | < 340 U |
| Acenaphthylene | | | | < 170 U | < 170 U | < 74 U | < 82 U | < 180 U | **390** | < 8400 U | < 160 U | **210** | < 80 U | < 340 U |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | < 80 U | < 81 U | < 74 U | < 82 U | < 82 U | **440** | < 3900 U | < 76 U | **210** | < 80 U | < 340 U |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | < 110 U | < 120 U | < 110 U | < 120 U | **120** | **370** | < 5600 U | **120** | **970** | < 110 U | < 340 U |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | < 160 U | < 160 U | < 150 U | < 160 U | < 160 U | **690** | < 7900 U | < 150 U | **1,300** | < 160 U | < 340 U |
| Benzo(b)fluoranthene | 1100 | 2,100 | | < 110 U | < 120 U | < 110 U | < 120 U | **270** | **830** | < 5600 U | **210** | **2,000** | < 110 U | < 340 U |
| Benzo(ghi)perylene | | | | < 180 U | < 190 U | < 170 U | < 190 U | < 190 U | < 180 U | < 9000 U | < 170 U | < 180 U | < 180 U | < 340 U |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | < 110 U | < 120 U | < 110 U | < 120 U | < 120 U | **240** | < 5600 U | < 110 U | **620** | < 110 U | < 340 U |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 340 U |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | < 110 U | < 120 U | < 110 U | < 120 U | **220** | **210** | < 5600 U | **150** | **1,000** | < 110 U | < 340 U |
| Dibenz(a,h)anthracene | 110 | 2100 | | < 180 U | < 190 U | < 170 U | < 190 U | < 190 U | < 180 U | < 9000 U | < 170 U | < 180 U | < 180 U | < 340 U |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | < 11 U | < 12 U | < 11 U | < 12 U | < 12 U | < 58 U | < 56 U | < 11 U | < 11 U | < 11 U | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | < 80 U | < 81 U | < 77 U | < 82 U | **360** | **320** | < 3900 U | **180** | **980** | < 80 U | < 340 U |
| Fluorene | 240,000 | 3,000,000 | | < 80 U | < 81 U | < 74 U | < 82 U | < 82 U | < 81 U | < 3900 U | < 76 U | < 77 U | < 80 U | < 340 U |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | < 180 U | < 190 U | < 170 U | < 190 U | < 190 U | **570** | < 9000 U | < 170 U | < 180 U | < 180 U | < 340 U |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | < 80 U | < 81 U | < 74 U | < 82 U | < 82 U | **1,400** | **41,000** | < 76 U | < 77 U | < 80 U | < 340 U |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | < 80 U | < 81 U | < 74 U | < 82 U | **170** | **90** | < 3900 U | < 76 U | **100** | < 80 U | < 340 U |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | < 80 U | < 81 U | < 74 U | < 82 U | **170** | **230** | < 3900 U | **110** | **810** | < 80 U | < 340 U |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | PSB-4 | PSB-4 | PSB-5 | PSB-5 | PSB-6 | PSB-6 | PSB-6 | PSB-7 | PSB-7 | PSB-7 | SB-018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 3.5 - 4.5 | 5.5 - 6.5 | 0 - 1 | 3.5 - 4 | 0 - 1 | 3 - 4 | 7.5 - 8.5 | 0 - 1 | 3 - 4 | 6 - 7 | 0 - 1.5 |
| | | | | Sample Date | 3/4/1992 | 3/4/1992 | 3/4/1992 | 3/4/1992 | 3/3/1992 | 3/3/1992 | 3/3/1992 | 3/4/1992 | 3/4/1992 | 3/4/1992 | 7/22/1999 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDE, p,p'- | 2,000 | 9,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | **540** | **590** | **610** | **560** | **500** | **930** | **370** | **1,610** | **1,180** | **850** | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | **14,700** | **17,700** | **16,200** | **19,100** | **23,700** | **15,000** | **17,100** | **47,600** | **38,400** | **17,600** | -- |
| Cadmium | 7,100 | 98,000 | 2,600 | < 540 U | < 540 U | < 500 U | < 550 U | < 540 U | < 540 U | < 530 U | < 510 U | < 520 U | < 540 U | -- |
| Chromium | | | 7,700 | **2,440** | **2,220** | **3,680** | **3,980** | **4,970** | **2,800** | **1,940** | **5,290** | **6,100** | **2,860** | -- |
| Lead | 400,000 | 800,000 | 53,000 | < 7290 U | < 7270 U | < 6700 U | < 7310 U | **23,900** | **8,830** | < 7160 U | **13,800** | **107,000** | < 7190 U | -- |
| Mercury | 1,100 | 4,600 | 390 | < 90 U | < 100 U | < 90 U | < 100 U | < 100 U | < 100 U | < 90 U | < 90 U | < 90 U | < 90 U | -- |
| Selenium | 39000 | 580,000 | 1900 | < 280 U | < 280 U | < 260 U | < 280 U | < 280 U | < 280 U | < 270 U | < 270 U | < 260 U | < 280 U | -- |
| Silver | 39,000 | 580,000 | 2,600 | < 820 U | < 820 U | < 750 U | < 820 U | < 810 U | < 800 U | < 800 U | < 760 U | < 780 U | < 810 U | -- |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | **12.5** | **13.8** | **6** | **14.4** | **14.5** | **13.2** | **11** | **8.3** | **8.8** | **12.1** | -- |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | SB-018 | SB-019 | SB-019 | SB-020 | SB-020 | SB-021 | SB-021 | SB-022 | SB-022 | SB-023 | SB-023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 6 - 6 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 | 6.5 - 6.5 |
| | | | | Sample Date | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/29/1999 | 7/29/1999 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromomethane | 680 | 3,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 320 | 1,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | < 5.8 U | < 6.4 U | < 6.4 U | < 6.2 U | < 6.2 U | < 6.4 U | < 6.7 U | < 6.6 U | < 5.4 U | < 6.4 U | < 7.5 U | |
| cis-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | < 5.8 U | < 6.4 U | < 6.4 U | < 6.2 U | < 6.2 U | < 6.4 U | < 6.7 U | < 6.6 U | < 5.4 U | < 6.4 U | < 7.5 U | |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 8,100 | 39,000 | | < 5.8 U | < 6.4 U | < 6.4 U | < 6.2 U | < 6.2 U | < 6.4 U | < 6.7 U | < 6.6 U | < 5.4 U | < 6.4 U | < 7.5 U | |
| Toluene | 490,000 | 4,700,000 | | < 5.8 U | < 6.4 U | < 6.4 U | < 6.2 U | < 6.2 U | < 6.4 U | < 6.7 U | < 6.6 U | < 5.4 U | < 6.4 U | **20** | |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | < 5.8 U | < 6.4 U | < 6.4 U | < 6.2 U | < 6.2 U | < 6.4 U | < 6.7 U | < 6.6 U | < 5.4 U | < 6.4 U | < 7.5 U | |
| trans-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Xylenes (total) | 58,000 | 250,000 | | < 5.8 U | < 6.4 U | < 6.4 U | < 6.2 U | < 6.2 U | < 6.4 U | < 6.7 U | < 6.6 U | < 5.4 U | < 6.4 U | < 7.5 U | |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | < 360 U | < 410 U | |
| Acenaphthylene | | | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | < 360 U | < 410 U | |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | < 360 U | < 410 U | |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | **510** | < 410 U | |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | **750** | < 410 U | |
| Benzo(b)fluoranthene | 1100 | 2,100 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | **740** | < 410 U | |
| Benzo(ghi)perylene | | | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | **560** | < 410 U | |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | **630** | < 410 U | |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | < 360 U | < 410 U | |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | **560** | < 410 U | |
| Dibenz(a,h)anthracene | 110 | 2100 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | < 360 U | < 410 U | |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | **520** | < 410 U | |
| Fluorene | 240,000 | 3,000,000 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | < 360 U | < 410 U | |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | **520** | < 410 U | |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | < 360 U | < 410 U | |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | < 360 U | < 410 U | |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | < 360 U | < 370 U | < 370 U | < 360 U | < 350 U | < 340 U | < 390 U | < 400 U | < 400 U | **530** | < 410 U | |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Compound | Residential RSL | Industrial RSL | UBC | Location ID | SB-018 | SB-019 | SB-019 | SB-020 | SB-020 | SB-021 | SB-021 | SB-022 | SB-022 | SB-023 | SB-023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 6 - 6 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 | 6.5 - 6.5 |
| | | | | Sample Date | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/29/1999 | 7/29/1999 |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDE, p,p'- | 2,000 | 9,300 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDT | 1,900 | 8,500 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | | -- | -- | -- | -- | -- | -- | -- | < 4 U | < 4 U | < 7.3 U | < 4.1 U |
| Endosulfan I | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | | -- | -- | -- | -- | -- | -- | -- | < 20 U | < 21 U | < 38 U | < 21 U |
| Toxaphene | 490 | 2,100 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cadmium | 7,100 | 98,000 | 2,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chromium | | | 7,700 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lead | 400,000 | 800,000 | 53,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mercury | 1,100 | 4,600 | 390 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Selenium | 39000 | 580,000 | 1900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Silver | 39,000 | 580,000 | 2,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***TPH ug/kg*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | SB-024 | SB-024 | SB-025 | SB-025 | SB-026 | SB-026 | SB-027 | SB-027 | SB-028 | SB-028 | SB-029 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 0 - 1.5 | 6.5 - 6.5 | 0 - 1.5 | 6.5 - 5.5 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 |
| | | | | Sample Date | 7/29/1999 | 7/29/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromomethane | 680 | 3,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 320 | 1,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | < 11 U | < 8.7 U | < 5.6 U | < 6 U | < 6.9 U | < 6.5 U | < 6.5 U | < 5.6 U | < 6.7 U | < 6.1 U | < 6.4 U | |
| cis-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | < 11 U | < 8.7 U | < 5.6 U | < 6 U | < 6.9 U | < 6.5 U | < 6.5 U | **20** | < 6.7 U | < 6.1 U | < 6.4 U | |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 8,100 | 39,000 | | < 11 U | < 8.7 U | < 5.6 U | < 6 U | < 6.9 U | < 6.5 U | < 6.5 U | < 5.6 U | < 6.7 U | < 6.1 U | < 6.4 U | |
| Toluene | 490,000 | 4,700,000 | | < 11 U | < 8.7 U | < 5.6 U | < 6 U | < 6.9 U | < 6.5 U | < 6.5 U | < 5.6 U | < 6.7 U | < 6.1 U | < 6.4 U | |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | < 11 U | < 8.7 U | < 5.6 U | < 6 U | < 6.9 U | < 6.5 U | < 6.5 U | < 5.6 U | < 6.7 U | < 6.1 U | < 6.4 U | |
| trans-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Xylenes (total) | 58,000 | 250,000 | | < 11 U | < 8.7 U | < 5.6 U | < 6 U | < 6.9 U | < 6.5 U | < 6.5 U | **28** | < 6.7 U | < 6.1 U | < 6.4 U | |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | < 480 U | < 410 U | < 370 U | < 390 U | < 410 U | < 410 U | < 1400 U | < 400 U | < 370 U | < 380 U | < 360 U | |
| Acenaphthylene | | | | < 480 U | < 410 U | **1,600** | < 390 U | **830** | < 410 U | **2,400** | < 400 U | < 370 U | < 380 U | < 360 U | |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | < 480 U | < 410 U | **1,500** | < 390 U | **2,200** | < 410 U | **2,800** | < 400 U | < 370 U | < 380 U | < 360 U | |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | < 480 U | < 410 U | **7,400** | < 390 U | **6,800** | < 410 U | **17,000** | < 400 U | < 370 U | < 380 U | < 360 U | |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | < 480 U | < 410 U | **6,200** | < 390 U | **5,200** | < 410 U | **16,000** | < 400 U | < 370 U | < 380 U | < 360 U | |
| Benzo(b)fluoranthene | 1100 | 2,100 | | < 480 U | < 410 U | **7,000** | < 390 U | **5,800** | < 410 U | **17,000** | < 400 U | < 370 U | < 380 U | < 360 U | |
| Benzo(ghi)perylene | | | | < 480 U | < 410 U | **3,800** | < 390 U | **3,000** | < 410 U | **9,500** | < 400 U | < 370 U | < 380 U | < 360 U | |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | < 480 U | < 410 U | **5,600** | < 390 U | **4,900** | < 410 U | **14,000** | < 400 U | < 370 U | < 380 U | < 360 U | |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | < 480 U | < 410 U | < 370 U | < 390 U | < 410 U | < 410 U | < 1400 U | < 400 U | < 370 U | < 380 U | < 360 U | |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | < 480 U | < 410 U | **7,200** | < 390 U | **6,400** | < 410 U | **16,000** | < 400 U | < 370 U | < 380 U | < 360 U | |
| Dibenz(a,h)anthracene | 110 | 2100 | | < 480 U | < 410 U | **1,800** | < 390 U | **470** | < 410 U | **3,900** | < 400 U | < 370 U | < 380 U | < 360 U | |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | < 480 U | < 410 U | **11,000** | < 390 U | **13,000** | < 410 U | **22,000** | **430** | < 370 U | < 380 U | < 360 U | |
| Fluorene | 240,000 | 3,000,000 | | < 480 U | < 410 U | < 370 U | < 390 U | **450** | < 410 U | < 1400 U | < 400 U | < 370 U | < 380 U | < 360 U | |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | < 480 U | < 410 U | **4,600** | < 390 U | **3,500** | < 410 U | **11,000** | < 400 U | < 370 U | < 380 U | < 360 U | |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | < 480 U | < 410 U | < 370 U | < 390 U | < 410 U | < 410 U | < 1400 U | < 400 U | < 370 U | < 380 U | < 360 U | |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | < 480 U | < 410 U | **2,000** | < 390 U | **7,300** | < 410 U | **7,100** | < 400 U | < 370 U | < 380 U | < 360 U | |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | < 480 U | < 410 U | **8,500** | < 390 U | **8,700** | < 410 U | **18,000** | **410** | < 370 U | < 380 U | < 360 U | |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | SB-024 | SB-024 | SB-025 | SB-025 | SB-026 | SB-026 | SB-027 | SB-027 | SB-028 | SB-028 | SB-029 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 0 - 1.5 | 6.5 - 6.5 | 0 - 1.5 | 6.5 - 5.5 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 | 5.5 - 5.5 | 0 - 1.5 |
| | | | | Sample Date | 7/29/1999 | 7/29/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 | 7/22/1999 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDE, p,p'- | 2,000 | 9,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | < 4.8 U | < 4.1 U | **38 J** | < 4 U | **26 J** | < 4.1 U | **43** | < 4 U | -- | -- | -- | -- |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | < 25 U | < 21 U | < 190 U | < 20 U | **140 J** | < 21 U | < 180 U | < 20 U | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cadmium | 7,100 | 98,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chromium | | | 7,700 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lead | 400,000 | 800,000 | 53,000 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mercury | 1,100 | 4,600 | 390 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Selenium | 39000 | 580,000 | 1900 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Silver | 39,000 | 580,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | SB-029 | SB-030 | SB-030 | SB-031 | SB-031 | SB-033 | SB-033 | SB-034 | SB-034 | SB-035 | SB-035 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 5.5 - 5.5 | 0 - 2 | 6 - 8 | .5 - 2 | 5 - 7 | .5 - 2 | 3 - 5 | 0 - 2 | 2.5 - 4.5 | 0 - 2 | 4 - 6 |
| | | | | Sample Date | 7/22/1999 | 1/5/2000 | 1/5/2000 | 1/5/2000 | 1/5/2000 | 1/5/2000 | 1/5/2000 | 1/5/2000 | 1/5/2000 | 1/6/2000 | 1/6/2000 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromomethane | 680 | 3,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 320 | 1,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | < 6.2 U | < 53 U | < 55 U | < 53 U | < 5.3 U | < 5.3 U | < 5.3 U | < 5.4 U | < 5.6 U | < 5.5 U | < 5.2 U | |
| cis-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | < 6.2 U | < 53 U | < 55 U | < 53 U | < 5.3 U | < 5.3 U | < 5.3 U | < 5.4 U | < 5.6 U | < 5.5 U | < 5.2 U | |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 8,100 | 39,000 | | < 6.2 U | < 53 U | < 55 U | < 53 U | < 5.3 U | < 5.3 U | < 5.3 U | < 5.4 U | < 5.6 U | < 5.5 U | < 5.2 U | |
| Toluene | 490,000 | 4,700,000 | | < 6.2 U | < 53 U | < 55 U | < 53 U | < 5.3 U | < 5.3 UJ | < 5.3 U | < 5.4 UJ | < 5.6 UJ | < 5.5 UJ | < 5.2 UJ | |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | < 6.2 U | < 53 U | < 55 U | < 53 U | < 5.3 U | < 5.3 U | < 5.3 U | < 5.4 U | < 5.6 U | < 5.5 U | < 5.2 U | |
| trans-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Xylenes (total) | 58,000 | 250,000 | | < 6.2 U | < 53 U | < 55 U | < 53 U | < 5.3 U | < 5.3 U | < 5.3 U | < 5.4 U | < 5.6 U | < 5.5 U | < 5.2 U | |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | < 370 U | < 350 U | **2,300** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Acenaphthylene | | | | < 370 U | < 350 U | **6,600** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Anthracene | 1,800,000 | 23,000,000 | | < 370 U | < 350 U | **5,700** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Benz(a)anthracene | 1100 | 2,100 | | < 370 U | < 350 U | **18,000** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Benzo(a)pyrene | 110 | 210 | | < 370 U | < 350 U | **20,000** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Benzo(b)fluoranthene | 1100 | 2,100 | | < 370 U | < 350 U | **13,000** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Benzo(ghi)perylene | | | | < 370 U | < 350 U | **12,000** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | < 370 U | < 350 U | **12,000** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | < 370 U | < 350 U | < 1900 U | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Chrysene | 110,000 | 2,100,000 | | < 370 U | < 350 U | **20,000** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Dibenz(a,h)anthracene | 110 | 2100 | | < 370 U | < 350 U | **4,200** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Fluoranthene | 240,000 | 3,000,000 | | < 370 U | < 350 U | **22,000** | -- | -- | -- | -- | -- | -- | **500** | < 350 U | |
| Fluorene | 240,000 | 3,000,000 | | < 370 U | < 350 U | **3,700** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | < 370 U | < 350 U | **11,000** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Naphthalene | 3,800 | 17,000 | | < 370 U | < 350 U | < 1900 U | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Phenanthrene | | | | < 370 U | < 350 U | **19,000** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Pyrene | 180,000 | 2,300,000 | | < 370 U | < 350 U | **26000 J** | -- | -- | -- | -- | -- | -- | < 360 U | < 350 U | |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | SB-029 | SB-030 | SB-030 | SB-031 | SB-031 | SB-033 | SB-033 | SB-034 | SB-034 | SB-035 | SB-035 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 5.5 - 5.5 | 0 - 2 | 6 - 8 | .5 - 2 | 5 - 7 | .5 - 2 | 3 - 5 | 0 - 2 | 2.5 - 4.5 | 0 - 2 | 4 - 6 |
| | | | | Sample Date | 7/22/1999 | 1/5/2000 | 1/5/2000 | 1/5/2000 | 1/5/2000 | 1/5/2000 | 1/5/2000 | 1/5/2000 | 1/5/2000 | 1/6/2000 | 1/6/2000 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDE, p,p'- | 2,000 | 9,300 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDT | 1,900 | 8,500 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | | -- | -- | -- | -- | -- | -- | -- | < 3.6 U | < 3.7 U | < 3.5 U | < 3.5 U |
| Endosulfan I | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | | -- | -- | -- | -- | -- | -- | -- | < 18 U | < 19 U | < 18 U | < 18 U |
| Toxaphene | 490 | 2,100 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cadmium | 7,100 | 98,000 | 2,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chromium | | | 7,700 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lead | 400,000 | 800,000 | 53,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mercury | 1,100 | 4,600 | 390 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Selenium | 39000 | 580,000 | 1900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Silver | 39,000 | 580,000 | 2,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***TPH ug/kg*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | SB-036 | SB-036 | SB-037 | SB-037 | SB-038 | SB-038 | SB-039 | SB-039 | SB-040 | SB-040 | SB-041 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 0 - 2 | 2 - 3 | 0 - 2 | 2 - 3 | 0 - 2 | 3.5 - 5.5 | 0 - 2 | 2 - 4 | 0 - 2 | 2 - 4 | 0 - 2 |
| | | | | Sample Date | 1/6/2000 | 1/6/2000 | 1/6/2000 | 1/6/2000 | 1/4/2000 | 1/4/2000 | 1/4/2000 | 1/4/2000 | 1/4/2000 | 1/4/2000 | 1/31/2000 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromomethane | 680 | 3,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 320 | 1,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | < 5.5 U | < 6 U | < 5.6 U | < 6.1 U | < 5.7 U | < 6.6 UJ | < 5.9 U | < 30 U | < 5.7 U | < 6.3 U | -- | |
| cis-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | < 5.5 U | < 6 U | < 5.6 U | < 6.1 U | < 5.7 U | < 6.6 UJ | < 5.9 U | < 30 U | < 5.7 U | < 6.3 U | -- | |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 8,100 | 39,000 | | < 5.5 U | < 6 U | < 5.6 U | < 6.1 U | < 5.7 U | < 6.6 UJ | < 5.9 U | < 30 U | < 5.7 U | < 6.3 U | -- | |
| Toluene | 490,000 | 4,700,000 | | < 5.5 UJ | < 6 UJ | < 5.6 UJ | < 6.1 UJ | < 5.7 U | < 6.6 UJ | < 5.9 U | < 30 U | < 5.7 U | < 6.3 U | -- | |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | < 5.5 U | < 6 U | < 5.6 U | < 6.1 U | < 5.7 U | < 6.6 UJ | < 5.9 U | < 30 U | < 5.7 U | < 6.3 U | -- | |
| trans-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Xylenes (total) | 58,000 | 250,000 | | < 5.5 U | < 6 U | < 5.6 U | < 6.1 U | < 5.7 U | < 6.6 UJ | < 5.9 U | < 30 U | < 5.7 U | < 6.3 U | -- | |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | < 360 U | < 390 U | < 370 U | < 400 U | **1,700** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Acenaphthylene | | | | **970** | < 390 U | < 370 U | < 400 U | **1,100** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | **870** | < 390 U | < 370 U | < 400 U | **7,400** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | **8,700** | < 390 U | < 370 U | < 400 U | **15,000** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | **8,900** | < 390 U | < 370 U | < 400 U | **9,900** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Benzo(b)fluoranthene | 1100 | 2,100 | | **8,700** | < 390 U | < 370 U | < 400 U | **8,600** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Benzo(ghi)perylene | | | | **5,700** | < 390 U | < 370 U | < 400 U | **5,500** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | **8,600** | < 390 U | < 370 U | < 400 U | **9,400** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | < 360 U | < 390 U | < 370 U | < 400 U | < 380 U | < 430 U | -- | -- | -- | -- | < 430 U | |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | **8,900** | < 390 U | < 370 U | < 400 U | **14,000** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Dibenz(a,h)anthracene | 110 | 2100 | | < 360 U | < 390 U | < 370 U | < 400 U | **3,100** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | **11,000** | < 390 U | < 370 U | < 400 U | **33,000** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Fluorene | 240,000 | 3,000,000 | | < 360 U | < 390 U | < 370 U | < 400 U | **3,900** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | **5,700** | < 390 U | < 370 U | < 400 U | **5600 J** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | < 360 U | < 390 U | < 370 U | < 400 U | **530** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | **2400 J** | < 390 U | < 370 U | < 400 U | **39,000** | < 430 U | -- | -- | -- | -- | < 430 U | |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | **10000 J** | < 390 U | < 370 U | < 400 U | **25000 J** | < 430 U | -- | -- | -- | -- | < 430 U | |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | Location ID | SB-036 | SB-036 | SB-037 | SB-037 | SB-038 | SB-038 | SB-039 | SB-039 | SB-040 | SB-040 | SB-041 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth Interval | 0 - 2 | 2 - 3 | 0 - 2 | 2 - 3 | 0 - 2 | 3.5 - 5.5 | 0 - 2 | 2 - 4 | 0 - 2 | 2 - 4 | 0 - 2 |
| | | | Sample Date | 1/6/2000 | 1/6/2000 | 1/6/2000 | 1/6/2000 | 1/4/2000 | 1/4/2000 | 1/4/2000 | 1/4/2000 | 1/4/2000 | 1/4/2000 | 1/31/2000 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDE, p,p'- | 2,000 | 9,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDT | 1,900 | 8,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | < 3.6 U | -- | < 3.7 U | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan I | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | < 19 U | -- | < 19 U | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cadmium | 7,100 | 98,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chromium | | | 7,700 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lead | 400,000 | 800,000 | 53,000 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mercury | 1,100 | 4,600 | 390 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Selenium | 39000 | 580,000 | 1900 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Silver | 39,000 | 580,000 | 2,600 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***TPH ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | SB-041 | SB-042 | SB-043 | SB-043 | SB-043A | SB-044 | SB-044 | SB-045 | SB-046 | SB-046 | SB-047 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 2 - 4 | 0 - 2 | 0 - 2 | 2 - 4 | 0 - 2 | 2 - 4 | 6 - 8 | 0 - 2 | 4 - 6 | 12 - 14 | 2 - 4 |
| | | | | Sample Date | 11/1/2001 | 1/31/2000 | 10/31/2001 | 11/1/2001 | 10/31/2001 | 11/1/2001 | 11/1/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | |
| Benzene | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromomethane | 680 | 3,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 320 | 1,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | < 6 U | -- | < 5.8 U | < 6 U | < 6 U | < 5.8 U | < 5.9 U | -- | < 6 U | < 5.8 U | -- | |
| cis-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | < 6 U | -- | < 5.8 U | < 6 U | < 6 U | < 5.8 U | < 5.9 U | -- | < 6 U | < 5.8 U | -- | |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 8,100 | 39,000 | | < 6 U | -- | < 5.8 U | < 6 U | < 6 U | < 5.8 U | < 5.9 U | -- | < 6 U | < 5.8 U | -- | |
| Toluene | 490,000 | 4,700,000 | | < 6 U | -- | < 5.8 U | < 6 U | < 6 U | < 5.8 U | < 5.9 U | -- | < 6 U | < 5.8 U | -- | |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | < 6 U | -- | < 5.8 U | < 6 U | < 6 U | < 5.8 U | < 5.9 U | -- | < 6 U | < 5.8 U | -- | |
| trans-1,3-Dichloropropene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Xylenes (total) | 58,000 | 250,000 | | < 6 U | -- | < 12 U | < 12 U | < 12 U | < 12 U | < 12 U | -- | < 12 U | < 12 U | -- | |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | < 350 U | < 440 U | < 350 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- |
| Acenaphthylene | | | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Benzo(b)fluoranthene | 1100 | 2,100 | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Benzo(ghi)perylene | | | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | < 350 UJ | < 440 U | < 350 UJ | < 350 UJ | -- | < 350 UJ | < 380 UJ | < 340 UJL | < 340 UJ | < 380 UJ | -- | |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbazole | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Dibenz(a,h)anthracene | 110 | 2100 | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorobenzene | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Fluorene | 240,000 | 3,000,000 | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Phenanthrene | | | | < 350 U | < 440 U | < 350 U | < 350 U | -- | < 350 U | < 380 U | < 340 UJL | < 340 U | < 380 U | -- | |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | < 350 UJ | < 440 U | < 350 UJ | < 350 UJ | -- | < 350 UJ | < 380 UJ | < 340 UJL | < 340 UJ | < 380 UJ | -- | |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Compound | Residential RSL | Industrial RSL | UBC | Location ID | SB-041 | SB-042 | SB-043 | SB-043 | SB-043A | SB-044 | SB-044 | SB-045 | SB-046 | SB-046 | SB-047 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 2 - 4 | 0 - 2 | 0 - 2 | 2 - 4 | 0 - 2 | 2 - 4 | 6 - 8 | 0 - 2 | 4 - 6 | 12 - 14 | 2 - 4 |
| | | | | Sample Date | 11/1/2001 | 1/31/2000 | 10/31/2001 | 11/1/2001 | 10/31/2001 | 11/1/2001 | 11/1/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 40 | 180 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2,300 | 9,600 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDE, p,p'- | 2,000 | 9,300 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DDT | 1,900 | 8,500 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 33 | 140 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan I | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 130 | 630 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 570 | 2,500 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | **6,500** |
| Cadmium | 7,100 | 98,000 | 2,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chromium | | | 7,700 | | -- | -- | **2,400** | **2,600** | -- | **2,700** | **4,300** | -- | **1,900** | **3,900** | -- |
| Lead | 400,000 | 800,000 | 53,000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mercury | 1,100 | 4,600 | 390 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Selenium | 39000 | 580,000 | 1900 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Silver | 39,000 | 580,000 | 2,600 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***TPH ug/kg*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kerosene | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-DRO | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TPH-GRO | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Other %*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Moisture | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Location ID | SB-048 | SB-049 | SB-050 |
| | | | Depth Interval | 2 - 5 | 0 - 2 | 0 - 2 |
| | | | Sample Date | 10/31/2001 | 10/31/2001 | 10/31/2001 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | |
| ***Volatile Organic Compounds (VOCs) µg/kg (EPA Method 8260B)*** | | | | | | |
| Benzene | 1,200 | 5,100 | | -- | -- | -- |
| Benzene, 1-methylethyl | 190,000 | 990,000 | | -- | -- | -- |
| Bromodichloromethane | 290 | 1,300 | | -- | -- | -- |
| Bromomethane | 680 | 3,000 | | -- | -- | -- |
| Carbon disulfide | 77,000 | 350,000 | | -- | -- | -- |
| Carbon tetrachloride | 650 | 2,900 | | -- | -- | -- |
| CFC-11 | 73,000 | 310,000 | | -- | -- | -- |
| CFC-12 | 8,700 | 37,000 | | -- | -- | -- |
| Chlorobenzene | 28,000 | 130,000 | | -- | -- | -- |
| Chloroethane | 1,400,000 | 5,700,000 | | -- | -- | -- |
| Chloroform | 320 | 1,400 | | -- | -- | -- |
| Chloromethane | 11,000 | 46,000 | | -- | -- | -- |
| cis-1,2-Dichloroethene | 16,000 | 230,000 | | -- | -- | -- |
| cis-1,3-Dichloropropene | | | | -- | -- | -- |
| Cyclohexane | 650,000 | 2,700,000 | | -- | -- | -- |
| Dibromochloromethane | 730 | 3,200 | | -- | -- | -- |
| Diethyl ether | 1,600,000 | 23,000,000 | | -- | -- | -- |
| Ethylbenzene | 5,800 | 25,000 | | -- | -- | -- |
| Methyl acetate | 7,800,000 | 120,000,000 | | -- | -- | -- |
| Methyl tert-butyl ether | 47,000 | 210,000 | | -- | -- | -- |
| Methylcyclohexane | | | | -- | -- | -- |
| Methylene chloride | 35,000 | 320,000 | | -- | -- | -- |
| Styrene | 600,000 | 3,500,000 | | -- | -- | -- |
| Tetrachloroethene | 8,100 | 39,000 | | -- | -- | -- |
| Toluene | 490,000 | 4,700,000 | | -- | -- | -- |
| trans-1,2-Dichloroethene | 160,000 | 2,300,000 | | -- | -- | -- |
| trans-1,3-Dichloropropene | | | | -- | -- | -- |
| Tribromomethane | 67,000 | 290,000 | | -- | -- | -- |
| Trichloroethene | 410 | 1,900 | | -- | -- | -- |
| Vinyl acetate | 91,000 | 380,000 | | -- | -- | -- |
| Vinyl chloride | 59 | 1,700 | | -- | -- | -- |
| Xylenes (total) | 58,000 | 250,000 | | -- | -- | -- |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/kg (EPA Method 8270C)*** | | | | -- | -- | -- |
| 1,1'-Biphenyl | 4,700 | 20,000 | | -- | -- | -- |
| 1-Methylnaphthalene | 17,000 | 73,000 | | -- | -- | -- |
| 2,4,5-Trichlorophenol | 630,000 | 8,200,000 | | -- | -- | -- |
| 2,4,6-Tribromophenol | | | | -- | -- | -- |
| 2,4,6-Trichlorophenol | 6,300 | 82,000 | | -- | -- | -- |
| 2,4-Dichlorophenol | 19,000 | 250,000 | | -- | -- | -- |
| 2,4-Dimethylphenol | 130,000 | 1,600,000 | | -- | -- | -- |
| 2,4-Dinitrophenol | 13,000 | 160,000 | | -- | -- | -- |
| 2,4-Dinitrotoluene | 1,700 | 7,400 | | -- | -- | -- |
| 2,6-Dinitrotoluene | 360 | 1,500 | | -- | -- | -- |
| 2-Chloronaphthalene | 630,000 | 9,300,000 | | -- | -- | -- |
| 2-Chlorophenol | 39,000 | 580,000 | | -- | -- | -- |
| 2-Fluorobiphenyl | | | | -- | -- | -- |
| 2-Fluorophenol | | | | -- | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 490 | 6,600 | | -- | -- | -- |
| 2-Methylnaphthalene | 24,000 | 300,000 | | -- | -- | -- |
| 2-Methylphenol | 320,000 | 4,100,000 | | -- | -- | -- |
| 2-Nitrobenzenamine | 61,000 | 800,000 | | -- | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- |
| 3,3'-Dichlorobenzidine | 1,200 | 5,100 | | -- | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- |
| 4-Bromofluorobenzene | | | | -- | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- |
| 4-Chloro-3-methylphenol | 620,000 | 8,200,000 | | -- | -- | -- |
| 4-Chlorobenzenamine | 2,700 | 11,000 | | -- | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- |
| 4-Methylphenol | 630,000 | 8,200,000 | | -- | -- | -- |
| 4-Nitrobenzenamine | 25,000 | 110,000 | | -- | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- |
| Acenaphthene | 360,000 | 4,500,000 | | -- | < 330 UJL | < 340 U |
| Acenaphthylene | | | | -- | < 330 UJL | < 340 U |
| Acetophenone | 780,000 | 12,000,000 | | -- | -- | -- |
| Anthracene | 1,800,000 | 23,000,000 | | -- | < 330 UJL | < 340 U |
| Atrazine | 2,400 | 10,000 | | -- | -- | -- |
| Benz(a)anthracene | 1100 | 2,100 | | -- | < 330 UJL | < 340 U |
| Benzaldehyde | 170,000 | 820,000 | | -- | -- | -- |
| Benzenemethanol | 620,000 | 8,200,000 | | -- | -- | -- |
| Benzo(a)pyrene | 110 | 210 | | -- | < 330 UJL | < 340 U |
| Benzo(b)fluoranthene | 1100 | 2,100 | | -- | < 330 UJL | < 340 U |
| Benzo(ghi)perylene | | | | -- | < 330 UJL | < 340 U |
| Benzo(k)fluoranthene | 11,000 | 210,000 | | -- | < 330 UJL | < 340 U |
| Benzoic acid | 25,000,000 | 330,000,000 | | -- | -- | -- |
| Bis(2-chloroethoxy)methane | 19,000 | 4,700,000 | | -- | -- | -- |
| Bis(2-chloroethyl) ether | 230 | 1,000 | | -- | -- | -- |
| Bis(2-chloroisopropyl) ether | 310,000 | 22,000 | | -- | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39,000 | 160,000 | | -- | < 330 UJL | < 340 U |
| Butyl benzyl phthalate | 290,000 | 1,200,000 | | -- | -- | -- |
| Caprolactam | 3,100,000 | 40,000,000 | | -- | -- | -- |
| Carbazole | | | | -- | -- | -- |
| Chrysene | 110,000 | 2,100,000 | | -- | < 330 UJL | < 340 U |
| Dibenz(a,h)anthracene | 110 | 2100 | | -- | < 330 UJL | < 340 U |
| Dibenzofuran | 7,300 | 100,000 | | -- | -- | -- |
| Dichlorobenzene | | | | -- | -- | -- |
| Diethyl phthalate | 5,100,000 | 66,000,000 | | -- | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- |
| Di-n-butyl phthalate | 630,000 | 8,200,000 | | -- | -- | -- |
| Di-n-octylphthalate | 63,000 | 820,000 | | -- | -- | -- |
| Fluoranthene | 240,000 | 3,000,000 | | -- | < 330 UJL | < 340 U |
| Fluorene | 240,000 | 3,000,000 | | -- | < 330 UJL | < 340 U |
| Hexachlorobenzene | 210 | 960 | | -- | -- | -- |
| Hexachlorobutadiene | 1,200 | 5,300 | | -- | -- | -- |
| Hexachlorocyclopentadiene | 180 | 750 | | -- | -- | -- |
| Hexachloroethane | 1,800 | 8,000 | | -- | -- | -- |
| Indeno(1,2,3-cd)pyrene | 150 | 2,900 | | -- | < 330 UJL | < 340 U |
| Isophorone | 570,000 | 2,400,000 | | -- | -- | -- |
| Naphthalene | 3,800 | 17,000 | | -- | < 330 UJL | < 340 U |
| Nitrobenzene | 5,100 | 22,000 | | -- | -- | -- |
| N-Nitroso-di-n-propylamine | 110000 | 470000 | | -- | -- | -- |
| N-Nitrosodiphenylamine | 110,000 | 470,000 | | -- | -- | -- |
| Pentachlorophenol | 1000 | 4,000 | | -- | -- | -- |
| Phenanthrene | | | | -- | < 330 UJL | < 340 U |
| Phenol | 1,900,000 | 25,000,000 | | -- | -- | -- |
| Pyrene | 180,000 | 2,300,000 | | -- | < 330 UJL | < 340 U |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | Location ID | SB-048 | SB-049 | SB-050 |
|---|---|---|---|---|---|---|
| | | | Depth Interval | 2 - 5 | 0 - 2 | 0 - 2 |
| | | | Sample Date | 10/31/2001 | 10/31/2001 | 10/31/2001 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- |
| Aldrin | 40 | 180 | | -- | -- | -- |
| alpha-Chlordane | | | | -- | -- | -- |
| DDD | 2,300 | 9,600 | | -- | -- | -- |
| DDE, p,p'- | 2,000 | 9,300 | | -- | -- | -- |
| DDT | 1,900 | 8,500 | | -- | -- | -- |
| delta BHC | | | | -- | -- | -- |
| Dieldrin | 33 | 140 | | -- | -- | -- |
| Endosulfan I | | | | -- | -- | -- |
| Endosulfan II | | | | -- | -- | -- |
| Endosulfan Sulfate | | | | -- | -- | -- |
| Endrin | 1,900 | 25,000 | | -- | -- | -- |
| Endrin Aldehyde | | | | -- | -- | -- |
| Endrin ketone | | | | -- | -- | -- |
| gamma-Chlordane | | | | -- | -- | -- |
| Heptachlor | 130 | 630 | | -- | -- | -- |
| Heptachlor epoxide | 70 | 330 | | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 86 | 360 | | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 300 | 1,300 | | -- | -- | -- |
| Lindane | 570 | 2,500 | | -- | -- | -- |
| Methoxychlor | 32,000 | 410,000 | | -- | -- | -- |
| Toxaphene | 490 | 2,100 | | -- | -- | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- |
| Arsenic | 680 | 3,000 | 2,600 | -- | -- | -- |
| Barium | 1,500,000 | 22,000,000 | 28,000 | -- | -- | -- |
| Cadmium | 7,100 | 98,000 | 2,600 | -- | -- | -- |
| Chromium | | | 7,700 | **3,900** | -- | -- |
| Lead | 400,000 | 800,000 | 53,000 | -- | -- | -- |
| Mercury | 1,100 | 4,600 | 390 | -- | -- | -- |
| Selenium | 39000 | 580,000 | 1900 | -- | -- | -- |
| Silver | 39,000 | 580,000 | 2,600 | -- | -- | -- |
| ***TPH ug/kg*** | | | | -- | -- | -- |
| Kerosene | | | | -- | -- | -- |
| TPH | | | | -- | -- | -- |
| TPH-DRO | | | | -- | -- | -- |
| TPH-GRO | | | | -- | -- | -- |
| ***Polychlorinate Biphenyls ug/kg*** | | | | -- | -- | -- |
| Aroclor 1254 | 120 | 970 | | -- | -- | -- |
| ***Other %*** | | | | -- | -- | -- |
| Moisture | | | | -- | -- | -- |
| Percent Solid | | | | -- | -- | -- |

**Table 4-2**
**1987 – 2001 Historical Soil Sample Analytical Summary**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

Notes:
**BOLD** - indicate the analyte was detected.
-- - Not analyzed
µg/kg - Micrograms per Kilogram
Industrial RSL - USEPA 2016 Industrial Regional Screening Level for soil samples collected below 2 feet below ground surface

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**Table 4-3**
**2001 Historical Surface Water Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | Location ID | HSW1 | HSW1 | HSW2 | HSW3 | HSW4 | HSW5 | HSW6 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | HSW1-20011031 | HSW6_DUP1-20011031 | HSW2-20011031 | HSW3-20011031 | HSW4-20011031 | HSW5-20011031 | HSW6-20011031 |
| | | | Sample Date | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 |
| Compound | CAS No | IWQS | Unit | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/L (EPA Method 8260B)*** | | | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | 630-20-6 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,1,1-Trichloroethane | 71-55-6 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 4 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,1,2-Trichloroethane | 79-00-5 | 16 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,1-Dichloroethane | 75-34-3 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,1-Dichloroethene | 75-35-4 | 7100 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,1-Dichloropropene | 563-58-6 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,2,3-Trichlorobenzene | 87-61-6 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,2,3-Trichloropropane | 96-18-4 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,2,4-Trichlorobenzene | 120-82-1 | 70 | ug/l | < 10 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,2,4-Trimethylbenzene | 95-63-6 | | ug/l | **4.5 J** | **3.7 J** | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,2-Dibromo-3-chloropropane (DBCP | 96-12-8 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,2-Dibromoethane | 106-93-4 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,2-Dichlorobenzene | 95-50-1 | 1300 | ug/l | < 10 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,2-Dichloroethane | 107-06-2 | 37 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,2-Dichloropropane | 78-87-5 | 15 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,3,5-Trimethylbenzene | 108-67-8 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,3-Dichlorobenzene | 541-73-1 | 960 | ug/l | < 10 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,3-Dichloropropane | 142-28-9 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,4-Dichlorobenzene | 106-46-7 | 190 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 2,2-Dichloropropane | 594-20-7 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 2-Butanone | 78-93-3 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 2-Chloroethyl vinyl ether | 110-75-8 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 2-Chlorotoluene | 95-49-8 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 2-Hexanone | 591-78-6 | | ug/l | < 10 U | < 10 U | < 10 U | < 10 U | **1.1 J** | < 10 U | < 10 U |
| 4-Chlorotoluene | 106-43-4 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 4-Methyl-2-pentanone | 108-10-1 | | ug/l | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| Acetone | 67-64-1 | | ug/l | < 100 U | < 100 U | **3.3 J** | **2.7 J** | < 100 U | < 100 U | < 100 U |
| Acrolein | 107-02-8 | | ug/l | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U |
| Acrylonitrile | 107-13-1 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Benzene | 71-43-2 | 51 | ug/l | **13** | **12** | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Benzene, 1-methylethyl | 98-82-8 | | ug/l | **1.9 J** | **1.8 J** | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Bromobenzene | 108-86-1 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Bromochloromethane | 74-97-5 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Bromodichloromethane | 75-27-4 | 17 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Bromoform | 75-25-2 | 140 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Bromomethane | 74-83-9 | 1500 | ug/l | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| Carbon disulfide | 75-15-0 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Carbon tetrachloride | 56-23-5 | 1.6 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| CFC-11 | 75-69-4 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| CFC-12 | 75-71-8 | | ug/l | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| Chlorobenzene | 108-90-7 | 1600 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Chloroethane | 75-00-3 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Chloroform | 67-66-3 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Chloromethane | 74-87-3 | | ug/l | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| cis-1,2-Dichloroethene | 156-59-2 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| cis-1,3-Dichloropropene | 10061-01-5 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Dibromochloromethane | 124-48-1 | 13 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Dibromomethane | 74-95-3 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Dichloro-2-butene, cis-1,4- | 1476-11-5 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Dichloro-2-butene, trans-1,4- | 110-57-6 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Ethylbenzene | 100-41-4 | 2100 | ug/l | **8.5** | **8.3** | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Hexachlorobutadiene | 87-68-3 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 11 U | < 5 U |
| Iodomethane | 74-88-4 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Methyl Methacrylate | 80-62-6 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Methylene chloride | 75-09-2 | 590 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Naphthalene | 91-20-3 | | ug/l | **9.9** | **9** | < 5 U | < 5 U | < 5 U | < 11 U | < 5 U |
| n-Butylbenzene | 104-51-8 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| n-Propylbenzene | 103-65-1 | | ug/l | **2.1 J** | **1.8 J** | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| p-Isopropyltoluene | 99-87-6 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |

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**Table 4-3**
**2001 Historical Surface Water Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | Location ID | HSW1 | HSW1 | HSW2 | HSW3 | HSW4 | HSW5 | HSW6 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | HSW1-20011031 | HSW6_DUP1-20011031 | HSW2-20011031 | HSW3-20011031 | HSW4-20011031 | HSW5-20011031 | HSW6-20011031 |
| | | | Sample Date | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 |
| Compound | CAS No | IWQS | Unit | | | | | | | |
| ***Volatile Organic Compounds (VOCs) µg/L (EPA Method 8260B) - continued*** | | | | | | | | | | |
| sec-Butylbenzene | 135-98-8 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Styrene | 100-42-5 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| tert-Butyl methyl ether | 1634-04-4 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| tert-Butylbenzene | 98-06-6 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Tetrachloroethene | 127-18-4 | 3.3 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Toluene | 108-88-3 | 5980 | ug/l | **14** | **13** | < 5 U | < 5 U | **1.1 J** | < 5 U | < 5 U |
| trans-1,2-Dichloroethene | 156-60-5 | 10000 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| trans-1,3-Dichloropropene | 10061-02-6 | | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Trichloroethene | 79-01-6 | 30 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Vinyl acetate | 108-05-4 | | ug/l | < 50 U | < 50 U | < 50 U | < 50 U | < 50 U | < 50 U | < 50 U |
| Vinyl chloride | 75-01-4 | 2.4 | ug/l | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U |
| Xylenes (total) | 1330-20-7 | | ug/l | **67** | **64** | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/L (EPA Method 8270C)*** | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | 120-82-1 | 70 | ug/l | < 10 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,2-Dichlorobenzene | 95-50-1 | 1300 | ug/l | < 10 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,3-Dichlorobenzene | 541-73-1 | 960 | ug/l | < 10 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U |
| 1,4-Dichlorobenzene | 106-46-7 | 190 | ug/l | < 10 U | < 11 U | < 5 U | < 10 U | < 10 U | < 10 U | < 11 U |
| 1-Methylnaphthalene | 90-12-0 | | ug/l | **2.2 J** | **1.7 J** | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 2,4,5-Trichlorophenol | 95-95-4 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 2,4,6-Trichlorophenol | 88-06-2 | 2.4 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 2,4-Dichlorophenol | 120-83-2 | 290 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 2,4-Dimethylphenol | 105-67-9 | 850 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 10 U | < 11 U |
| 2,4-Dinitrophenol | 51-28-5 | 5300 | ug/l | < 50 U | < 55 U | < 50 U | < 50 U | < 50 U | < 55 U | < 50 U |
| 2,4-Dinitrotoluene | 121-14-2 | 3.4 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 2,6-Dinitrotoluene | 606-20-2 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 2-Chloronaphthalene | 91-58-7 | 1600 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 2-Chlorophenol | 95-57-8 | 150 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 2-Methyl-4,6-dinitrophenol | 534-52-1 | 280 | ug/l | < 20 U | < 22 U | < 20 U | < 20 U | < 20 U | < 22 U | < 20 U |
| 2-Methylnaphthalene | 91-57-6 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 2-Methylphenol | 95-48-7 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 2-Nitrobenzenamine | 88-74-4 | | ug/l | < 20 U | < 22 U | < 20 U | < 20 U | < 20 U | < 22 U | < 20 U |
| 2-Nitrophenol | 88-75-5 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 3,3'-Dichlorobenzidine | 91-94-1 | 0.028 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 3,4-Methylphenol | ARC-3/4-Cresol | | ug/l | < 20 U | < 22 U | < 20 U | < 20 U | < 20 U | < 22 U | < 20 U |
| 3-Nitrobenzenamine | 99-09-2 | | ug/l | < 20 U | < 22 U | < 20 U | < 20 U | < 20 U | < 22 U | < 20 U |
| 4-Bromophenyl phenyl ether | 101-55-3 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 4-Chloro-3-methylphenol | 59-50-7 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 4-Chlorobenzenamine | 106-47-8 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 4-Chlorophenyl phenyl ether | 7005-72-3 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| 4-Nitrobenzenamine | 100-01-6 | | ug/l | < 20 U | < 22 U | < 20 U | < 20 U | < 20 U | < 22 U | < 20 U |
| 4-Nitrophenol | 100-02-7 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Acenaphthene | 83-32-9 | 990 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Acenaphthylene | 208-96-8 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Anthracene | 120-12-7 | 40000 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Benz(a)anthracene | 56-55-3 | 0.018 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Benzenemethanol | 100-51-6 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Benzidine | 92-87-5 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Benzo(a)pyrene | 50-32-8 | 0.018 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Benzo(b)fluoranthene | 205-99-2 | 0.018 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Benzo(ghi)perylene | 191-24-2 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Benzo(k)fluoranthene | 207-08-9 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Benzoic acid | 65-85-0 | | ug/l | < 50 U | < 55 U | < 50 U | < 50 U | < 50 U | < 55 U | < 50 U |
| Bis(2-chloroethoxy)methane | 111-91-1 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Bis(2-chloroethyl) ether | 111-44-4 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Bis(2-chloroisopropyl) ether | 108-60-1 | 65000 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 2.2 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Butyl benzyl phthalate | 85-68-7 | 1900 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Carbazole | 86-74-8 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Chrysene | 218-01-9 | 0.018 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Dibenz(a,h)anthracene | 53-70-3 | 0.018 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Dibenzofuran | 132-64-9 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |

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**Table 4-3**
**2001 Historical Surface Water Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | Location ID | HSW1 | HSW1 | HSW2 | HSW3 | HSW4 | HSW5 | HSW6 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | HSW1-20011031 | HSW6_DUP1-20011031 | HSW2-20011031 | HSW3-20011031 | HSW4-20011031 | HSW5-20011031 | HSW6-20011031 |
| | | | Sample Date | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 | 10/31/2001 |
| Compound | CAS No | IWQS | Unit | | | | | | | |
| ***Semi-Volatile Organic Compounds (SVOCs) µg/L (EPA Method 8270C) - continued*** | | | | | | | | | | |
| Diethyl phthalate | 84-66-2 | 44000 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Dimethyl phthalate | 131-11-3 | 1100000 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Di-n-butyl phthalate | 84-74-2 | 4500 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Di-n-octylphthalate | 117-84-0 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Fluoranthene | 206-44-0 | 140 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Fluorene | 86-73-7 | 5300 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Hexachlorobenzene | 118-74-1 | 0.00029 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Hexachlorobutadiene | 87-68-3 | 18 | ug/l | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 11 U | < 5 U |
| Hexachlorocyclopentadiene | 77-47-4 | 1100 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Hexachloroethane | 67-72-1 | 3.3 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.018 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Isophorone | 78-59-1 | 960 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Naphthalene | 91-20-3 | | ug/l | **4.4 J** | **3.6 J** | < 5 U | < 5 U | < 5 U | < 11 U | < 5 U |
| Nitrobenzene | 98-95-3 | 690 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Nitrosodimethylamine, N- | 62-75-9 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| N-Nitroso-di-n-propylamine | 621-64-7 | 0.51 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| N-Nitrosodiphenylamine | 86-30-6 | 6 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Pentachlorophenol | 87-86-5 | 3 | ug/l | < 20 U | < 22 U | < 20 U | < 20 U | < 20 U | < 22 U | < 20 U |
| Phenanthrene | 85-01-8 | | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Phenol | 108-95-2 | 857000 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| Pyrene | 129-00-0 | 4000 | ug/l | < 10 U | < 11 U | < 10 U | < 10 U | < 10 U | < 11 U | < 10 U |
| ***Metals mg/L(EPA Method 7470 for Mercury; Method 6010 for all other Metals listed)*** | | | | | | | | | | |
| Arsenic | 7440-38-2 | 50 | mg/l | < 0.05 U | < 0.05 U | < 0.05 U | < 0.05 U | < 0.05 U | < 0.05 U | < 0.05 U |
| Barium | 7440-39-3 | | mg/l | **0.03 J** | **0.032 J** | **0.025 J** | **0.029 J** | **0.024 J** | **0.024 J** | **0.025 J** |
| Cadmium | 7440-43-9 | 0.15 | mg/l | < 0.005 U | < 0.005 U | < 0.005 U | < 0.005 U | < 0.005 U | **0.0003 J** | < 0.005 U |
| Chromium | 7440-47-3 | 11 | mg/l | < 0.05 U | **0.0012 J** | **0.0009 J** | **0.0001 J** | **0.0008 J** | **0.013 J** | **0.0013 J** |
| Lead | 7439-92-1 | 1.2 | mg/l | < 0.01 U | < 0.01 U | < 0.01 U | < 0.01 U | < 0.01 U | < 0.01 U | < 0.01 U |
| Selenium | 7782-49-2 | 5 | mg/l | < 0.05 U | < 0.05 U | < 0.05 U | < 0.05 U | < 0.05 U | < 0.05 U | < 0.05 U |
| Silver | 7440-22-4 | 65 | mg/l | < 0.05 U | < 0.05 U | < 0.05 U | < 0.05 U | < 0.05 U | < 0.05 U | < 0.05 U |
| Mercury | 7439-97-6 | 0.012 | mg/l | < 0.002 U | < 0.002 U | < 0.002 U | < 0.002 U | < 0.002 U | < 0.002 U | **0.00087 J** |

Notes:
**BOLD** - indicate the analyte was detected.
EPA - United States Environmental Protection Agency
µg/L - Micrograms per Liter
mg/L - Milligrams per Liter
NA - Not analyzed

Laboratory Qualifiers:
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was not detected above the reporting limit.

**Table 4-4**
**1990 – 1992 Historical Sediment Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | Location ID | SD-1 | SD-2 | SD-3 | SD-3 | PSS-1 | PSS-2 | PSS-2 | PSS-3 | PSS-4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample ID | SD-1 | SD-2 | SD-3DUP | SD-3 | HSD-1 | HSD-DUP | HSD-2 | HSD-3 | HSD-4 |
| | | Sample Date | 2/12/1990 | 2/12/1990 | 2/12/1990 | 2/12/1990 | 3/3/1992 | 3/3/1992 | 3/3/1992 | 3/4/1992 | 3/4/1992 |
| **Compound** | **Residential RSL** | **Unit** | | | | | | | | | |
| ***Volatile Organic Compounds (µg/kg) (EPA Method 8260B)*** | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 810000 | ug/kg | < 1.5 U | < 1.8 U | < 1.6 U | < 1.6 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| 1,1,2,2-Tetrachloroethane | 2000 | ug/kg | < 1.7 U | < 2.1 U | < 1.9 U | < 1.9 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| 1,1,2-Trichloroethane | 150 | ug/kg | < 1.8 U | < 2.2 U | < 2 U | < 2 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| 1,1-Dichloroethane | 3600 | ug/kg | < 0.98 U | < 1.2 U | < 1 U | < 1 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| 1,1-Dichloroethene | 23000 | ug/kg | < 1.4 U | < 1.6 U | < 1.5 U | < 1.5 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| 1,2-Dichloroethane | 460 | ug/kg | < 1 U | < 1.2 U | < 1.1 U | < 1.1 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| 1,2-Dichloroethene | | ug/kg | < 1.49 U | < 1.76 U | < 1.6 U | < 1.6 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| 1,2-Dichloropropane | 280 | ug/kg | < 1.1 U | < 1.3 U | < 1.2 U | < 1.2 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| 2-Butanone | 2700000 | ug/kg | < 10.9 U | < 12.8 U | < 11.7 U | < 11.6 U | < 14 U | < 14 U | < 13 U | < 13 U | < 14 U |
| 2-Hexanone | 20000 | ug/kg | < 3.6 U | < 4.2 U | < 3.9 U | < 3.9 U | NA | NA | NA | NA | NA |
| 2-Chloroethyl vinyl ether | | ug/kg | NA | NA | NA | NA | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| 4-Methyl-2-pentanone | 3300000 | ug/kg | < 3.08 U | < 3.63 U | < 3.31 U | < 3.3 U | < 14 U | < 14 U | < 13 U | < 13 U | < 14 U |
| Acetone | 6100000 | ug/kg | **40** | **110** | < 21 U | **120** | NA | NA | NA | NA | NA |
| Benzene | 1200 | ug/kg | < 1.3 U | < 1.5 U | **31** | **15** | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| Bromodichloromethane | 290 | ug/kg | < 1.1 U | < 1.3 U | < 1.2 U | < 1.2 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| Bromoform | 19000 | ug/kg | < 2.8 U | < 3.3 U | < 3 U | < 3 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| Bromomethane | 680 | ug/kg | < 1.3 U | < 1.6 U | < 1.4 U | < 1.4 U | < 14 U | < 14 U | < 13 U | < 13 U | < 14 U |
| Carbon disulfide | 77000 | ug/kg | < 3.6 U | **23** | < 3.8 U | < 3.8 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| Carbon tetrachloride | 650 | ug/kg | < 1.1 U | < 1.3 U | < 1.2 U | < 1.2 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| CFC-11 | 2300000 | ug/kg | NA | NA | NA | NA | **6.9** | < 6.9 U | **7.4** | < 6.7 U | < 6.8 U |
| Chlorobenzene | 28000 | ug/kg | < 0.75 U | < 0.88 U | < 0.8 U | < 0.8 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| Chloroethane | 1400000 | ug/kg | < 2 U | < 2.4 U | < 2.2 U | < 2.2 U | < 14 U | < 14 U | < 13 U | < 13 U | < 14 U |
| Chloroform | 320 | ug/kg | < 1.4 U | < 1.6 U | < 1.5 U | < 1.5 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| Chloromethane | 11000 | ug/kg | < 28 U | < 33 U | < 30 U | < 30 U | < 14 U | < 14 U | < 13 U | < 13 U | < 14 U |
| cis-1,3-Dichloropropene | 1800 | ug/kg | < 1.8 U | < 2.1 U | < 1.9 U | < 1.9 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| Dibromochloromethane | 8300 | ug/kg | < 1.5 U | < 1.8 U | < 1.6 U | < 1.6 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| Diethyl ether | 1600000 | ug/kg | NA | NA | NA | NA | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| Ethylbenzene | 5800 | ug/kg | < 1.1 U | < 1.4 U | < 1.2 U | < 1.2 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| Methylene chloride | 35000 | ug/kg | **7** | **12** | < 2 U | < 2 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| Styrene | 600000 | ug/kg | < 1.8 U | < 2.2 U | < 2 U | < 2 U | NA | NA | NA | NA | NA |
| Tetrachloroethene | 8100 | ug/kg | < 0.59 U | < 0.69 U | < 0.63 U | < 0.63 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| Toluene | 490000 | ug/kg | < 0.81 U | **3.2** | < 0.86 U | < 0.86 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| trans-1,3-Dichloropropene | 1800 | ug/kg | < 0.99 U | < 1.2 U | < 1.1 U | < 1.1 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| Trichloroethene | 410 | ug/kg | < 1 U | < 1.2 U | < 1.1 U | < 1.1 U | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| Vinyl acetate | 91000 | ug/kg | < 3 U | < 3.5 U | < 3.2 U | < 3.2 U | NA | NA | NA | NA | NA |
| Vinyl chloride | 59 | ug/kg | < 1.8 U | < 2.1 U | < 1.9 U | < 1.9 U | < 14 U | < 14 U | < 13 U | < 13 U | < 14 U |
| Xylenes (total) | 58000 | ug/kg | < 1.2 U | < 1.4 U | < 1.3 U | **2.4** | < 6.8 U | < 6.9 U | < 6.5 U | < 6.7 U | < 6.8 U |
| ***Semi-Volatile Organic Compounds (µg/kg) (EPA Method 8270C)*** | | | | | | | | | | | |
| 1,2-Dichlorobenzene | 180000 | ug/kg | NA | NA | NA | NA | < 190 U | < 960 U | < 910 U | < 94 U | < 96 U |
| 1,3-Dichlorobenzene | | ug/kg | NA | NA | NA | NA | < 190 U | < 960 U | < 910 U | < 94 U | < 96 U |
| 1,4-Dichlorobenzene | 2600 | ug/kg | NA | NA | NA | NA | < 190 U | < 960 U | < 910 U | < 94 U | < 96 U |
| 2,4,6-Tribromophenol | 57000 | ug/kg | **7200** | **7820** | **1530** | **7370** | NA | NA | NA | NA | NA |
| 2-Fluorobiphenyl | | ug/kg | **4030** | **3990** | **4530** | **4460** | NA | NA | NA | NA | NA |
| 2-Fluorophenol | | ug/kg | **8610** | **10000** | **9500** | **9870** | NA | NA | NA | NA | NA |
| 4-Bromofluorobenzene | | ug/kg | **54** | **61** | **65** | **67** | NA | NA | NA | NA | NA |
| Acenaphthene | 360000 | ug/kg | **1100** | < 170 U | **4900** | < 1600 U | < 190 U | < 960 U | < 910 U | < 94 U | **110** |
| Acenaphthylene | | ug/kg | < 530 U | < 120 U | **2000** | **3100** | < 190 U | < 940 U | < 910 U | < 94 U | < 96 U |
| Anthracene | 18000000 | ug/kg | **3000** | < 97 U | **9300** | **8200** | **210** | **1500** | **2400** | < 94 U | **130** |
| Benz(a)anthracene | 1100 | ug/kg | **13000** | < 79 U | **33000** | **26000** | **760** | **6400** | **13000** | **160** | **510** |
| Benzo(a)pyrene | 110 | ug/kg | **9200** | < 230 U | **27000** | **18000** | **850** | **7100** | **12000** | < 190 U | **400** |
| Benzo(b)fluoranthene | 1100 | ug/kg | **16000** | < 170 U | **27000** | **21000** | **760** | **7200** | **13000** | < 130 U | **450** |
| Benzo(ghi)perylene | | ug/kg | **6200** | < 95 U | **17000** | **13000** | < 440 U | < 2200 U | **5100** | < 210 U | < 220 U |
| Benzo(k)fluoranthene | 11000 | ug/kg | **7200** | < 210 U | **29000** | **17000** | **890** | **7200** | **12000** | **280** | **390** |
| Chrysene | 110000 | ug/kg | **22000** | < 120 U | **52000** | **40000** | **930** | **7600** | **15000** | **180** | **670** |
| Dibenz(a,h)anthracene | | ug/kg | **4200** | < 81 U | **11000** | **8100** | < 440 U | < 2200 U | < 2100 U | < 210 U | < 220 U |
| Dichlorobenzene | | ug/kg | NA | NA | NA | NA | < 14 U | < 14 U | < 13 U | < 13 U | < 14 U |
| Fluoranthene | 240000 | ug/kg | **36000** | < 150 U | **62000** | **54000** | **2200** | **15000** | **34000** | **190** | **1200** |
| Fluorene | 240000 | ug/kg | **1500** | < 140 U | **8300** | **2500** | < 190 U | < 960 U | **1200** | < 94 U | **130** |
| Indeno(1,2,3-cd)pyrene | 11000 | ug/kg | **7900** | < 120 U | **23000** | **15000** | **440** | **3300** | **7600** | < 210 U | < 220 U |
| Naphthalene | 3800 | ug/kg | < 230 U | < 270 U | **390** | < 250 U | < 190 U | < 960 U | < 910 U | < 94 U | < 96 U |
| Phenanthrene | | ug/kg | **20000** | < 87 U | **62000** | **33000** | **810** | **7400** | **19000** | < 94 U | **1400** |
| Pyrene | 180000 | ug/kg | **27000** | < 92 U | **58000** | **43000** | **1400** | **9100** | **21000** | **220** | **990** |
| ***Metals (mg/kg) (EPA Method 6010)*** | | | | | | | | | | | |
| Arsenic | 0.68 | mg/kg | < 0.53 U | **0.76** | < 0.57 U | < 0.57 U | **0.49** | **0.37** | < 0.3 U | < 0.31 U | **1.05** |
| Barium | 1500 | mg/kg | **19.8** | **8.46** | **229** | **13.4** | **15.6** | **9.95** | **8.7** | **7.97** | **12** |
| Cadmium | 7.1 | mg/kg | < 0.41 U | < 0.47 U | < 0.44 U | < 0.44 U | < 0.62 U | < 0.62 U | < 0.59 U | < 0.62 U | < 0.63 U |
| Chromium | 0.3 | mg/kg | **3.38** | **2.2** | **32** | **69.7** | **5.66** | **2.86** | **2.55** | **1.09** | **3.54** |
| Lead | 400 | mg/kg | **7.65** | **7.71** | **362** | **275** | **29.4** | **22.9** | **16** | < 8.36 U | < 8.46 U |
| Mercury | 1.1 | mg/kg | < 0.11 U | < 0.13 U | < 0.12 U | < 0.12 U | < 0.11 U | < 0.12 U | < 0.11 U | < 0.11 U | < 0.11 U |
| Selenium | 39 | mg/kg | < 0.46 U | < 0.54 U | < 0.49 U | < 0.49 U | < 0.33 U | < 0.33 U | < 0.31 U | < 0.32 U | < 0.34 U |
| Silver | 39 | mg/kg | < 0.66 U | < 0.77 U | < 0.71 U | < 0.71 U | < 0.93 U | < 0.94 U | < 0.89 U | < 0.94 U | < 0.95 U |
| ***Other*** | | | | | | | | | | | |
| Moisture | | % | 13.9 | 26.2 | 19.8 | 19.7 | 26.6 | 27.1 | 23.2 | 25.4 | 27 |

Notes:
**BOLD** - indicate the analyte was detected.
Grey shaded cells indicate the analyte was detected above the 2017 United States Environmental Protection Agency (EPA) Residential Regional Screening Level.
µg/kg - Micrograms per Kilogram
mg/kg - Milligrams per Kilogram

Laboratory Qualifiers:
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was not detected above the reporting limit.

**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | Tapwater RSL | Location ID / Sample Date / MCL | COE-MW-01 2/3/2009 | COE-MW-01 12/16/2009 | COE-MW-02 02/03/09 | COE-MW-02 12/16/2009 | COE-MW-03 02/03/09 | COE-MW-03 12/16/2009 | COE-MW-03 01/25/11 | COE-MW-04 02/04/09 | COE-MW-04 12/17/2009 | COE-MW-05 02/04/09 | COE-MW-05 12/17/2009 | COE-MW-05 01/26/11 | COE-MW-06 02/04/09 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***VOCs - USEPA Method SW8260 (µg/L)*** | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 800 | 200 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 UJ | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1,2,2-Tetrachloroethane | 0.076 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 1000 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1,2-Trichloroethane | 0.041 | 5 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1-Dichloroethane | 2.8 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1-Dichloroethene | 28 | 7 | < 0.5 U | < 0.5 U | **0.21 J** | < 0.5 U | < 25 U | **6.4** | < 25 UJ | **2.2 J** | **2.4** | < 0.5 U | < 0.5 U | < 0.5 U | **0.87** |
| 1,2,4-Trichlorobenzene | 0.4 | 70 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2-Dibromo-3-chloropropane (DBCP) | 0.00033 | 0.2 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 UJ | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2-Dibromoethane | 0.0075 | 0.05 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2-Dichlorobenzene | 30 | 600 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2-Dichloroethane | 0.17 | 5 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2-Dichloropropane | 0.14 | 5 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,3-Dichlorobenzene | | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,4-Dichlorobenzene | 0.48 | 75 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 2-Butanone | 560 | | < 10 U | < 10 U | < 10 U | < 10 U | < 500 U | < 50 U | < 500 U | < 100 U | < 20 U | < 10 U | < 10 U | < 10 U | < 10 U |
| 2-Hexanone | 38 | | **5.9 J** | < 10 U | **6.6 J** | < 10 U | < 500 U | < 50 U | < 500 U | < 100 U | **2.5 J** | < 10 U | **1.2 J** | < 10 U | < 10 U |
| 4-Methyl-2-pentanone | 630 | | < 10 U | < 10 U | < 10 U | < 10 U | < 500 U | < 50 U | < 500 U | < 100 U | < 20 U | < 10 U | < 10 U | < 10 U | < 10 U |
| Acetone | 1400 | | < 10 U | **13** | < 10 U | < 10 U | < 500 U | < 50 U | < 500 U | < 100 U | **14 J** | < 10 U | < 10 U | < 10 U | < 10 U |
| Benzene | 0.46 | 5 | **2** | **1.3** | **3.3** | **2.5** | **18 J** | **11** | **12 J** | **2.9 J** | **2.3** | **0.16 J** | **0.18 J** | **0.23 J** | **0.32 J** |
| Benzene, 1-methylethyl | 45 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Bromodichloromethane | 0.13 | 80 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Bromomethane | 0.75 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Carbon disulfide | 81 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 UJ | < 5 U | **0.28 J** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Carbon tetrachloride | 0.46 | 5 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 UJ | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| CFC-11 | 520 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 UJ | < 25 U | < 2.5 UJ | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| CFC-12 | 20 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 UJ | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Chlorobenzene | 7.8 | 100 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Chloroethane | 21000 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Chloroform | 0.22 | 80 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | **1.7 J** | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Chloromethane | 19 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 UJ | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| cis-1,2-Dichloroethene | 3.6 | 70 | **160** | **92** | **240** | **130** | **9000** | **7800** | **7800** | **1600** | **1400** | **47** | **69** | **81** | **290** |
| cis-1,3-Dichloropropene | | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Cyclohexane | 1300 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Dibromochloromethane | 0.87 | 80 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Ethylbenzene | 1.5 | 700 | **0.18 J** | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Methyl acetate | 2000 | | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 5 U | < 50 U | < 10 U | < 2 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Methylcyclohexane | | | < 5 U | < 5 U | < 5 U | < 5 U | < 250 U | < 25 U | < 250 UJ | < 50 U | < 10 U | < 5 U | < 5 U | < 5 U | < 5 U |
| Methylene chloride | 11 | 5 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Styrene | 120 | 100 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| tert-Butyl methyl ether | 14 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Tetrachloroethene | 4.1 | 5 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 UJ | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Toluene | 110 | 1000 | **1.1** | **0.87** | < 0.5 U | < 0.5 U | **53** | **42** | **40** | < 5 U | **0.75 J** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| trans-1,2-Dichloroethene | 36 | 100 | **12** | **6.8** | **9.9** | **4.5** | **240** | **230** | **190** | **7.6** | **9.3** | **0.19 J** | **0.29 J** | **0.31 J** | **0.2 J** |
| trans-1,3-Dichloropropene | | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Tribromomethane | 3.3 | 80 | NA | < 0.5 U | NA | < 0.5 U | NA | < 2.5 U | NA | NA | < 1 U | NA | < 0.5 U | NA | NA |
| Trichloroethene | 0.28 | 5 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | **0.98 J** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Vinyl chloride | 0.019 | 2 | **2.8** | < 0.5 U | **3.1** | **1.8** | **1000** | **1000** | **700 J** | **73** | **86** | **3.5** | **0.75** | **5.5** | **1.4** |
| Xylenes (total) | 19 | 10000 | **3** | **2.6** | < 0.5 U | < 0.5 U | < 25 U | < 2.5 U | < 25 U | < 5 U | **1.1** | < 0.5 U | < 0.5 U | < 0.5 U | **0.19 J** |
| ***Metals - USEPA Method SW6010/SW7470 (µg//L)*** | | | | | | | | | | | | | | | |
| Arsenic | 0.052 | 10 | < 10 U | < 0.01 U | < 10 U | < 0.01 U | < 10 U | < 0.01 U | 0 UB | < 10 U | < 0.01 U | < 10 U | < 0.01 U | 0 UB | < 10 U |
| Barium | 380 | 2000 | **120** | **0.13** | **53** | **0.042** | **88** | **0.094** | NA | **26** | **0.020 J** | **35** | **0.047** | NA | **38** |
| Cadmium | 0.92 | 5 | < 2 U | < 0.002 U | < 2 U | **0.00095 J** | < 2 U | < 0.002 U | NA | < 2 U | < 0.002 U | < 2 U | < 0.002 U | NA | < 2 U |
| Chromium | | 100 | < 5 U | < 0.005 U | < 5 U | < 0.005 U | **2.6 J** | < 0.005 U | NA | **8.7** | **0.0032 J** | < 5 U | **0.0033 J** | NA | < 5 U |
| Lead | 15 | 15 | < 10 U | < 0.01 U | < 10 U | < 0.01 U | **3 UB** | < 0.01 U | NA | < 10 U | < 0.01 U | < 10 U | < 0.01 U | NA | < 10 U |
| Mercury | 0.063 | 2 | < 0.1 U | **0.000057 J** | < 0.1 U | < 0.0001 U | < 0.1 U | < 0.0001 U | NA | < 0.1 U | < 0.0001 U | < 0.1 U | < 0.0001 U | NA | < 0.1 U |
| Selenium | 10 | 50 | **4.5 UB** | < 0.01 U | < 10 U | < 0.01 U | < 10 U | < 0.01 U | NA | < 10 U | **0.0026 J** | < 10 U | < 0.01 U | NA | < 10 U |
| Silver | 9.4 | | < 5 U | < 0.005 U | < 5 U | **0.0030 J** | < 5 U | < 0.005 U | NA | < 5 U | **0.0026 J** | < 5 U | **0.0020 J** | NA | < 5 U |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | Tapwater RSL | Location ID / Sample Date / MCL | COE-MW-01 2/3/2009 | COE-MW-01 12/16/2009 | COE-MW-02 02/03/09 | COE-MW-02 12/16/2009 | COE-MW-03 02/03/09 | COE-MW-03 12/16/2009 | COE-MW-03 01/25/11 | COE-MW-04 02/04/09 | COE-MW-04 12/17/2009 | COE-MW-05 02/04/09 | COE-MW-05 12/17/2009 | COE-MW-05 01/26/11 | COE-MW-06 02/04/09 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Pesticides - USEPA Method SW8081 (µg/L)*** | | | | | | | | | | | | | | | |
| Aldrin | 0.00092 | | **0.0044 J** | **4.6 J** | < 0.025 U | **0.66 J** | < 0.025 U | **0.22 J** | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| alpha-Chlordane | | | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| DDD | 0.032 | | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| DDE, p,p'- | 0.046 | | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| DDT | 0.23 | | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| delta BHC | 0.0072 | | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| Dieldrin | 0.0018 | | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| Endosulfan I | 10 | | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 UJ | < 0.028 U | < 0.025 UJ | < 0.025 U | NA | < 0.025 UJ |
| Endosulfan II | | | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 UJ | < 0.028 U | < 0.025 UJ | < 0.025 U | NA | < 0.025 UJ |
| Endosulfan Sulfate | | | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| Endrin | 0.23 | 2 | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| Endrin Aldehyde | | | < 0.025 U | **0.014 J** | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| Endrin ketone | | | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| gamma-Chlordane | | | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| Heptachlor | 0.0014 | 0.4 | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| Heptachlor epoxide | 0.0014 | 0.2 | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| Hexachlorocyclohexane, Alpha- | 0.0072 | | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| Hexachlorocyclohexane, Beta- | 0.025 | | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 U | **0.46 J** | < 0.028 UJ | NA | **0.82 J** | < 0.028 U | **0.36 J** | < 0.025 U | NA | < 0.025 U |
| Lindane | 0.042 | 0.2 | **0.019 J** | < 0.028 U | < 0.025 U | < 0.028 U | < 0.025 U | < 0.028 UJ | NA | < 0.025 U | < 0.028 U | < 0.025 U | < 0.025 U | NA | < 0.025 U |
| Methoxychlor | 3.7 | 40 | < 0.1 U | < 0.11 U | < 0.1 U | < 0.11 U | < 0.1 U | < 0.11 UJ | NA | < 0.1 U | < 0.11 U | < 0.1 U | < 0.1 U | NA | < 0.1 U |
| Toxaphene | 0.071 | 3 | < 0.25 U | < 0.28 U | < 0.25 U | < 0.28 U | < 0.25 U | < 0.28 UJ | NA | < 0.25 U | < 0.28 U | < 0.25 U | < 0.25 U | NA | < 0.25 U |
| ***Herbicides - USEPA Method SW8151A (µg/L)*** | | | | | | | | | | | | | | | |
| 2,4,5-TP (Silvex) | 110 | 50 | < 0.5 U | NA | < 0.5 U | NA | < 0.5 U | NA | NA | < 0.5 U | NA | < 0.5 U | NA | NA | < 0.5 U |
| 2,4-D | 170 | 70 | < 2 U | NA | < 2 U | NA | < 2 U | NA | NA | < 2 U | NA | < 2 U | NA | NA | < 2 U |
| Trichlorophenoxyacetic Acid, 2,4,5- | 16 | | < 0.5 U | NA | < 0.5 U | NA | < 0.5 U | NA | NA | < 0.5 U | NA | < 0.5 U | NA | NA | < 0.5 U |
| ***SVOCs - USEPA Method SW8270 (µg/L)*** | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 0.083 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| 2,4,5-Trichlorophenol | 120 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| 2,4,6-Trichlorophenol | 1.2 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| 2,4-Dichlorophenol | 4.6 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| 2,4-Dimethylphenol | 36 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| 2,4-Dinitrophenol | 3.9 | | < 25 U | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U |
| 2,4-Dinitrotoluene | 0.24 | | < 10 U | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U |
| 2,6-Dinitrotoluene | 0.049 | | < 10 U | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U |
| 2-Chloronaphthalene | 75 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| 2-Chlorophenol | 9.1 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| 2-Methyl-4,6-dinitrophenol | 0.15 | | < 25 U | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U |
| 2-Methylnaphthalene | 3.6 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| 2-Methylphenol | 93 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| 2-Nitrobenzenamine | 190 | | < 10 U | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U |
| 2-Nitrophenol | | | < 10 U | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U |
| 3,3'-Dichlorobenzidine | 0.13 | | < 25 U | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U |
| 3-Nitrobenzenamine | | | < 10 U | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U |
| 4-Bromophenyl phenyl ether | | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| 4-Chloro-3-methylphenol | 140 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| 4-Chlorobenzenamine | 0.37 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| 4-Chlorophenyl phenyl ether | | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| 4-Methylphenol | 190 | | < 10 U | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U |
| 4-Nitrobenzenamine | 3.8 | | < 10 U | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U |
| 4-Nitrophenol | | | < 25 U | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U |
| Acenaphthene | 53 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Acenaphthylene | | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Acetophenone | 190 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Anthracene | 180 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Atrazine | 0.3 | 3 | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Benz(a)anthracene | 0.03 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Benzaldehyde | 19 | | < 25 U | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U |
| Benzo(a)pyrene | 0.025 | 0.2 | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Benzo(b)fluoranthene | 0.25 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Benzo(ghi)perylene | | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Benzo(k)fluoranthene | 2.5 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Bis(2-chloroethoxy)methane | 5.9 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Bis(2-chloroethyl) ether | 0.014 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Bis(2-chloroisopropyl) ether | 71 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Bis(2-ethylhexyl)phthalate | 5.6 | 6 | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Butyl benzyl phthalate | 16 | | < 10 U | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U | NA | < 10 U | NA | NA | < 10 U |
| Caprolactam | 990 | | < 25 U | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | Location ID | COE-MW-01 | COE-MW-01 | COE-MW-02 | COE-MW-02 | COE-MW-03 | COE-MW-03 | COE-MW-03 | COE-MW-04 | COE-MW-04 | COE-MW-05 | COE-MW-05 | COE-MW-05 | COE-MW-06 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 2/3/2009 | 12/16/2009 | 02/03/09 | 12/16/2009 | 02/03/09 | 12/16/2009 | 01/25/11 | 02/04/09 | 12/17/2009 | 02/04/09 | 12/17/2009 | 01/26/11 | 02/04/09 |
| Chemical Name | Tapwater RSL | MCL | | | | | | | | | | | | | |
| Carbazole | | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Chrysene | 25 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Dibenz(a,h)anthracene | 0.025 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Dibenzofuran | 0.79 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Diethyl phthalate | 1500 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Dimethyl phthalate | | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Di-n-butyl phthalate | 90 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Di-n-octylphthalate | 20 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Fluoranthene | 80 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Fluorene | 29 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Hexachlorobenzene | 0.0098 | 1 | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Hexachlorobutadiene | 0.14 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Hexachlorocyclopentadiene | 0.041 | 50 | < 25 U | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U |
| Hexachloroethane | 0.33 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Indeno(1,2,3-cd)pyrene | 0.25 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Isophorone | 78 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Naphthalene | 0.17 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Nitrobenzene | 0.14 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| N-Nitroso-di-n-propylamine | 0.011 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| N-Nitrosodiphenylamine | 12 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Pentachlorophenol | 0.041 | 1 | < 25 U | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U | NA | < 25 U | NA | NA | < 25 U |
| Phenanthrene | | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Phenol | 580 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Pyrene | 12 | | < 5 U | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | Tapwater RSL | Location ID / Sample Date / MCL | COE-MW-06 12/17/2009 | COE-MW-07 02/04/09 | COE-MW-07 12/16/2009 | COE-MW-07 01/26/11 | COE-MW-08 02/04/09 | COE-MW-08 12/16/2009 | COE-MW-08 01/26/11 | HA01-MW-07D 2/16/2012 | HAA01-MW-09 12/16/2009 | HAA01-MW-10 12/17/2009 | HAA01-MW-10 01/25/11 | HAA01-MW-11 12/17/2009 | HAA01-MW-12 12/17/2009 | HA01-MW-12 1/30/2012 | HAA01-MW-12D 12/17/2009 | HAA01-MW-13 12/16/2009 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***VOCs - USEPA Method SW8260 (µg/L)*** | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 800 | 200 | < 0.5 U | < 10 U | < 0.5 U | < 5 UJ | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| 1,1,2,2-Tetrachloroethane | 0.076 | | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 1000 | | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U |
| 1,1,2-Trichloroethane | 0.041 | 5 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| 1,1-Dichloroethane | 2.8 | | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| 1,1-Dichloroethene | 28 | 7 | **0.76** | **5.4 J** | **5.8** | **13 J** | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| 1,2,4-Trichlorobenzene | 0.4 | 70 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| 1,2-Dibromo-3-chloropropane (DBCP) | 0.00033 | 0.2 | < 0.5 U | < 10 U | < 0.5 U | < 5 UJ | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U |
| 1,2-Dibromoethane | 0.0075 | 0.05 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U |
| 1,2-Dichlorobenzene | 30 | 600 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| 1,2-Dichloroethane | 0.17 | 5 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| 1,2-Dichloropropane | 0.14 | 5 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| 1,3-Dichlorobenzene | | | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| 1,4-Dichlorobenzene | 0.48 | 75 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| 2-Butanone | 560 | | < 10 U | < 200 U | < 10 U | < 100 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| 2-Hexanone | 38 | | **0.30 J** | < 200 U | **0.42 J** | < 100 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| 4-Methyl-2-pentanone | 630 | | < 10 U | < 200 U | < 10 U | < 100 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| Acetone | 1400 | | **4.6 J** | < 200 U | **2.2 UB** | < 100 U | < 10 U | **5.6 UB** | < 10 U | < 20 UJ | < 10 U | **4.6 J** | < 10 U | **8.2 J** | **70** | < 20 U | **3.1 J** | **16 UB** |
| Benzene | 0.46 | 5 | **0.24 J** | < 10 U | **1.1** | **2.8 J** | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| Benzene, 1-methylethyl | 45 | | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U |
| Bromodichloromethane | 0.13 | 80 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| Bromomethane | 0.75 | | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 2 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 2 U | < 0.5 U | < 0.5 U |
| Carbon disulfide | 81 | | **0.14 J** | < 10 U | **0.11 J** | < 5 UJ | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.10 J** | **0.15 J** | < 1 U | **0.45 J** | **0.73** |
| Carbon tetrachloride | 0.46 | 5 | < 0.5 U | < 10 U | < 0.5 U | < 5 UJ | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| CFC-11 | 520 | | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 UJ | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U |
| CFC-12 | 20 | | < 0.5 U | < 10 U | < 0.5 U | < 5 UJ | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U |
| Chlorobenzene | 7.8 | 100 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 2 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 2 U | < 0.5 U | < 0.5 U |
| Chloroethane | 21000 | | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 2 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 2 U | < 0.5 U | < 0.5 U |
| Chloroform | 0.22 | 80 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| Chloromethane | 19 | | < 0.5 U | < 10 U | < 0.5 U | < 5 UJ | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| cis-1,2-Dichloroethene | 3.6 | 70 | **240** | **1600** | **1600** | **3800** | **14** | **16** | **27** | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| cis-1,3-Dichloropropene | | | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| Cyclohexane | 1300 | | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U |
| Dibromochloromethane | 0.87 | 80 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| Ethylbenzene | 1.5 | 700 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| Methyl acetate | 2000 | | < 1 U | < 20 U | < 1 U | < 10 U | < 1 U | < 1 U | < 1 U | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | NA | < 1 U | < 1 U |
| Methylcyclohexane | | | < 5 U | < 100 U | < 5 U | < 50 UJ | < 5 U | < 5 U | < 5 U | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | NA | < 5 U | < 5 U |
| Methylene chloride | 11 | 5 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| Styrene | 120 | 100 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| tert-Butyl methyl ether | 14 | | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| Tetrachloroethene | 4.1 | 5 | < 0.5 U | < 10 U | < 0.5 U | < 5 UJ | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| Toluene | 110 | 1000 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.65 J** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| trans-1,2-Dichloroethene | 36 | 100 | **0.6** | **6.1 J** | **8.9** | **19** | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| trans-1,3-Dichloropropene | | | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| Tribromomethane | 3.3 | 80 | < 0.5 U | NA | < 0.5 U | NA | NA | < 0.5 U | NA | < 1 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| Trichloroethene | 0.28 | 5 | < 0.5 U | < 10 U | **0.59** | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| Vinyl chloride | 0.019 | 2 | < 0.5 U | < 10 U | < 0.5 U | < 5 UJ | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| Xylenes (total) | 19 | 10000 | < 0.5 U | < 10 U | < 0.5 U | < 5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U |
| ***Metals - USEPA Method SW6010/SW7470 (µg//L)*** | | | | | | | | | | | | | | | | | | |
| Arsenic | 0.052 | 10 | < 0.01 U | **5.7 J** | < 0.01 U | 0 UB | < 10 U | < 0.01 U | < 10 U | < 0.010 U | 0.0048 J | **0.0048 J** | 0 UB | < 0.01 U | < 0.01 U | NA | < 0.01 U | < 0.01 U |
| Barium | 380 | 2000 | **0.036** | **42** | **0.042** | NA | **140** | **0.12** | NA | **0.012 J** | **0.1** | **0.094** | NA | **0.058** | **0.094** | NA | **0.0094 J** | **0.12** |
| Cadmium | 0.92 | 5 | < 0.002 U | < 2 U | < 0.002 U | NA | < 2 U | < 0.002 U | NA | < 0.002 U | < 0.002 U | < 0.002 U | NA | < 0.002 U | < 0.002 U | NA | < 0.002 U | < 0.002 U |
| Chromium | | 100 | **0.0033 J** | < 5 U | < 0.005 U | NA | < 5 U | < 0.005 U | NA | < 0.005 U | < 0.005 U | **0.0063** | NA | **0.0073** | **0.0029 J** | NA | **0.0024 J** | **0.0045 J** |
| Lead | 15 | 15 | < 0.01 U | **3.7 UB** | < 0.01 U | NA | **4.2 UB** | < 0.01 U | NA | < 0.010 U | < 0.01 U | < 0.01 U | NA | < 0.01 U | < 0.01 U | NA | **0.0028 J** | < 0.01 U |
| Mercury | 0.063 | 2 | < 0.0001 U | < 0.1 UJ | < 0.0001 U | NA | < 0.1 U | < 0.0001 U | NA | < 0.0001 U | < 0.0001 U | < 0.0001 U | NA | **0.000059 J** | < 0.0001 U | NA | < 0.0001 U | < 0.0001 U |
| Selenium | 10 | 50 | < 0.01 U | < 10 U | < 0.01 U | NA | < 10 U | < 0.01 U | NA | <0.010 U | < 0.01 U | < 0.01 U | NA | < 0.01 U | < 0.01 U | NA | < 0.01 U | < 0.01 U |
| Silver | 9.4 | | **0.0014 J** | **0.67 UB** | **0.00090 J** | NA | **3.2 UB** | < 0.005 U | NA | <0.005 U | < 0.005 U | **0.0017 J** | NA | **0.0018 J** | < 0.005 U | NA | **0.0013 J** | < 0.005 U |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | Tapwater RSL | Location ID / Sample Date / MCL | COE-MW-06 12/17/2009 | COE-MW-07 02/04/09 | COE-MW-07 12/16/2009 | COE-MW-07 01/26/11 | COE-MW-08 02/04/09 | COE-MW-08 12/16/2009 | COE-MW-08 01/26/11 | HA01-MW-07D 2/16/2012 | HAA01-MW-09 12/16/2009 | HAA01-MW-10 12/17/2009 | HAA01-MW-10 01/25/11 | HAA01-MW-11 12/17/2009 | HAA01-MW-12 12/17/2009 | HA01-MW-12 1/30/2012 | HAA01-MW-12D 12/17/2009 | HAA01-MW-13 12/16/2009 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Pesticides - USEPA Method SW8081 (µg/L)*** | | | | | | | | | | | | | | | | | | |
| Aldrin | 0.00092 | | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | **1.0 J** | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| alpha-Chlordane | | | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| DDD | 0.032 | | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| DDE, p,p'- | 0.046 | | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | **0.012 J** | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| DDT | 0.23 | | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| delta BHC | 0.0072 | | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| Dieldrin | 0.0018 | | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| Endosulfan I | 10 | | < 0.025 U | < 0.026 UJ | < 0.025 U | NA | < 0.027 UJ | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| Endosulfan II | | | < 0.025 U | < 0.026 UJ | < 0.025 U | NA | < 0.027 UJ | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| Endosulfan Sulfate | | | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| Endrin | 0.23 | 2 | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| Endrin Aldehyde | | | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 UJ | **0.013 J** | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| Endrin ketone | | | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| gamma-Chlordane | | | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| Heptachlor | 0.0014 | 0.4 | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| Heptachlor epoxide | 0.0014 | 0.2 | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| Hexachlorocyclohexane, Alpha- | 0.0072 | | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| Hexachlorocyclohexane, Beta- | 0.025 | | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| Lindane | 0.042 | 0.2 | < 0.025 U | < 0.026 U | < 0.025 U | NA | < 0.027 U | < 0.025 UJ | NA | < 0.026 U | < 0.026 U | NA | NA | < 0.025 U | < 0.026 HU | NA | < 0.025 U | < 0.025 UJ |
| Methoxychlor | 3.7 | 40 | < 0.1 U | < 0.11 U | < 0.1 U | NA | < 0.11 U | < 0.1 UJ | NA | < 0.1 U | < 0.11 U | NA | NA | < 0.1 U | < 0.1 HU | NA | < 0.1 U | < 0.1 UJ |
| Toxaphene | 0.071 | 3 | < 0.25 U | < 0.26 U | < 0.25 U | NA | < 0.27 U | < 0.25 UJ | NA | < 0.26 U | < 0.26 U | NA | NA | < 0.25 U | < 0.26 HU | NA | < 0.25 U | < 0.25 UJ |
| ***Herbicides - USEPA Method SW8151A (µg/L)*** | | | | | | | | | | | | | | | | | | |
| 2,4,5-TP (Silvex) | 110 | 50 | NA | < 0.56 U | NA | NA | < 0.54 U | NA | NA | < 0.54 U | NA | NA | NA | NA | NA | NA | NA | NA |
| 2,4-D | 170 | 70 | NA | < 2.2 U | NA | NA | < 2.2 U | NA | NA | < 2.2 U | NA | NA | NA | NA | NA | NA | NA | NA |
| Trichlorophenoxyacetic Acid, 2,4,5- | 16 | | NA | < 0.56 U | NA | NA | < 0.54 U | NA | NA | < 0.54 U | NA | NA | NA | NA | NA | NA | NA | NA |
| ***SVOCs - USEPA Method SW8270 (µg/L)*** | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 0.083 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| 2,4,5-Trichlorophenol | 120 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| 2,4,6-Trichlorophenol | 1.2 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| 2,4-Dichlorophenol | 4.6 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| 2,4-Dimethylphenol | 36 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrophenol | 3.9 | | NA | < 28 U | NA | NA | < 28 U | NA | NA | < 5.3 U | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |
| 2,4-Dinitrotoluene | 0.24 | | NA | < 11 U | NA | NA | < 11 U | NA | NA | < 2.1 U | NA | < 2 U | NA | NA | NA | NA | NA | NA |
| 2,6-Dinitrotoluene | 0.049 | | NA | < 11 U | NA | NA | < 11 U | NA | NA | < 2.1 U | NA | < 2 U | NA | NA | NA | NA | NA | NA |
| 2-Chloronaphthalene | 75 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| 2-Chlorophenol | 9.1 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| 2-Methyl-4,6-dinitrophenol | 0.15 | | NA | < 28 U | NA | NA | < 28 U | NA | NA | < 5.3 U | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |
| 2-Methylnaphthalene | 3.6 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| 2-Methylphenol | 93 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| 2-Nitrobenzenamine | 190 | | NA | < 11 U | NA | NA | < 11 U | NA | NA | < 2.1 U | NA | < 2 U | NA | NA | NA | NA | NA | NA |
| 2-Nitrophenol | | | NA | < 11 U | NA | NA | < 11 U | NA | NA | < 2.1 U | NA | < 2 U | NA | NA | NA | NA | NA | NA |
| 3,3'-Dichlorobenzidine | 0.13 | | NA | < 28 U | NA | NA | < 28 U | NA | NA | < 5.3 U | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |
| 3-Nitrobenzenamine | | | NA | < 11 U | NA | NA | < 11 U | NA | NA | < 2.1 U | NA | < 2 U | NA | NA | NA | NA | NA | NA |
| 4-Bromophenyl phenyl ether | | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| 4-Chloro-3-methylphenol | 140 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| 4-Chlorobenzenamine | 0.37 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 R | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| 4-Chlorophenyl phenyl ether | | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| 4-Methylphenol | 190 | | NA | < 11 U | NA | NA | < 11 U | NA | NA | < 2.1 U | NA | < 2 U | NA | NA | NA | NA | NA | NA |
| 4-Nitrobenzenamine | 3.8 | | NA | < 11 U | NA | NA | < 11 U | NA | NA | < 2.1 U | NA | < 2 U | NA | NA | NA | NA | NA | NA |
| 4-Nitrophenol | | | NA | < 28 U | NA | NA | < 28 U | NA | NA | < 5.3 U | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |
| Acenaphthene | 53 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Acenaphthylene | | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Acetophenone | 190 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Anthracene | 180 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Atrazine | 0.3 | 3 | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Benz(a)anthracene | 0.03 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 UJ | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Benzaldehyde | 19 | | NA | < 28 U | NA | NA | < 28 U | NA | NA | NA | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 0.025 | 0.2 | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 UJ | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Benzo(b)fluoranthene | 0.25 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 UJ | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Benzo(ghi)perylene | | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 UJ | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Benzo(k)fluoranthene | 2.5 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 UJ | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethoxy)methane | 5.9 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroethyl) ether | 0.014 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | NA | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Bis(2-chloroisopropyl) ether | 71 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Bis(2-ethylhexyl)phthalate | 5.6 | 6 | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | **2.3 J** | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |
| Butyl benzyl phthalate | 16 | | NA | < 11 U | NA | NA | < 11 U | NA | NA | < 5.3 U | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |
| Caprolactam | 990 | | NA | < 28 U | NA | NA | < 28 U | NA | NA | NA | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | Location ID | COE-MW-06 | COE-MW-07 | COE-MW-07 | COE-MW-07 | COE-MW-08 | COE-MW-08 | COE-MW-08 | HA01-MW-07D | HAA01-MW-09 | HAA01-MW-10 | HAA01-MW-10 | HAA01-MW-11 | HAA01-MW-12 | HA01-MW-12 | HAA01-MW-12D | HAA01-MW-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 12/17/2009 | 02/04/09 | 12/16/2009 | 01/26/11 | 02/04/09 | 12/16/2009 | 01/26/11 | 2/16/2012 | 12/16/2009 | 12/17/2009 | 01/25/11 | 12/17/2009 | 12/17/2009 | 1/30/2012 | 12/17/2009 | 12/16/2009 |
| Chemical Name | Tapwater RSL | MCL | | | | | | | | | | | | | | | | |
| Carbazole | | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Chrysene | 25 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 UJ | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Dibenz(a,h)anthracene | 0.025 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 UJ | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Dibenzofuran | 0.79 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Diethyl phthalate | 1500 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 5.3 U | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |
| Dimethyl phthalate | | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 5.3 U | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |
| Di-n-butyl phthalate | 90 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 5.3 U | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |
| Di-n-octylphthalate | 20 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 5.3 UJ | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |
| Fluoranthene | 80 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Fluorene | 29 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Hexachlorobenzene | 0.0098 | 1 | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Hexachlorobutadiene | 0.14 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Hexachlorocyclopentadiene | 0.041 | 50 | NA | < 28 U | NA | NA | < 28 U | NA | NA | < 5.3 U | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |
| Hexachloroethane | 0.33 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | 0.25 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 UJ | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Isophorone | 78 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Naphthalene | 0.17 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Nitrobenzene | 0.14 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| N-Nitroso-di-n-propylamine | 0.011 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| N-Nitrosodiphenylamine | 12 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Pentachlorophenol | 0.041 | 1 | NA | < 28 U | NA | NA | < 28 U | NA | NA | < 5.3 U | NA | < 5.1 U | NA | NA | NA | NA | NA | NA |
| Phenanthrene | | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Phenol | 580 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |
| Pyrene | 12 | | NA | < 5.6 U | NA | NA | < 5.6 U | NA | NA | < 1.1 U | NA | < 1 U | NA | NA | NA | NA | NA | NA |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | Tapwater RSL | Location ID / Sample Date / MCL | HAA01-MW-14 12/16/2009 | HA01-MW-14 1/30/2012 | HAA01-MW-14D 12/16/2009 | HAA01-MW-15 12/17/2009 | HAA01-MW-15 01/25/11 | HAA01-MW-16 12/17/2009 | HAA01-MW-17 12/17/2009 | HAA01-MW-18D 12/16/2009 | HMW-02 2/2/2009 | HMW-02 12/16/2009 | HMW-04 02/03/09 | HMW-04 12/17/2009 | HMW-06 02/03/09 | HMW-06 12/17/2009 | HMW-08 12/16/2009 | HMW-09 02/03/09 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***VOCs - USEPA Method SW8260 (µg/L)*** | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 800 | 200 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1,2,2-Tetrachloroethane | 0.076 | | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 1000 | | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1,2-Trichloroethane | 0.041 | 5 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1-Dichloroethane | 2.8 | | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1-Dichloroethene | 28 | 7 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2,4-Trichlorobenzene | 0.4 | 70 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.21 UB** |
| 1,2-Dibromo-3-chloropropane (DBCP) | 0.00033 | 0.2 | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2-Dibromoethane | 0.0075 | 0.05 | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2-Dichlorobenzene | 30 | 600 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.29 J** | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2-Dichloroethane | 0.17 | 5 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2-Dichloropropane | 0.14 | 5 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,3-Dichlorobenzene | | | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,4-Dichlorobenzene | 0.48 | 75 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| 2-Butanone | 560 | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| 2-Hexanone | 38 | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | **0.89 J** | < 10 U | < 10 U | < 10 U |
| 4-Methyl-2-pentanone | 630 | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| Acetone | 1400 | | < 10 UJ | < 20 U | **2.4 UB** | **4.7 J** | < 10 U | **2.1 J** | **5.6 J** | < 10 UJ | < 10 U | < 10 UJ | < 10 U | **2.4 J** | < 10 U | **1.8 J** | < 10 UJ | < 10 U |
| Benzene | 0.46 | 5 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **5.9** | < 0.5 U | < 0.5 U | **1.5** |
| Benzene, 1-methylethyl | 45 | | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.1 UB** | < 0.5 U | **6.7** | < 0.5 U | < 0.5 U | **5.8** |
| Bromodichloromethane | 0.13 | 80 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Bromomethane | 0.75 | | < 0.5 U | < 2 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Carbon disulfide | 81 | | < 0.5 U | < 1 U | **0.11 J** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Carbon tetrachloride | 0.46 | 5 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| CFC-11 | 520 | | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| CFC-12 | 20 | | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Chlorobenzene | 7.8 | 100 | < 0.5 U | < 2 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Chloroethane | 21000 | | < 0.5 U | < 2 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Chloroform | 0.22 | 80 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.4 J** |
| Chloromethane | 19 | | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| cis-1,2-Dichloroethene | 3.6 | 70 | < 0.5 U | **0.93 J** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.22 J** | < 0.5 U | < 0.5 U | < 0.5 U |
| cis-1,3-Dichloropropene | | | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Cyclohexane | 1300 | | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **3.6** | < 0.5 U | < 0.5 U | **6.4** |
| Dibromochloromethane | 0.87 | 80 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Ethylbenzene | 1.5 | 700 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.67** | < 0.5 U | < 0.5 U | **2.2** |
| Methyl acetate | 2000 | | < 1 U | NA | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Methylcyclohexane | | | < 5 U | NA | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | **2.4 J** |
| Methylene chloride | 11 | 5 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Styrene | 120 | 100 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| tert-Butyl methyl ether | 14 | | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Tetrachloroethene | 4.1 | 5 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.16 UB** |
| Toluene | 110 | 1000 | **240** | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| trans-1,2-Dichloroethene | 36 | 100 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| trans-1,3-Dichloropropene | | | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Tribromomethane | 3.3 | 80 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 0.5 U | NA | < 0.5 U | NA | < 0.5 U | < 0.5 U | NA |
| Trichloroethene | 0.28 | 5 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U |
| Vinyl chloride | 0.019 | 2 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.32 J** | < 0.5 U | < 0.5 U | < 0.5 U |
| Xylenes (total) | 19 | 10000 | < 0.5 U | < 1 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.32 J** | < 0.5 U | < 0.5 U | **0.46 J** |
| ***Metals - USEPA Method SW6010/SW7470 (µg//L)*** | | | | | | | | | | | | | | | | | | |
| Arsenic | 0.052 | 10 | < 0.01 U | NA | < 0.01 U | < 0.01 U | 0 UB | < 0.01 U | NA | < 0.01 U | < 10 U | NA | < 10 U | NA | < 10 U | NA | NA | **6.2 J** |
| Barium | 380 | 2000 | **0.067** | NA | **0.010 J** | 0.078 | NA | **0.072** | NA | **0.011 J** | **55** | NA | **32** | NA | **22 J** | NA | NA | **38** |
| Cadmium | 0.92 | 5 | < 0.002 U | NA | < 0.002 U | < 0.002 U | NA | < 0.002 U | NA | < 0.002 U | < 2 U | NA | < 2 U | NA | < 2 U | NA | NA | < 2 U |
| Chromium | | 100 | **0.0092** | NA | < 0.005 U | 0.0042 J | NA | < 0.005 U | NA | < 0.005 U | **7.6** | NA | < 5 U | NA | < 5 U | NA | NA | < 5 U |
| Lead | 15 | 15 | < 0.01 U | NA | < 0.01 U | < 0.01 U | NA | < 0.01 U | NA | < 0.01 U | **11 UB** | NA | < 10 U | NA | **3.8 UB** | NA | NA | **4.6 UB** |
| Mercury | 0.063 | 2 | **0.000082 J** | NA | < 0.0001 U | < 0.0001 U | NA | < 0.0001 U | NA | < 0.0001 U | **0.1** | NA | < 0.1 U | NA | < 0.1 U | NA | NA | < 0.1 U |
| Selenium | 10 | 50 | < 0.01 U | NA | < 0.01 U | < 0.01 U | NA | < 0.01 U | NA | < 0.01 U | < 10 U | NA | < 10 U | NA | < 10 U | NA | NA | **3.1 UB** |
| Silver | 9.4 | | < 0.005 U | NA | **0.0011 J** | < 0.005 U | NA | < 0.005 U | NA | < 0.005 U | < 5 U | NA | **2.4 UB** | NA | < 5 U | NA | NA | **1.2 UB** |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | Tapwater RSL | Location ID / Sample Date / MCL | HAA01-MW-14 12/16/2009 | HA01-MW-14 1/30/2012 | HAA01-MW-14D 12/16/2009 | HAA01-MW-15 12/17/2009 | HAA01-MW-15 01/25/11 | HAA01-MW-16 12/17/2009 | HAA01-MW-17 12/17/2009 | HAA01-MW-18D 12/16/2009 | HMW-02 2/2/2009 | HMW-02 12/16/2009 | HMW-04 02/03/09 | HMW-04 12/17/2009 | HMW-06 02/03/09 | HMW-06 12/17/2009 | HMW-08 12/16/2009 | HMW-09 02/03/09 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Pesticides - USEPA Method SW8081 (µg/L)*** | | | | | | | | | | | | | | | | | | |
| Aldrin | 0.00092 | | < 0.25 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| alpha-Chlordane | | | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| DDD | 0.032 | | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| DDE, p,p'- | 0.046 | | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| DDT | 0.23 | | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | **0.027 J** |
| delta BHC | 0.0072 | | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| Dieldrin | 0.0018 | | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| Endosulfan I | 10 | | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| Endosulfan II | | | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| Endosulfan Sulfate | | | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| Endrin | 0.23 | 2 | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| Endrin Aldehyde | | | **0.031 J** | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| Endrin ketone | | | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| gamma-Chlordane | | | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| Heptachlor | 0.0014 | 0.4 | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| Heptachlor epoxide | 0.0014 | 0.2 | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | **0.026 J** | NA | NA | **2.5 J** |
| Hexachlorocyclohexane, Alpha- | 0.0072 | | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | < 0.029 U |
| Hexachlorocyclohexane, Beta- | 0.025 | | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | **0.5 J** |
| Lindane | 0.042 | 0.2 | < 0.025 UJ | NA | < 0.025 U | < 0.027 U | NA | < 0.028 U | NA | < 0.028 U | < 0.028 U | NA | < 0.026 U | NA | < 0.027 U | NA | NA | **0.17 J** |
| Methoxychlor | 3.7 | 40 | < 0.1 UJ | NA | < 0.1 U | < 0.11 U | NA | < 0.11 U | NA | < 0.11 U | < 0.11 U | NA | < 0.1 U | NA | < 0.11 U | NA | NA | < 0.12 U |
| Toxaphene | 0.071 | 3 | < 0.25 UJ | NA | < 0.25 U | < 0.27 U | NA | < 0.28 U | NA | < 0.28 U | < 0.28 U | NA | < 0.26 U | NA | < 0.27 U | NA | NA | < 0.29 U |
| ***Herbicides - USEPA Method SW8151A (µg/L)*** | | | | | | | | | | | | | | | | | | |
| 2,4,5-TP (Silvex) | 110 | 50 | NA | NA | NA | NA | NA | NA | NA | NA | < 0.55 UJ | NA | < 0.52 UJ | NA | < 0.5 UJ | NA | NA | **14 UJ** |
| 2,4-D | 170 | 70 | NA | NA | NA | NA | NA | NA | NA | NA | < 2.2 UJ | NA | < 2.1 UJ | NA | < 2 UJ | NA | NA | < 2.2 UJ |
| Trichlorophenoxyacetic Acid, 2,4,5- | 16 | | NA | NA | NA | NA | NA | NA | NA | NA | < 0.55 U | NA | < 0.52 U | NA | < 0.5 U | NA | NA | **2.6 J** |
| ***SVOCs - USEPA Method SW8270 (µg/L)*** | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 0.083 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| 2,4,5-Trichlorophenol | 120 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| 2,4,6-Trichlorophenol | 1.2 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| 2,4-Dichlorophenol | 4.6 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| 2,4-Dimethylphenol | 36 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| 2,4-Dinitrophenol | 3.9 | | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 UJ | < 31 U | NA | < 28 U | NA | < 29 U | < 5 U | NA | < 29 U |
| 2,4-Dinitrotoluene | 0.24 | | NA | NA | NA | NA | NA | < 2 U | NA | < 2.2 UJ | < 12 U | NA | < 11 U | NA | < 11 U | < 2 U | NA | < 12 U |
| 2,6-Dinitrotoluene | 0.049 | | NA | NA | NA | NA | NA | < 2 U | NA | < 2.2 UJ | < 12 U | NA | < 11 U | NA | < 11 U | < 2 U | NA | < 12 U |
| 2-Chloronaphthalene | 75 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| 2-Chlorophenol | 9.1 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| 2-Methyl-4,6-dinitrophenol | 0.15 | | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 UJ | < 31 U | NA | < 28 U | NA | < 29 U | < 5 U | NA | < 29 U |
| 2-Methylnaphthalene | 3.6 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | **4.3 J** | < 1 U | NA | < 5.9 U |
| 2-Methylphenol | 93 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| 2-Nitrobenzenamine | 190 | | NA | NA | NA | NA | NA | < 2 U | NA | < 2.2 UJ | < 12 U | NA | < 11 U | NA | < 11 U | < 2 U | NA | < 12 U |
| 2-Nitrophenol | | | NA | NA | NA | NA | NA | < 2 U | NA | < 2.2 UJ | < 12 U | NA | < 11 U | NA | < 11 U | < 2 U | NA | < 12 U |
| 3,3'-Dichlorobenzidine | 0.13 | | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 U | < 31 U | NA | < 28 U | NA | < 29 U | < 5 U | NA | < 29 U |
| 3-Nitrobenzenamine | | | NA | NA | NA | NA | NA | < 2 U | NA | < 2.2 U | < 12 U | NA | < 11 U | NA | < 11 U | < 2 U | NA | < 12 U |
| 4-Bromophenyl phenyl ether | | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| 4-Chloro-3-methylphenol | 140 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| 4-Chlorobenzenamine | 0.37 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 R | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| 4-Chlorophenyl phenyl ether | | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| 4-Methylphenol | 190 | | NA | NA | NA | NA | NA | < 2 U | NA | < 2.2 UJ | < 12 U | NA | < 11 U | NA | < 11 U | < 2 U | NA | < 12 U |
| 4-Nitrobenzenamine | 3.8 | | NA | NA | NA | NA | NA | < 2 U | NA | < 2.2 UJ | < 12 U | NA | < 11 U | NA | < 11 U | < 2 U | NA | < 12 U |
| 4-Nitrophenol | | | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 UJ | < 31 U | NA | < 28 U | NA | < 29 U | < 5 U | NA | < 29 U |
| Acenaphthene | 53 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Acenaphthylene | | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Acetophenone | 190 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Anthracene | 180 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Atrazine | 0.3 | 3 | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Benz(a)anthracene | 0.03 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Benzaldehyde | 19 | | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 U | < 31 U | NA | < 28 U | NA | < 29 U | < 5 U | NA | < 29 U |
| Benzo(a)pyrene | 0.025 | 0.2 | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Benzo(b)fluoranthene | 0.25 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Benzo(ghi)perylene | | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Benzo(k)fluoranthene | 2.5 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Bis(2-chloroethoxy)methane | 5.9 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Bis(2-chloroethyl) ether | 0.014 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Bis(2-chloroisopropyl) ether | 71 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Bis(2-ethylhexyl)phthalate | 5.6 | 6 | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 U | < 6.2 UJ | NA | < 5.7 UJ | NA | < 5.7 UJ | < 5 U | NA | < 5.9 UJ |
| Butyl benzyl phthalate | 16 | | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 UJ | < 12 U | NA | < 11 U | NA | < 11 U | < 5 U | NA | < 12 U |
| Caprolactam | 990 | | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 U | < 31 U | NA | < 28 U | NA | < 29 U | < 5 U | NA | < 29 U |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | Location ID | HAA01-MW-14 | HA01-MW-14 | HAA01-MW-14D | HAA01-MW-15 | HAA01-MW-15 | HAA01-MW-16 | HAA01-MW-17 | HAA01-MW-18D | HMW-02 | HMW-02 | HMW-04 | HMW-04 | HMW-06 | HMW-06 | HMW-08 | HMW-09 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 12/16/2009 | 1/30/2012 | 12/16/2009 | 12/17/2009 | 01/25/11 | 12/17/2009 | 12/17/2009 | 12/16/2009 | 2/2/2009 | 12/16/2009 | 02/03/09 | 12/17/2009 | 02/03/09 | 12/17/2009 | 12/16/2009 | 02/03/09 |
| Chemical Name | Tapwater RSL | MCL | | | | | | | | | | | | | | | | |
| Carbazole | | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Chrysene | 25 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Dibenz(a,h)anthracene | 0.025 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Dibenzofuran | 0.79 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Diethyl phthalate | 1500 | | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 5 U | NA | < 5.9 U |
| Dimethyl phthalate | | | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 5 U | NA | < 5.9 U |
| Di-n-butyl phthalate | 90 | | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 5 U | NA | < 5.9 U |
| Di-n-octylphthalate | 20 | | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 5 U | NA | < 5.9 U |
| Fluoranthene | 80 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Fluorene | 29 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Hexachlorobenzene | 0.0098 | 1 | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Hexachlorobutadiene | 0.14 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Hexachlorocyclopentadiene | 0.041 | 50 | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 U | < 31 U | NA | < 28 U | NA | < 29 U | < 5 U | NA | < 29 U |
| Hexachloroethane | 0.33 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Indeno(1,2,3-cd)pyrene | 0.25 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Isophorone | 78 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Naphthalene | 0.17 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | **22** | < 1 U | NA | < 5.9 U |
| Nitrobenzene | 0.14 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| N-Nitroso-di-n-propylamine | 0.011 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| N-Nitrosodiphenylamine | 12 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 U | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Pentachlorophenol | 0.041 | 1 | NA | NA | NA | NA | NA | < 5 U | NA | < 5.6 UJ | < 31 U | NA | < 28 U | NA | < 29 U | < 5 U | NA | < 29 U |
| Phenanthrene | | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Phenol | 580 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |
| Pyrene | 12 | | NA | NA | NA | NA | NA | < 1 U | NA | < 1.1 UJ | < 6.2 U | NA | < 5.7 U | NA | < 5.7 U | < 1 U | NA | < 5.9 U |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | Location ID | HMW-09 | HMW-09 | HMW-10 | HMW-10 | HMW-11 | HMW-11 | HMW-13 | HMW-13 | HMW-13 | HMW-14R | HMW-14R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 12/16/2009 | 01/25/11 | 02/03/09 | 12/17/2009 | 02/03/09 | 12/16/2009 | 02/02/09 | 12/17/2009 | 01/25/11 | 02/03/09 | 12/16/2009 |
| Chemical Name | Tapwater RSL | MCL | | | | | | | | | | | |
| ***VOCs - USEPA Method SW8260 (µg/L)*** | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 800 | 200 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| 1,1,2,2-Tetrachloroethane | 0.076 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.84** | < 0.5 U | < 1 U | < 0.5 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 1000 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **8.5** | < 1 U | < 0.5 U |
| 1,1,2-Trichloroethane | 0.041 | 5 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| 1,1-Dichloroethane | 2.8 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| 1,1-Dichloroethene | 28 | 7 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| 1,2,4-Trichlorobenzene | 0.4 | 70 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| 1,2-Dibromo-3-chloropropane (DBCP) | 0.00033 | 0.2 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| 1,2-Dibromoethane | 0.0075 | 0.05 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| 1,2-Dichlorobenzene | 30 | 600 | < 0.5 U | **0.36 J** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| 1,2-Dichloroethane | 0.17 | 5 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **1.1** | < 1 U | < 0.5 U |
| 1,2-Dichloropropane | 0.14 | 5 | < 0.5 U | **0.41 J** | **0.28 J** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| 1,3-Dichlorobenzene | | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| 1,4-Dichlorobenzene | 0.48 | 75 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 10 U | < 1 U | < 0.5 U |
| 2-Butanone | 560 | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 20 U | < 10 U |
| 2-Hexanone | 38 | | < 10 U | < 10 U | **3.2 J** | **0.30 J** | < 10 U | < 10 U | **11** | < 10 U | < 10 U | **0.87 J** | < 10 U |
| 4-Methyl-2-pentanone | 630 | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | **2.4 J** | **7.7 J** | < 20 U | < 10 U |
| Acetone | 1400 | | < 10 UJ | **8.4 J** | < 10 U | **3.2 J** | **3.4 J** | < 10 UJ | **4.2 J** | **490** | **13** | < 20 U | < 10 U |
| Benzene | 0.46 | 5 | < 0.5 U | **48** | **17** | < 0.5 U | **0.84** | < 0.5 U | **52** | **56** | **68** | **0.41 J** | **0.21 J** |
| Benzene, 1-methylethyl | 45 | | < 0.5 U | **40** | **3.5** | < 0.5 U | **0.13 UB** | < 0.5 U | **51** | **86** | < 0.5 U | < 1 U | < 0.5 U |
| Bromodichloromethane | 0.13 | 80 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| Bromomethane | 0.75 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| Carbon disulfide | 81 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| Carbon tetrachloride | 0.46 | 5 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| CFC-11 | 520 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 UJ |
| CFC-12 | 20 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| Chlorobenzene | 7.8 | 100 | < 0.5 U | **1.2** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| Chloroethane | 21000 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| Chloroform | 0.22 | 80 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| Chloromethane | 19 | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| cis-1,2-Dichloroethene | 3.6 | 70 | < 0.5 U | < 0.5 U | **0.32 J** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **600** | **310** |
| cis-1,3-Dichloropropene | | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **54** | < 1 U | < 0.5 U |
| Cyclohexane | 1300 | | < 0.5 U | **65** | **9.2** | < 0.5 U | < 0.5 U | < 0.5 U | **76** | **130** | < 0.5 U | < 1 U | < 0.5 U |
| Dibromochloromethane | 0.87 | 80 | < 0.5 U | **0.68** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **25** | < 1 U | < 0.5 U |
| Ethylbenzene | 1.5 | 700 | < 0.5 U | **16** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **31** | **56** | < 1 U | < 1 U | < 0.5 U |
| Methyl acetate | 2000 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | **91** | < 2 U | < 1 U |
| Methylcyclohexane | | | < 5 U | **30** | **1.1 J** | < 5 U | < 5 U | < 5 U | **78** | **160** | < 0.5 U | < 10 U | < 5 U |
| Methylene chloride | 11 | 5 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| Styrene | 120 | 100 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| tert-Butyl methyl ether | 14 | | < 0.5 U | < 0.5 U | **0.74** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 1 U | < 0.5 U |
| Tetrachloroethene | 4.1 | 5 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.18 J** | < 1 U | < 0.5 U |
| Toluene | 110 | 1000 | < 0.5 U | **0.24 J** | **0.18 J** | < 0.5 U | < 0.5 U | < 0.5 U | **0.57** | **0.48 J** | < 0.5 U | < 1 U | < 0.5 U |
| trans-1,2-Dichloroethene | 36 | 100 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **25** | **17** |
| trans-1,3-Dichloropropene | | | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | NA | < 1 U | < 0.5 U |
| Tribromomethane | 3.3 | 80 | < 0.5 U | NA | NA | < 0.5 U | NA | < 0.5 U | NA | < 0.5 U | < 0.5 U | NA | < 0.5 U |
| Trichloroethene | 0.28 | 5 | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **1.3** | **1.5** |
| Vinyl chloride | 0.019 | 2 | < 0.5 U | < 0.5 U | **0.6** | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | < 0.5 U | **0.87** | **1.4** | **1.3** |
| Xylenes (total) | 19 | 10000 | < 0.5 U | **0.51** | **0.69** | < 0.5 U | **0.21 J** | < 0.5 U | **38** | **61** | NA | **0.62 J** | < 0.5 U |
| ***Metals - USEPA Method SW6010/SW7470 (µg//L)*** | | | | | | | | | | | | | |
| Arsenic | 0.052 | 10 | NA | < 10 U | < 10 U | NA | < 10 U | NA | **6.7 J** | NA | NA | **4.7 J** | < 0.01 U |
| Barium | 380 | 2000 | NA | NA | **54** | NA | **48** | NA | **18 J** | NA | NA | **29** | **0.048** |
| Cadmium | 0.92 | 5 | NA | NA | < 2 U | NA | < 2 U | NA | < 2 U | NA | NA | < 2 U | < 0.002 U |
| Chromium | | 100 | NA | NA | < 5 U | NA | < 5 U | NA | **3.4 J** | NA | NA | < 5 U | **0.0022 UB** |
| Lead | 15 | 15 | NA | NA | < 10 U | NA | **2.8 UB** | NA | **3.6 UB** | NA | NA | **3.7 UB** | < 0.01 U |
| Mercury | 0.063 | 2 | NA | NA | < 0.1 U | NA | **0.1** | NA | < 0.1 U | NA | NA | < 0.1 U | < 0.0001 U |
| Selenium | 10 | 50 | NA | NA | < 10 U | NA | < 10 U | NA | < 10 U | NA | NA | **3.6 UB** | < 0.01 U |
| Silver | 9.4 | | NA | NA | < 5 U | NA | < 5 U | NA | **1.8 UB** | NA | NA | **1.7 UB** | < 0.005 U |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | Tapwater RSL | Location ID / Sample Date / MCL | HMW-09 12/16/2009 | HMW-09 01/25/11 | HMW-10 02/03/09 | HMW-10 12/17/2009 | HMW-11 02/03/09 | HMW-11 12/16/2009 | HMW-13 02/02/09 | HMW-13 12/17/2009 | HMW-13 01/25/11 | HMW-14R 02/03/09 | HMW-14R 12/16/2009 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Pesticides - USEPA Method SW8081 (µg/L)*** | | | | | | | | | | | | | |
| Aldrin | 0.00092 | | NA | NA | < 0.028 U | NA | **0.067 J** | NA | **0.04 J** | NA | NA | < 0.025 U | **0.41 J** |
| alpha-Chlordane | | | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| DDD | 0.032 | | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| DDE, p,p'- | 0.046 | | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| DDT | 0.23 | | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| delta BHC | 0.0072 | | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| Dieldrin | 0.0018 | | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| Endosulfan I | 10 | | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| Endosulfan II | | | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| Endosulfan Sulfate | | | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| Endrin | 0.23 | 2 | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| Endrin Aldehyde | | | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | **0.0066 J** |
| Endrin ketone | | | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| gamma-Chlordane | | | NA | NA | < 0.028 U | NA | < 0.025 U | NA | **0.75 J** | NA | NA | **3.9 J** | < 0.027 U |
| Heptachlor | 0.0014 | 0.4 | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| Heptachlor epoxide | 0.0014 | 0.2 | NA | NA | **0.014 J** | NA | **0.043 J** | NA | **0.024 J** | NA | NA | < 0.025 U | < 0.027 U |
| Hexachlorocyclohexane, Alpha- | 0.0072 | | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| Hexachlorocyclohexane, Beta- | 0.025 | | NA | NA | < 0.028 U | NA | **0.024 J** | NA | **0.034 J** | NA | NA | **0.52 J** | < 0.027 U |
| Lindane | 0.042 | 0.2 | NA | NA | < 0.028 U | NA | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.025 U | < 0.027 U |
| Methoxychlor | 3.7 | 40 | NA | NA | < 0.11 U | NA | < 0.1 U | NA | < 0.11 U | NA | NA | < 0.1 U | < 0.11 U |
| Toxaphene | 0.071 | 3 | NA | NA | < 0.28 U | NA | < 0.25 U | NA | < 0.28 U | NA | NA | < 0.25 U | < 0.27 U |
| ***Herbicides - USEPA Method SW8151A (µg/L)*** | | | | | | | | | | | | | |
| 2,4,5-TP (Silvex) | 110 | 50 | NA | NA | < 0.53 UJ | NA | < 0.55 UJ | NA | < 0.53 UJ | NA | NA | < 0.5 U | NA |
| 2,4-D | 170 | 70 | NA | NA | < 2.1 UJ | NA | **1.7 UJ** | NA | < 2.1 UJ | NA | NA | < 2 U | NA |
| Trichlorophenoxyacetic Acid, 2,4,5- | 16 | | NA | NA | < 0.53 U | NA | < 0.55 U | NA | < 0.53 U | NA | NA | < 0.5 U | NA |
| ***SVOCs - USEPA Method SW8270 (µg/L)*** | | | | | | | | | | | | | |
| 1,1'-Biphenyl | 0.083 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| 2,4,5-Trichlorophenol | 120 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| 2,4,6-Trichlorophenol | 1.2 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| 2,4-Dichlorophenol | 4.6 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| 2,4-Dimethylphenol | 36 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| 2,4-Dinitrophenol | 3.9 | | NA | NA | < 31 U | < 5.1 U | < 31 U | NA | < 31 U | < 5.1 U | NA | < 25 U | NA |
| 2,4-Dinitrotoluene | 0.24 | | NA | NA | < 12 U | < 2 U | < 12 U | NA | < 12 U | < 2 U | NA | < 10 U | NA |
| 2,6-Dinitrotoluene | 0.049 | | NA | NA | < 12 U | < 2 U | < 12 U | NA | < 12 U | < 2 U | NA | < 10 U | NA |
| 2-Chloronaphthalene | 75 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| 2-Chlorophenol | 9.1 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| 2-Methyl-4,6-dinitrophenol | 0.15 | | NA | NA | < 31 U | < 5.1 U | < 31 U | NA | < 31 U | < 5.1 U | NA | < 25 U | NA |
| 2-Methylnaphthalene | 3.6 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | **22** | NA | < 5 U | NA |
| 2-Methylphenol | 93 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| 2-Nitrobenzenamine | 190 | | NA | NA | < 12 U | < 2 U | < 12 U | NA | < 12 U | < 2 U | NA | < 10 U | NA |
| 2-Nitrophenol | | | NA | NA | < 12 U | < 2 U | < 12 U | NA | < 12 U | < 2 U | NA | < 10 U | NA |
| 3,3'-Dichlorobenzidine | 0.13 | | NA | NA | < 31 U | < 5.1 U | < 31 U | NA | < 31 U | < 5.1 U | NA | < 25 U | NA |
| 3-Nitrobenzenamine | | | NA | NA | < 12 U | < 2 U | < 12 U | NA | < 12 U | < 2 U | NA | < 10 U | NA |
| 4-Bromophenyl phenyl ether | | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| 4-Chloro-3-methylphenol | 140 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| 4-Chlorobenzenamine | 0.37 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| 4-Chlorophenyl phenyl ether | | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| 4-Methylphenol | 190 | | NA | NA | < 12 U | < 2 U | < 12 U | NA | < 12 U | **9.9** | NA | < 10 U | NA |
| 4-Nitrobenzenamine | 3.8 | | NA | NA | < 12 U | < 2 U | < 12 U | NA | < 12 U | < 2 U | NA | < 10 U | NA |
| 4-Nitrophenol | | | NA | NA | < 31 U | < 5.1 U | < 31 U | NA | < 31 U | < 5.1 U | NA | < 25 U | NA |
| Acenaphthene | 53 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Acenaphthylene | | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Acetophenone | 190 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Anthracene | 180 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Atrazine | 0.3 | 3 | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Benz(a)anthracene | 0.03 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Benzaldehyde | 19 | | NA | NA | < 31 U | < 5.1 U | < 31 U | NA | < 31 U | < 5.1 U | NA | < 25 U | NA |
| Benzo(a)pyrene | 0.025 | 0.2 | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Benzo(b)fluoranthene | 0.25 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | **0.25 J** | NA | < 5 U | NA |
| Benzo(ghi)perylene | | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | **0.78 J** | NA | < 5 U | NA |
| Benzo(k)fluoranthene | 2.5 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | **0.12 J** | NA | < 5 U | NA |
| Bis(2-chloroethoxy)methane | 5.9 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Bis(2-chloroethyl) ether | 0.014 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Bis(2-chloroisopropyl) ether | 71 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Bis(2-ethylhexyl)phthalate | 5.6 | 6 | NA | NA | < 6.2 UJ | < 5.1 U | < 6.2 UJ | NA | < 6.2 UJ | < 5.1 U | NA | < 5 U | NA |
| Butyl benzyl phthalate | 16 | | NA | NA | < 12 U | < 5.1 U | < 12 U | NA | < 12 U | < 5.1 U | NA | < 10 U | NA |
| Caprolactam | 990 | | NA | NA | < 31 U | < 5.1 U | < 31 U | NA | < 31 U | < 5.1 U | NA | < 25 U | NA |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | Location ID | HMW-09 | HMW-09 | HMW-10 | HMW-10 | HMW-11 | HMW-11 | HMW-13 | HMW-13 | HMW-13 | HMW-14R | HMW-14R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 12/16/2009 | 01/25/11 | 02/03/09 | 12/17/2009 | 02/03/09 | 12/16/2009 | 02/02/09 | 12/17/2009 | 01/25/11 | 02/03/09 | 12/16/2009 |
| Chemical Name | Tapwater RSL | MCL | | | | | | | | | | | |
| Carbazole | | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Chrysene | 25 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Dibenz(a,h)anthracene | 0.025 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Dibenzofuran | 0.79 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Diethyl phthalate | 1500 | | NA | NA | < 6.2 U | < 5.1 U | < 6.2 U | NA | < 6.2 U | < 5.1 U | NA | < 5 U | NA |
| Dimethyl phthalate | | | NA | NA | < 6.2 U | < 5.1 U | < 6.2 U | NA | < 6.2 U | < 5.1 U | NA | < 5 U | NA |
| Di-n-butyl phthalate | 90 | | NA | NA | < 6.2 U | < 5.1 U | < 6.2 U | NA | < 6.2 U | < 5.1 U | NA | < 5 U | NA |
| Di-n-octylphthalate | 20 | | NA | NA | < 6.2 U | < 5.1 U | < 6.2 U | NA | < 6.2 U | < 5.1 U | NA | < 5 U | NA |
| Fluoranthene | 80 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Fluorene | 29 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Hexachlorobenzene | 0.0098 | 1 | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Hexachlorobutadiene | 0.14 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Hexachlorocyclopentadiene | 0.041 | 50 | NA | NA | < 31 U | < 5.1 U | < 31 U | NA | < 31 U | < 5.1 U | NA | < 25 U | NA |
| Hexachloroethane | 0.33 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Indeno(1,2,3-cd)pyrene | 0.25 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | **0.43 J** | NA | < 5 U | NA |
| Isophorone | 78 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Naphthalene | 0.17 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | **19** | **100** | NA | < 5 U | NA |
| Nitrobenzene | 0.14 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| N-Nitroso-di-n-propylamine | 0.011 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| N-Nitrosodiphenylamine | 12 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Pentachlorophenol | 0.041 | 1 | NA | NA | < 31 U | < 5.1 U | < 31 U | NA | < 31 U | < 5.1 U | NA | < 25 U | NA |
| Phenanthrene | | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Phenol | 580 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |
| Pyrene | 12 | | NA | NA | < 6.2 U | < 1 U | < 6.2 U | NA | < 6.2 U | < 1 U | NA | < 5 U | NA |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | Tapwater RSL | Location ID / Sample Date / MCL | HMW-21 2/4/2009 | HMW-21 12/17/2009 | HMW-21 1/26/2011 | HMW-23 2/3/2009 | HMW-23 12/17/2009 | HMW-23 + 1/18/2010 | HMW-24 2/3/2009 | HMW-24 12/17/2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| ***VOCs - USEPA Method SW8260 (µg/L)*** | | | | | | | | | | |
| 1,1,1-Trichloroethane | 800 | 200 | < 0.5 U | < 2 U | < 5 UJ | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1,2,2-Tetrachloroethane | 0.076 | | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 1000 | | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1,2-Trichloroethane | 0.041 | 5 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1-Dichloroethane | 2.8 | | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,1-Dichloroethene | 28 | 7 | < 0.5 U | **2.7** | **8.7 J** | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2,4-Trichlorobenzene | 0.4 | 70 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2-Dibromo-3-chloropropane (DBCP) | 0.00033 | 0.2 | < 0.5 U | < 2 U | < 5 UJ | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2-Dibromoethane | 0.0075 | 0.05 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2-Dichlorobenzene | 30 | 600 | < 0.5 U | < 2 U | < 5 U | **0.46 J** | NA | **0.73** | **0.66** | < 0.5 U |
| 1,2-Dichloroethane | 0.17 | 5 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,2-Dichloropropane | 0.14 | 5 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | **0.28 J** | < 0.5 U | < 0.5 U |
| 1,3-Dichlorobenzene | | | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| 1,4-Dichlorobenzene | 0.48 | 75 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| 2-Butanone | 560 | | < 10 U | < 40 U | < 100 U | < 10 U | NA | < 10 U | < 10 U | < 10 U |
| 2-Hexanone | 38 | | < 10 U | < 40 U | < 100 U | **2.8 J** | NA | < 10 U | **5.6 J** | **5.1 J** |
| 4-Methyl-2-pentanone | 630 | | < 10 U | < 40 U | < 100 U | < 10 U | NA | < 10 U | < 10 U | < 10 U |
| Acetone | 1400 | | < 10 U | **7.7 J** | < 100 U | < 10 U | NA | **15 UB** | < 10 U | **9.4 J** |
| Benzene | 0.46 | 5 | < 0.5 U | **0.98 J** | < 5 U | **0.36 J** | NA | **2.4** | **140** | **4.9** |
| Benzene, 1-methylethyl | 45 | | < 0.5 U | < 2 U | < 5 U | **14** | NA | **29** | **19** | **3.1** |
| Bromodichloromethane | 0.13 | 80 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| Bromomethane | 0.75 | | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| Carbon disulfide | 81 | | < 0.5 U | < 2 U | < 5 UJ | < 0.5 U | NA | **0.15 J** | < 0.5 U | < 0.5 U |
| Carbon tetrachloride | 0.46 | 5 | < 0.5 U | < 2 U | < 5 UJ | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| CFC-11 | 520 | | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| CFC-12 | 20 | | < 0.5 U | < 2 U | < 5 UJ | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| Chlorobenzene | 7.8 | 100 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | **0.51** | < 0.5 U | < 0.5 U |
| Chloroethane | 21000 | | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| Chloroform | 0.22 | 80 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| Chloromethane | 19 | | < 0.5 U | < 2 U | < 5 UJ | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| cis-1,2-Dichloroethene | 3.6 | 70 | **15** | **1200** | **3200** | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| cis-1,3-Dichloropropene | | | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| Cyclohexane | 1300 | | < 0.5 U | < 2 U | < 5 U | **0.34 J** | NA | **25** | **47** | < 0.5 U |
| Dibromochloromethane | 0.87 | 80 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| Ethylbenzene | 1.5 | 700 | < 0.5 U | < 2 U | < 5 U | **2.6** | NA | **8.8** | **32** | **2.1** |
| Methyl acetate | 2000 | | < 1 U | < 4 U | < 10 U | < 1 U | NA | < 1 U | < 1 U | < 1 U |
| Methylcyclohexane | | | < 5 U | < 20 U | < 50 UJ | < 5 U | NA | **2.0 J** | **12** | < 5 U |
| Methylene chloride | 11 | 5 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | **0.22 UB** | < 0.5 U | < 0.5 U |
| Styrene | 120 | 100 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| tert-Butyl methyl ether | 14 | | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| Tetrachloroethene | 4.1 | 5 | < 0.5 U | < 2 U | < 5 UJ | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| Toluene | 110 | 1000 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | **0.37 J** | **0.65** | < 0.5 U |
| trans-1,2-Dichloroethene | 36 | 100 | **0.7** | **3.5** | **9.5** | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| trans-1,3-Dichloropropene | | | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| Tribromomethane | 3.3 | 80 | NA | < 2 U | NA | NA | NA | < 0.5 U | NA | < 0.5 U |
| Trichloroethene | 0.28 | 5 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| Vinyl chloride | 0.019 | 2 | **0.13 J** | < 2 U | **36 J** | < 0.5 U | NA | < 0.5 U | < 0.5 U | < 0.5 U |
| Xylenes (total) | 19 | 10000 | < 0.5 U | < 2 U | < 5 U | < 0.5 U | NA | < 0.5 U | **47** | < 0.5 U |
| ***Metals - USEPA Method SW6010/SW7470 (µg//L)*** | | | | | | | | | | |
| Arsenic | 0.052 | 10 | < 10 U | < 0.01 U | 0 UB | < 10 U | NA | NA | < 10 U | NA |
| Barium | 380 | 2000 | **100** | **0.024 J** | NA | **40** | NA | NA | **33** | NA |
| Cadmium | 0.92 | 5 | < 2 U | < 0.002 U | NA | < 2 U | NA | NA | < 2 U | NA |
| Chromium | | 100 | < 5 U | < 0.005 U | NA | < 5 U | NA | NA | < 5 U | NA |
| Lead | 15 | 15 | **1.9 UB** | < 0.01 U | NA | **2.7 UB** | NA | NA | < 10 U | NA |
| Mercury | 0.063 | 2 | < 0.1 U | < 0.0001 U | NA | < 0.1 U | NA | NA | < 0.1 U | NA |
| Selenium | 10 | 50 | **4.8 UB** | < 0.01 U | NA | **4.2 UB** | NA | NA | < 10 U | NA |
| Silver | 9.4 | | < 5 U | < 0.005 U | NA | **2.5 UB** | NA | NA | **2 UB** | NA |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | Tapwater RSL | Location ID / Sample Date / MCL | HMW-21 2/4/2009 | HMW-21 12/17/2009 | HMW-21 1/26/2011 | HMW-23 2/3/2009 | HMW-23 12/17/2009 | HMW-23 + 1/18/2010 | HMW-24 2/3/2009 | HMW-24 12/17/2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Pesticides - USEPA Method SW8081 (µg/L)*** | | | | | | | | | | |
| Aldrin | 0.00092 | | < 0.025 U | < 0.025 U | NA | **0.11 J** | NA | NA | **0.082 J** | NA |
| alpha-Chlordane | | | < 0.025 U | < 0.025 U | NA | **0.046 J** | NA | NA | **0.077 J** | NA |
| DDD | 0.032 | | < 0.025 U | < 0.025 U | NA | < 0.028 U | NA | NA | **0.056 J** | NA |
| DDE, p,p'- | 0.046 | | < 0.025 U | < 0.025 U | NA | **0.01 J** | NA | NA | **0.044 J** | NA |
| DDT | 0.23 | | < 0.025 U | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.027 U | NA |
| delta BHC | 0.0072 | | < 0.025 U | < 0.025 U | NA | < 0.028 U | NA | NA | **0.057 J** | NA |
| Dieldrin | 0.0018 | | < 0.025 U | < 0.025 U | NA | < 0.028 U | NA | NA | **0.028 J** | NA |
| Endosulfan I | 10 | | < 0.025 UJ | < 0.025 U | NA | **0.034 J** | NA | NA | **0.057 J** | NA |
| Endosulfan II | | | < 0.025 UJ | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.027 U | NA |
| Endosulfan Sulfate | | | < 0.025 U | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.027 U | NA |
| Endrin | 0.23 | 2 | < 0.025 U | < 0.025 U | NA | < 0.028 U | NA | NA | **0.015 J** | NA |
| Endrin Aldehyde | | | < 0.025 U | **0.0045 J** | NA | < 0.028 U | NA | NA | < 0.027 U | NA |
| Endrin ketone | | | < 0.025 U | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.027 U | NA |
| gamma-Chlordane | | | < 0.025 U | < 0.025 U | NA | **2.2 J** | NA | NA | **1 J** | NA |
| Heptachlor | 0.0014 | 0.4 | < 0.025 U | < 0.025 U | NA | < 0.028 U | NA | NA | < 0.027 U | NA |
| Heptachlor epoxide | 0.0014 | 0.2 | < 0.025 U | < 0.025 U | NA | < 0.028 U | NA | NA | **0.17 J** | NA |
| Hexachlorocyclohexane, Alpha- | 0.0072 | | < 0.025 U | < 0.025 U | NA | < 0.028 U | NA | NA | **0.052 J** | NA |
| Hexachlorocyclohexane, Beta- | 0.025 | | < 0.025 U | < 0.025 U | NA | **0.077** | NA | NA | **0.076 J** | NA |
| Lindane | 0.042 | 0.2 | < 0.025 U | < 0.025 U | NA | **0.025 J** | NA | NA | **0.026 J** | NA |
| Methoxychlor | 3.7 | 40 | < 0.1 U | < 0.1 U | NA | < 0.11 U | NA | NA | < 0.11 U | NA |
| Toxaphene | 0.071 | 3 | < 0.25 U | < 0.25 U | NA | < 0.28 U | NA | NA | < 0.27 U | NA |
| ***Herbicides - USEPA Method SW8151A (µg/L)*** | | | | | | | | | | |
| 2,4,5-TP (Silvex) | 110 | 50 | < 0.5 U | NA | NA | < 0.51 UJ | NA | NA | < 0.53 UJ | NA |
| 2,4-D | 170 | 70 | < 2 U | NA | NA | < 2 UJ | NA | NA | < 2.1 UJ | NA |
| Trichlorophenoxyacetic Acid, 2,4,5- | 16 | | < 0.5 U | NA | NA | **0.25 J** | NA | NA | **0.43 J** | NA |
| ***SVOCs - USEPA Method SW8270 (µg/L)*** | | | | | | | | | | |
| 1,1'-Biphenyl | 0.083 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| 2,4,5-Trichlorophenol | 120 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| 2,4,6-Trichlorophenol | 1.2 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| 2,4-Dichlorophenol | 4.6 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| 2,4-Dimethylphenol | 36 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| 2,4-Dinitrophenol | 3.9 | | < 25 U | NA | NA | < 31 U | < 10 U | < 5.9 U | < 29 U | < 10 U |
| 2,4-Dinitrotoluene | 0.24 | | < 10 U | NA | NA | < 12 U | < 4 U | < 2.4 U | < 11 U | < 4 U |
| 2,6-Dinitrotoluene | 0.049 | | < 10 U | NA | NA | < 12 U | < 4 U | < 2.4 U | < 11 U | < 4 U |
| 2-Chloronaphthalene | 75 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| 2-Chlorophenol | 9.1 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| 2-Methyl-4,6-dinitrophenol | 0.15 | | < 25 U | NA | NA | < 31 U | < 10 U | < 5.9 U | < 29 U | < 10 U |
| 2-Methylnaphthalene | 3.6 | | < 5 U | NA | NA | **8.7** | **9.7** | **9.3** | **17** | **0.40 J** |
| 2-Methylphenol | 93 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| 2-Nitrobenzenamine | 190 | | < 10 U | NA | NA | < 12 U | < 4 U | < 2.4 U | < 11 U | < 4 U |
| 2-Nitrophenol | | | < 10 U | NA | NA | < 12 U | < 4 U | < 2.4 U | < 11 U | < 4 U |
| 3,3'-Dichlorobenzidine | 0.13 | | < 25 U | NA | NA | < 31 U | < 10 U | < 5.9 U | < 29 U | < 10 U |
| 3-Nitrobenzenamine | | | < 10 U | NA | NA | < 12 U | < 4 U | < 2.4 U | < 11 U | < 4 U |
| 4-Bromophenyl phenyl ether | | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| 4-Chloro-3-methylphenol | 140 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| 4-Chlorobenzenamine | 0.37 | | < 5 U | NA | NA | < 6.2 U | **25** | < 1.2 U | < 5.7 U | < 2 U |
| 4-Chlorophenyl phenyl ether | | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| 4-Methylphenol | 190 | | < 10 U | NA | NA | < 12 U | < 4 U | < 2.4 U | < 11 U | < 4 U |
| 4-Nitrobenzenamine | 3.8 | | < 10 U | NA | NA | < 12 U | < 4 U | < 2.4 U | < 11 U | < 4 U |
| 4-Nitrophenol | | | < 25 U | NA | NA | < 31 U | < 10 U | < 5.9 U | < 29 U | < 10 U |
| Acenaphthene | 53 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Acenaphthylene | | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Acetophenone | 190 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Anthracene | 180 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Atrazine | 0.3 | 3 | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Benz(a)anthracene | 0.03 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Benzaldehyde | 19 | | < 25 U | NA | NA | < 31 U | < 10 U | < 5.9 U | < 29 U | < 10 U |
| Benzo(a)pyrene | 0.025 | 0.2 | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Benzo(b)fluoranthene | 0.25 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Benzo(ghi)perylene | | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Benzo(k)fluoranthene | 2.5 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Bis(2-chloroethoxy)methane | 5.9 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Bis(2-chloroethyl) ether | 0.014 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Bis(2-chloroisopropyl) ether | 71 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Bis(2-ethylhexyl)phthalate | 5.6 | 6 | < 5 U | NA | NA | < 6.2 UJ | < 10 U | < 5.9 U | < 5.7 UJ | < 10 U |
| Butyl benzyl phthalate | 16 | | < 10 U | NA | NA | < 12 U | < 10 U | < 5.9 UJ | < 11 U | < 10 U |
| Caprolactam | 990 | | < 25 U | NA | NA | < 31 U | < 10 U | < 5.9 U | < 29 U | < 10 U |

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**Table 5-3**
**2009 – 2012 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Chemical Name | Tapwater RSL | Location ID / Sample Date / MCL | HMW-21 2/4/2009 | HMW-21 12/17/2009 | HMW-21 1/26/2011 | HMW-23 2/3/2009 | HMW-23 12/17/2009 | HMW-23 + 1/18/2010 | HMW-24 2/3/2009 | HMW-24 12/17/2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| Carbazole | | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Chrysene | 25 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Dibenz(a,h)anthracene | 0.025 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Dibenzofuran | 0.79 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Diethyl phthalate | 1500 | | < 5 U | NA | NA | < 6.2 U | < 10 U | < 5.9 U | < 5.7 U | < 10 U |
| Dimethyl phthalate | | | < 5 U | NA | NA | < 6.2 U | < 10 U | < 5.9 U | < 5.7 U | < 10 U |
| Di-n-butyl phthalate | 90 | | < 5 U | NA | NA | < 6.2 U | < 10 U | < 5.9 U | < 5.7 U | < 10 U |
| Di-n-octylphthalate | 20 | | < 5 U | NA | NA | < 6.2 U | < 10 U | < 5.9 U | < 5.7 U | < 10 U |
| Fluoranthene | 80 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Fluorene | 29 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Hexachlorobenzene | 0.0098 | 1 | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Hexachlorobutadiene | 0.14 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Hexachlorocyclopentadiene | 0.041 | 50 | < 25 U | NA | NA | < 31 U | < 10 U | < 5.9 U | < 29 U | < 10 U |
| Hexachloroethane | 0.33 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Indeno(1,2,3-cd)pyrene | 0.25 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Isophorone | 78 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Naphthalene | 0.17 | | < 5 U | NA | NA | **63** | **58** | **39** | **95** | **3.2** |
| Nitrobenzene | 0.14 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| N-Nitroso-di-n-propylamine | 0.011 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| N-Nitrosodiphenylamine | 12 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Pentachlorophenol | 0.041 | 1 | < 25 U | NA | NA | < 31 U | < 10 U | < 5.9 U | < 29 U | < 10 U |
| Phenanthrene | | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Phenol | 580 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |
| Pyrene | 12 | | < 5 U | NA | NA | < 6.2 U | < 2 U | < 1.2 U | < 5.7 U | < 2 U |

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Notes:

- Indicates the analyte was detected above the RSL.

- Indicates the analyte was detected above the MCL.

+ HMW-23 was re-sampled in January 2010 as a result of broken VOA vials in the December 2009 sample shipment.
MCL - USEPA Maximum Contaminant Level (05/2016)
µg/L - Micrograms per Liter
mg/L - Milligrams per Liter
NA - Not available or not analyzed
RSL - USEPA Regional Screening Level for Tapwater (05/2016)
SVOC - Semi-volatile Organic Compound
VOC - Volatile Organic Coumpoound

Laboratory Qualifiers:
H - Sample was prepped or analyzed beyond the specified holding time.
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
T - Tentatively Identified Compound.
U - The analyte was not detected above the reporting limit.
UB - Compound/analyte detected in blank or associated blank, qualified as a non-detect at listed value.

UJ - The analyte was not detected above the reporting limit; however, the reported quantitation limit is approximate and may, or may not represent the actual limit of quantitation necessary to accurately and precisely measure analyte in the sample.

**Table 5-4**
**December 2014 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | Location ID | COE-MW-01 | COE-MW-02 | COE-MW-03 | COE-MW-04 | COE-MW-05 | COE-MW-06 | COE-MW-07 | COE-MW-08 | HA01-MW-09 | HA01-MW-10 | HA01-MW-11 | HA01-MW-12 | HA01-MW-12D | HA01-MW-13 | HA01-MW-13 (Rep) | HA01-MW-14 | HA01-MW-14 (Rep) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 12/22/2014 | 12/23/2014 | 12/23/2014 | 12/19/2014 | 12/19/2014 | 12/19/2014 | 12/19/2014 | 12/19/2014 | 12/23/2014 | 12/22/2014 | 12/22/2014 | 12/19/2014 | 12/19/2014 | 12/19/2014 | 12/16/2014 | 12/16/2014 | 12/16/2014 |
| **Compound** | | **Tapwater RSL** | **MCL** | | | | | | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) ug/L (EPA Method 8260B)*** | **Fraction** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | N | 800 | 200 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2,2-Tetrachloroethane | N | 0.076 | | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | N | 1000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1,2-Trichloroethane | N | 0.041 | 5 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethane | N | 2.8 | | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethene | N | 28 | 7 | < 1 U | < 1 U | < 20 U | < 20 U | 0.26 J | 2.1 J | 4.3 J | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2,4-Trichlorobenzene | N | 0.4 | 70 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2-Dibromo-3-chloropropane (DBCP) | N | 0.00033 | 0.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2-Dibromoethane | N | 0.0075 | 0.05 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2-Dichlorobenzene | N | 30 | 600 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.4 J | < 1 U | < 1 U |
| 1,2-Dichloroethane | N | 0.17 | 5 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2-Dichloropropane | N | 0.14 | 5 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,3-Dichlorobenzene | N | | | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,4-Dichlorobenzene | N | 0.48 | 75 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 2-Butanone | N | 560 | | < 10 U | < 10 U | < 200 U | < 200 U | < 10 U | < 100 U | < 100 U | < 200 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| 2-Hexanone | N | 38 | | < 10 U | 1.2 J | < 200 U | < 200 U | < 10 U | < 100 U | < 100 U | < 200 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| 4-Methyl-2-pentanone | N | 630 | | < 10 U | < 10 U | < 200 U | < 200 U | < 10 U | < 100 U | < 100 U | < 200 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| Acetone | N | 1400 | | < 20 U | < 20 U | < 400 U | < 400 U | < 20 U | < 200 U | < 200 U | < 400 U | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U | 14 J | < 20 U | < 20 U |
| Benzene | N | 0.46 | 5 | < 1 U | 0.99 J | 3.1 J | < 20 U | 0.46 J | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 29 | < 1 U | < 1 U |
| Benzene, 1-methylethyl | N | 45 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | N | 0.13 | 80 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromomethane | N | 0.75 | | < 2 U | < 2 U | < 40 U | < 40 U | < 2 U | < 20 U | < 20 U | < 40 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U |
| Carbon disulfide | N | 81 | | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.36 UB |
| Carbon tetrachloride | N | 0.45 | 5 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| CFC-11 | N | 520 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | N | 20 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | N | 7.8 | 100 | < 2 U | < 2 U | < 40 U | < 40 U | < 2 U | < 20 U | < 20 U | < 40 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U |
| Chloroethane | N | 21000 | | < 2 U | < 2 U | < 40 U | < 40 U | < 2 U | < 20 U | < 20 U | < 40 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | 0.65 J | < 2 U | < 2 U |
| Chloroform | N | 0.22 | 80 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloromethane | N | 19 | | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.73 J | < 1 U | < 1 U |
| cis-1,2-Dichloroethene | N | 3.6 | 70 | 2.5 | 51 | 1900 | 1400 | 180 | 850 | 1500 | 110 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| cis-1,3-Dichloropropene | N | | | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Cyclohexane | N | 1300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | N | 0.87 | 80 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Dioxane, 1,4- | N | 0.46 | | -- | -- | < 100 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | N | 1.5 | 700 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 26 | < 1 U | < 1 U |
| Methyl acetate | N | 2000 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | N | 14 | | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Methylcyclohexane | N | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | N | 11 | 5 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Styrene | N | 120 | 100 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Tetrachloroethene | N | 4.1 | 5 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Toluene | N | 110 | 1000 | < 1 U | < 1 U | 6.9 J | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | 1.4 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| trans-1,2-Dichloroethene | N | 36 | 100 | < 1 U | 2.1 | 98 | 12 | 1.1 | 2.4 J | 6.9 J | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| trans-1,3-Dichloropropene | N | | | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Tribromomethane | N | 3.3 | 80 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Trichloroethene | N | 0.28 | 5 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Vinyl chloride | N | 0.019 | 2 | < 1 U | 0.31 J | 120 | 59 | 9.6 | 2.1 J | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Xylenes (total) | N | 19 | 10000 | < 1 U | < 1 U | < 20 U | < 20 U | < 1 U | < 10 U | < 10 U | < 20 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.81 J | < 1 U | < 1 U |
| ***Semi-Volatile Organic Compounds (SVOCs) ug/L (EPA Method 8270C)*** | | | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | N | 120 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| 2,4,6-Trichlorophenol | N | 1.2 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| 2,4-Dichlorophenol | N | 4.6 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| 2,4-Dimethylphenol | N | 36 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| 2,4-Dinitrophenol | N | 3.9 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 50 U | -- | -- |
| 2,4-Dinitrotoluene | N | 0.24 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 20 U | -- | -- |
| 2,6-Dinitrotoluene | N | 0.049 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 20 U | -- | -- |
| 2-Chloronaphthalene | N | 75 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| 2-Chlorophenol | N | 9.1 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| 2-Methyl-4,6-dinitrophenol | N | 0.15 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 50 U | -- | -- |
| 2-Methylnaphthalene | N | 3.6 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 22 | -- | -- |
| 2-Methylphenol | N | 93 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| 2-Nitrobenzenamine | N | 190 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 20 U | -- | -- |
| 2-Nitrophenol | N | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 20 U | -- | -- |
| 3,3'-Dichlorobenzidine | N | 0.13 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 50 U | -- | -- |
| 3-Nitrobenzenamine | N | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 20 U | -- | -- |
| 4-Bromophenyl phenyl ether | N | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| 4-Chloro-3-methylphenol | N | 140 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| 4-Chlorobenzenamine | N | 0.36 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| 4-Chlorophenyl phenyl ether | N | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| 4-Methylphenol | N | 190 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 20 U | -- | -- |
| 4-Nitrobenzenamine | N | 3.8 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 20 U | -- | -- |
| 4-Nitrophenol | N | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 50 U | -- | -- |
| Acenaphthene | N | 53 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Acenaphthylene | N | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Anthracene | N | 180 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Benz(a)anthracene | N | 0.03 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Benzo(a)pyrene | N | 0.025 | 0.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Benzo(b)fluoranthene | N | 0.25 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |

**Table 5-4**
**December 2014 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Compound | | Tapwater RSL | MCL | Location ID | COE-MW-01 | COE-MW-02 | COE-MW-03 | COE-MW-04 | COE-MW-05 | COE-MW-06 | COE-MW-07 | COE-MW-08 | HA01-MW-09 | HA01-MW-10 | HA01-MW-11 | HA01-MW-12 | HA01-MW-12D | HA01-MW-13 | HA01-MW-13 (Rep) | HA01-MW-14 | HA01-MW-14 (Rep) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample Date | 12/22/2014 | 12/23/2014 | 12/23/2014 | 12/19/2014 | 12/19/2014 | 12/19/2014 | 12/19/2014 | 12/19/2014 | 12/23/2014 | 12/22/2014 | 12/22/2014 | 12/19/2014 | 12/19/2014 | 12/19/2014 | 12/16/2014 | 12/16/2014 | 12/16/2014 |
| Benzo(ghi)perylene | N | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Benzo(k)fluoranthene | N | 2.5 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Bis(2-chloroethoxy)methane | N | 5.9 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Bis(2-chloroisopropyl) ether | N | 0.014 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Bis(2-ethylhexyl)phthalate | N | 5.6 | 6 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 50 U | -- | -- |
| Butyl benzyl phthalate | N | 16 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 50 U | -- | -- |
| Carbazole | N | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Chrysene | N | 25 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Dibenz(a,h)anthracene | N | 0.025 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Dibenzofuran | N | 0.79 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Diethyl phthalate | N | 1500 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 50 U | -- | -- |
| Dimethyl phthalate | N | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 50 U | -- | -- |
| Di-n-butyl phthalate | N | 90 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 50 U | -- | -- |
| Di-n-octylphthalate | N | 20 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 50 U | -- | -- |
| Fluoranthene | N | 80 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Fluorene | N | 29 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Hexachlorobenzene | N | 0.0098 | 1 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Hexachlorobutadiene | N | 0.33 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Hexachlorocyclopentadiene | N | 0.041 | 50 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 50 U | -- | -- |
| Hexachloroethane | N | 0.33 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Indeno(1,2,3-cd)pyrene | N | 0.25 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Isophorone | N | 78 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Naphthalene | N | 0.17 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 120 | -- | -- |
| Nitrobenzene | N | 0.14 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| N-Nitroso-di-n-propylamine | N | 0.011 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| N-Nitrosodiphenylamine | N | 12 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Pentachlorophenol | N | 0.041 | 1 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 50 U | -- | -- |
| Phenanthrene | N | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Phenol | N | 580 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Pyrene | N | 12 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| ***Pesticides ug/L (EPA Method 8081)*** | | | | | | | | | | | | | | | | | | | | | |
| 2,4,5-TP (Silvex) | N | 110 | 50 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-D | N | 170 | 70 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | N | 0.00092 | | | 0.008 J | 0.0065 J | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | < 0.025 U |
| alpha-Chlordane | N | | | | < 0.025 U | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | 0.0018 J |
| DDD | N | 0.032 | | | < 0.025 U | < 0.025 U | -- | -- | -- | -- | -- | -- | 0.0064 J | -- | -- | -- | -- | -- | -- | < 0.025 U | < 0.025 U |
| DDE, p,p'- | N | 0.046 | | | < 0.025 U | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | < 0.025 U |
| DDT | N | 0.23 | | | < 0.025 U | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | 0.007 J |
| delta BHC | N | 0.0072 | | | 0.013 J | 0.013 J | -- | -- | -- | -- | -- | -- | 0.0061 J | -- | -- | -- | -- | -- | -- | < 0.025 U | 0.0026 UB |
| Dieldrin | N | 0.0018 | | | 0.0015 J | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | < 0.025 U |
| Endosulfan I | N | 10 | | | < 0.025 U | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | 0.0023 J |
| Endosulfan II | N | | | | < 0.025 U | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | 0.0049 J |
| Endosulfan Sulfate | N | | | | < 0.025 U | 0.01 J | -- | -- | -- | -- | -- | -- | 0.0071 J | -- | -- | -- | -- | -- | -- | < 0.025 U | < 0.025 U |
| Endrin | N | 0.23 | 2 | | < 0.025 U | 0.0035 J | -- | -- | -- | -- | -- | -- | 0.017 J | -- | -- | -- | -- | -- | -- | < 0.025 U | < 0.025 U |
| Endrin Aldehyde | N | | | | 0.0062 UB | 0.0054 UB | -- | -- | -- | -- | -- | -- | 0.011 UB | -- | -- | -- | -- | -- | -- | < 0.025 U | < 0.025 U |
| Endrin ketone | N | | | | < 0.025 U | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | < 0.025 U |
| gamma-Chlordane | N | | | | 0.0029 J | 0.0022 J | -- | -- | -- | -- | -- | -- | 0.0028 J | -- | -- | -- | -- | -- | -- | < 0.025 U | 0.0034 J |
| Heptachlor | N | 0.0014 | 0.4 | | < 0.025 U | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | < 0.025 U |
| Heptachlor epoxide | N | 0.0014 | 0.2 | | 0.0043 J | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- | -- | -- | -- | < 0.025 U | < 0.025 U |
| Hexachlorocyclohexane, Alpha- | N | 0.0072 | | | 0.0031 J | 0.0032 J | -- | -- | -- | -- | -- | -- | 0.021 J | -- | -- | -- | -- | -- | -- | < 0.025 U | 0.001 UB |
| Hexachlorocyclohexane, Beta- | N | 0.025 | | | 0.018 J | 0.02 J | -- | -- | -- | -- | -- | -- | 0.079 | -- | -- | -- | -- | -- | -- | < 0.025 U | 0.0046 J |
| Lindane | N | 0.042 | 0.2 | | 0.0043 J | 0.009 J | -- | -- | -- | -- | -- | -- | 0.014 J | -- | -- | -- | -- | -- | -- | 0.0063 UB | 0.0083 UB |
| Methoxychlor | N | 3.7 | 40 | | 0.0084 J | < 0.1 U | -- | -- | -- | -- | -- | -- | 0.021 J | -- | -- | -- | -- | -- | -- | < 0.1 U | < 0.1 U |
| Toxaphene | N | 0.071 | 3 | | < 0.25 U | < 0.25 U | -- | -- | -- | -- | -- | -- | < 0.25 U | -- | -- | -- | -- | -- | -- | < 0.25 U | < 0.25 U |
| Trichlorophenoxyacetic Acid, 2,4,5- | N | 16 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/L (EPA Method 6010, 7196,7471)*** | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | D | 0.052 | 10 | | -- | -- | < 10 U | -- | -- | -- | -- | < 10 U | -- | -- | -- | -- | -- | -- | < 10 U | < 10 U | < 10 U | < 10 U |
| Arsenic | T | 0.052 | 10 | | -- | -- | < 10 U | <10 U | < 10 U | < 10 U | -- | < 10 U | -- | -- | -- | < 10 U | -- | < 10 U | -- | < 10 U | < 10 U |
| Barium | D | 380 | 2000 | | -- | -- | 64 | -- | -- | -- | -- | 99 | -- | -- | -- | -- | -- | -- | -- | 74 | 76 |
| Barium | T | 380 | 2000 | | -- | -- | 62 | 19 | 26 | 46 | -- | 130 | -- | -- | -- | 74 | -- | 79 | -- | 95 | 120 |
| Cadmium | D | 0.92 | 5 | | -- | -- | < 2 U | -- | -- | -- | -- | < 2 U | -- | -- | -- | -- | -- | -- | -- | < 2 U | < 2 U |
| Cadmium | T | 0.92 | 5 | | -- | -- | < 2 U | < 2 U | < 2 U | < 2 U | -- | < 2 U | -- | -- | -- | < 2 U | -- | < 2 U | -- | < 2 U | < 2 U |
| Chromium | D | | 100 | | -- | -- | < 5 U | -- | -- | -- | -- | < 5 U | -- | -- | -- | -- | -- | -- | -- | 6.2 | 6.6 |
| Chromium | T | | 100 | | -- | -- | 4.3 J | < 5 U | < 5 U | < 5 U | -- | < 5 U | -- | -- | -- | < 5 U | -- | < 5 U | -- | 10 J | 250 J |
| Chromium, hexavalent | D | 0.035 | 100 | | -- | -- | < 20 R | -- | -- | -- | -- | < 20 UJ | -- | -- | -- | -- | -- | -- | -- | < 20 U | < 20 U |
| Chromium, hexavalent | N | 0.035 | 100 | | -- | -- | < 20 R | < 20 R | < 20 U | < 20 U | -- | < 20 UJ | -- | -- | -- | < 20 U | -- | < 20 UJ | -- | < 20 U | < 20 U |
| Lead | D | 15 | 15 | | -- | -- | < 10 U | -- | -- | -- | -- | 5.3 J | -- | -- | -- | -- | -- | -- | -- | 7.2 J | 6.7 J |
| Lead | T | 15 | 15 | | -- | -- | < 10 U | 4.4 | 5.9 J | 5.5 J | -- | 5.7 J | -- | -- | -- | 5.4 J | -- | 7 J | -- | 12 | 23 |
| Mercury | D | 0.063 | 2 | | -- | -- | < 0.1 U | -- | -- | -- | -- | 0.024 J | -- | -- | -- | -- | -- | -- | -- | < 0.1 U | < 0.1 U |
| Mercury | T | 0.063 | 2 | | -- | -- | 0.018 J | 0.016 | 0.037 J | < 0.1 U | -- | < 0.1 U | -- | -- | -- | 0.016 J | -- | < 0.1 U | -- | < 0.1 U | 0.027 J |
| Selenium | D | 10 | 50 | | -- | -- | < 10 U | -- | -- | -- | -- | < 10 U | -- | -- | -- | -- | -- | -- | -- | < 10 U | < 10 U |
| Selenium | T | 10 | 50 | | -- | -- | < 10 U | < 10 U | < 10 U | < 10 U | -- | < 10 U | -- | -- | -- | < 10 U | -- | < 10 U | -- | < 10 U | < 10 U |
| Silver | D | 9.4 | | | -- | -- | 0.4 J | -- | -- | -- | -- | < 5 U | -- | -- | -- | -- | -- | -- | -- | < 5 U | < 5 U |
| Silver | T | 9.4 | | | -- | -- | 0.66 J | < 5 U | < 5 U | < 5 U | -- | < 5 U | -- | -- | -- | < 5 U | -- | < 5 U | -- | < 5 U | < 5 U |

**Table 5-4**
**December 2014 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | HA01-MW-14D | HA01-MW-15 | HA01-MW-17 | HMW-02 | HMW-04 | HMW-06 | HMW-08 | HMW-09 | HMW-10 | HMW-11 | HMW-13 | HMW-14R | HMW-21 | HMW-23 | HMW-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample Date | 12/17/2014 | 12/17/2014 | 12/16/2014 | 12/16/2014 | 12/16/2014 | 12/16/2014 | 12/23/2014 | 12/23/2014 | 12/17/2014 | 12/16/2014 | 12/16/2014 | 12/23/2014 | 12/19/2014 | 12/17/2014 | 12/17/2014 |
| **Compound** | | **Tapwater RSL** | **MCL** | | | | | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) ug/L (EPA Method 8260B)*** | **Fraction** | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | N | 800 | 200 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.2 J | 0.2 J | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| 1,1,2,2-Tetrachloroethane | N | 0.076 | | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.16 J | 0.34 J | < 1 U | < 20 U | < 1 U | < 1 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | N | 1000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1,2-Trichloroethane | N | 0.041 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| 1,1-Dichloroethane | N | 2.8 | | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| 1,1-Dichloroethene | N | 28 | 7 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 3.7 J | < 1 U | < 1 U |
| 1,2,4-Trichlorobenzene | N | 0.4 | 70 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| 1,2-Dibromo-3-chloropropane (DBCP) | N | 0.00033 | 0.2 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2-Dibromoethane | N | 0.0075 | 0.05 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2-Dichlorobenzene | N | 30 | 600 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.4 J | < 1 U | < 20 U | 0.46 J | < 1 U |
| 1,2-Dichloroethane | N | 0.17 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| 1,2-Dichloropropane | N | 0.14 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| 1,3-Dichlorobenzene | N | | | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| 1,4-Dichlorobenzene | N | 0.48 | 75 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| 2-Butanone | N | 560 | | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | 2.4 J | < 10 U | < 10 U | < 200 U | < 10 U | < 10 U |
| 2-Hexanone | N | 38 | | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 200 U | < 10 U | < 10 U |
| 4-Methyl-2-pentanone | N | 630 | | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 200 U | < 10 U | < 10 U |
| Acetone | N | 1400 | | | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U | 9.3 J | 56 | 8.9 J | < 20 U | < 400 U | < 20 U | < 20 U |
| Benzene | N | 0.46 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.87 | < 1 U | 0.44 J | 19 | < 1 U | 30 | < 1 U | < 20 U | 1.1 | 6.1 |
| Benzene, 1-methylethyl | N | 45 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | N | 0.13 | 80 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| Bromomethane | N | 0.75 | | | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 40 U | < 2 U | < 2 U |
| Carbon disulfide | N | 81 | | | 0.35 UB | < 1 U | < 1 U | 0.18 UB | < 1 U | 0.33 | < 1 U | < 1 U | 0.33 UB | 0.57 UB | < 1 U | < 1 U | < 20 U | 0.32 UB | 0.32 UB |
| Carbon tetrachloride | N | 0.45 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| CFC-11 | N | 520 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| CFC-12 | N | 20 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | N | 7.8 | 100 | | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | 0.38 J | < 2 U | < 2 U | < 2 U | < 40 U | 2.9 | < 2 U |
| Chloroethane | N | 21000 | | | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | 0.55 J | < 2 U | < 40 U | < 2 U | < 2 U |
| Chloroform | N | 0.22 | 80 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| Chloromethane | N | 19 | | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.51 J | < 1 U | < 20 U | < 1 U | < 1 U |
| cis-1,2-Dichloroethene | N | 3.6 | 70 | | < 1 U | 2.6 | < 1 U | < 1 U | < 1 U | 0.39 | < 1 U | < 1 U | 0.54 J | < 1 U | < 1 U | 27 | 2300 | < 1 U | < 1 U |
| cis-1,3-Dichloropropene | N | | | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| Cyclohexane | N | 1300 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | N | 0.87 | 80 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| Dioxane, 1,4- | N | 0.46 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | N | 1.5 | 700 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.83 J | 0.42 J | < 1 U | 27 | < 1 U | < 20 U | 3 | 5.6 |
| Methyl acetate | N | 2000 | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | N | 14 | | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| Methylcyclohexane | N | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Methylene chloride | N | 11 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| Styrene | N | 120 | 100 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| Tetrachloroethene | N | 4.1 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| Toluene | N | 110 | 1000 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.35 J | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| trans-1,2-Dichloroethene | N | 36 | 100 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 3.4 | 10 J | < 1 U | < 1 U |
| trans-1,3-Dichloropropene | N | | | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| Tribromomethane | N | 3.3 | 80 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 20 U | < 1 U | < 1 U |
| Trichloroethene | N | 0.28 | 5 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.34 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.3 J | < 20 U | < 1 U | < 1 U |
| Vinyl chloride | N | 0.019 | 2 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.23 J | < 1 U | < 1 U | < 1 U | 20 | < 1 U | < 1 U |
| Xylenes (total) | N | 19 | 10000 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | 0.62 J | < 1 U | 0.81 J | < 1 U | < 20 U | < 1 U | 0.35 J |
| ***Semi-Volatile Organic Compounds (SVOCs) ug/L (EPA Method 8270C)*** | | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | N | 120 | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| 2,4,6-Trichlorophenol | N | 1.2 | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| 2,4-Dichlorophenol | N | 4.6 | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| 2,4-Dimethylphenol | N | 36 | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| 2,4-Dinitrophenol | N | 3.9 | | | -- | -- | -- | -- | -- | < 5 U | -- | < 5 U | -- | -- | < 50 U | -- | -- | < 50 U | < 50 U |
| 2,4-Dinitrotoluene | N | 0.24 | | | -- | -- | -- | -- | -- | < 2 U | -- | < 2 U | -- | -- | < 20 U | -- | -- | < 20 U | < 20 U |
| 2,6-Dinitrotoluene | N | 0.049 | | | -- | -- | -- | -- | -- | < 2 U | -- | < 2 U | -- | -- | < 20 U | -- | -- | < 20 U | < 20 U |
| 2-Chloronaphthalene | N | 75 | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| 2-Chlorophenol | N | 9.1 | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| 2-Methyl-4,6-dinitrophenol | N | 0.15 | | | -- | -- | -- | -- | -- | < 5 U | -- | < 5 U | -- | -- | < 50 U | -- | -- | < 50 U | < 50 U |
| 2-Methylnaphthalene | N | 3.6 | | | -- | -- | -- | -- | -- | 0.21 J | -- | 0.21 J | -- | -- | 13 | -- | -- | < 10 U | < 10 U |
| 2-Methylphenol | N | 93 | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| 2-Nitrobenzenamine | N | 190 | | | -- | -- | -- | -- | -- | < 2 U | -- | < 2 U | -- | -- | < 20 U | -- | -- | < 20 U | < 20 U |
| 2-Nitrophenol | N | | | | -- | -- | -- | -- | -- | < 2 U | -- | < 2 U | -- | -- | < 20 U | -- | -- | < 20 U | < 20 U |
| 3,3'-Dichlorobenzidine | N | 0.13 | | | -- | -- | -- | -- | -- | < 5 U | -- | < 5 U | -- | -- | < 50 U | -- | -- | < 50 U | < 50 U |
| 3-Nitrobenzenamine | N | | | | -- | -- | -- | -- | -- | < 2 UJ | -- | < 2 UJ | -- | -- | < 20 U | -- | -- | < 20 U | < 20 U |
| 4-Bromophenyl phenyl ether | N | | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| 4-Chloro-3-methylphenol | N | 140 | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| 4-Chlorobenzenamine | N | 0.36 | | | -- | -- | -- | -- | -- | < 1 UJ | -- | < 1 UJ | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| 4-Chlorophenyl phenyl ether | N | | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| 4-Methylphenol | N | 190 | | | -- | -- | -- | -- | -- | < 2 U | -- | < 2 U | -- | -- | < 20 U | -- | -- | < 20 U | < 20 U |
| 4-Nitrobenzenamine | N | 3.8 | | | -- | -- | -- | -- | -- | < 2 U | -- | < 2 U | -- | -- | < 20 U | -- | -- | < 20 U | < 20 U |
| 4-Nitrophenol | N | | | | -- | -- | -- | -- | -- | < 5 U | -- | < 5 U | -- | -- | < 50 U | -- | -- | < 50 U | < 50 U |
| Acenaphthene | N | 53 | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Acenaphthylene | N | | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Anthracene | N | 180 | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Benz(a)anthracene | N | 0.03 | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Benzo(a)pyrene | N | 0.025 | 0.2 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Benzo(b)fluoranthene | N | 0.25 | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |

**Table 5-4**
**December 2014 Groundwater Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | Location ID | HA01-MW-14D | HA01-MW-15 | HA01-MW-17 | HMW-02 | HMW-04 | HMW-06 | HMW-08 | HMW-09 | HMW-10 | HMW-11 | HMW-13 | HMW-14R | HMW-21 | HMW-23 | HMW-24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 12/17/2014 | 12/17/2014 | 12/16/2014 | 12/16/2014 | 12/16/2014 | 12/16/2014 | 12/23/2014 | 12/23/2014 | 12/17/2014 | 12/16/2014 | 12/16/2014 | 12/23/2014 | 12/19/2014 | 12/17/2014 | 12/17/2014 |
| **Compound** | | **Tapwater RSL** | **MCL** | | | | | | | | | | | | | | | |
| Benzo(ghi)perylene | N | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Benzo(k)fluoranthene | N | 2.5 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Bis(2-chloroethoxy)methane | N | 5.9 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Bis(2-chloroisopropyl) ether | N | 0.014 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Bis(2-ethylhexyl)phthalate | N | 5.6 | 6 | -- | -- | -- | -- | -- | < 5 U | -- | < 5 U | -- | -- | < 50 U | -- | -- | < 50 U | < 50 U |
| Butyl benzyl phthalate | N | 16 | | -- | -- | -- | -- | -- | < 5 U | -- | < 5 U | -- | -- | < 50 U | -- | -- | < 50 U | < 50 U |
| Carbazole | N | | | -- | -- | -- | -- | -- | < 1 UJ | -- | < 1 UJ | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Chrysene | N | 25 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Dibenz(a,h)anthracene | N | 0.025 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Dibenzofuran | N | 0.79 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Diethyl phthalate | N | 1500 | | -- | -- | -- | -- | -- | < 5 U | -- | < 5 U | -- | -- | < 50 U | -- | -- | < 50 U | < 50 U |
| Dimethyl phthalate | N | | | -- | -- | -- | -- | -- | < 5 U | -- | < 5 U | -- | -- | < 50 U | -- | -- | < 50 U | < 50 U |
| Di-n-butyl phthalate | N | 90 | | -- | -- | -- | -- | -- | < 5 U | -- | < 5 U | -- | -- | < 50 U | -- | -- | < 50 U | < 50 U |
| Di-n-octylphthalate | N | 20 | | -- | -- | -- | -- | -- | < 5 U | -- | < 5 U | -- | -- | < 50 U | -- | -- | < 50 U | < 50 U |
| Fluoranthene | N | 80 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Fluorene | N | 29 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Hexachlorobenzene | N | 0.0098 | 1 | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Hexachlorobutadiene | N | 0.33 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Hexachlorocyclopentadiene | N | 0.041 | 50 | -- | -- | -- | -- | -- | < 5 U | -- | < 5 U | -- | -- | < 50 U | -- | -- | < 50 U | < 50 U |
| Hexachloroethane | N | 0.33 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Indeno(1,2,3-cd)pyrene | N | 0.25 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Isophorone | N | 78 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Naphthalene | N | 0.17 | | -- | -- | -- | -- | -- | < 1 U | -- | 4.1 | -- | -- | 88 | -- | -- | 9 J | < 10 U |
| Nitrobenzene | N | 0.14 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| N-Nitroso-di-n-propylamine | N | 0.011 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| N-Nitrosodiphenylamine | N | 12 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Pentachlorophenol | N | 0.041 | 1 | -- | -- | -- | -- | -- | < 5 U | -- | < 5 U | -- | -- | < 50 U | -- | -- | < 50 U | < 50 U |
| Phenanthrene | N | | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Phenol | N | 580 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| Pyrene | N | 12 | | -- | -- | -- | -- | -- | < 1 U | -- | < 1 U | -- | -- | < 10 U | -- | -- | < 10 U | < 10 U |
| ***Pesticides ug/L (EPA Method 8081)*** | | | | | | | | | | | | | | | | | | |
| 2,4,5-TP (Silvex) | N | 110 | 50 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2,4-D | N | 170 | 70 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | N | 0.00092 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.0018 J | -- | -- | -- |
| alpha-Chlordane | N | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- |
| DDD | N | 0.032 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- |
| DDE, p,p'- | N | 0.046 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- |
| DDT | N | 0.23 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- |
| delta BHC | N | 0.0072 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.0095 J | -- | -- | -- |
| Dieldrin | N | 0.0018 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- |
| Endosulfan I | N | 10 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- |
| Endosulfan II | N | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- |
| Endosulfan Sulfate | N | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.0017 J | -- | -- | -- |
| Endrin | N | 0.23 | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- |
| Endrin Aldehyde | N | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.0082 UB | -- | -- | -- |
| Endrin ketone | N | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- |
| gamma-Chlordane | N | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.0018 J | -- | -- | -- |
| Heptachlor | N | 0.0014 | 0.4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- |
| Heptachlor epoxide | N | 0.0014 | 0.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.0023 J | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | N | 0.0072 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.025 U | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | N | 0.025 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.0058 J | -- | -- | -- |
| Lindane | N | 0.042 | 0.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.0039 J | -- | -- | -- |
| Methoxychlor | N | 3.7 | 40 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.1 U | -- | -- | -- |
| Toxaphene | N | 0.071 | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.25 U | -- | -- | -- |
| Trichlorophenoxyacetic Acid, 2,4,5- | N | 16 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ***Metals ug/L (EPA Method 6010, 7196,7471)*** | | | | | | | | | | | | | | | | | | |
| Arsenic | D | 0.052 | 10 | -- | < 10 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Arsenic | T | 0.052 | 10 | -- | < 10 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Barium | D | 380 | 2000 | -- | 36 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 16 J | -- | -- |
| Barium | T | 380 | 2000 | -- | 40 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 69 | -- | -- |
| Cadmium | D | 0.92 | 5 | -- | < 2 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 2 U | -- | -- |
| Cadmium | T | 0.92 | 5 | -- | < 2 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 2 U | -- | -- |
| Chromium | D | | 100 | -- | < 5 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 5 U | -- | -- |
| Chromium | T | | 100 | -- | < 5 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4.3 J | -- | -- |
| Chromium, hexavalent | D | 0.035 | 100 | -- | < 20 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 20 U | -- | -- |
| Chromium, hexavalent | N | 0.035 | 100 | -- | < 20 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 20 R | -- | -- |
| Lead | D | 15 | 15 | -- | 4.1 J | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 5.4 J | -- | -- |
| Lead | T | 15 | 15 | -- | 6.1 J | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10 | -- | -- |
| Mercury | D | 0.063 | 2 | -- | < 0.1 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 0.1 U | -- | -- |
| Mercury | T | 0.063 | 2 | -- | 0.017 J | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.1 | -- | -- |
| Selenium | D | 10 | 50 | -- | < 10 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Selenium | T | 10 | 50 | -- | < 10 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 10 U | -- | -- |
| Silver | D | 9.4 | | -- | < 5 U | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 5 U | -- | -- |
| Silver | T | 9.4 | | -- | 0.4 J | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | < 5 U | -- | -- |

**Table 5-6**
**2009 Former Fire Training Area Soil Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | HA01-MW-17 | HA01-MW-17 | HA01SB001 | HA01SB001 | HA01SB002 | HA01SB003 | HA01SB004 | HA01SB005 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 1 - 2 | 6 - 7 | 8 - 10 | 8 - 10 | 6 - 6.5 | 8 - 10 | 2 - 4 | 0 - 2 |
| | | | | Sample Date | 11/4/2009 | 11/4/2009 | 11/10/2009 | 11/3/2009 | 11/3/2009 | 11/3/2009 | 11/3/2009 | 11/3/2009 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) mg/kg (EPA Method 8260B)*** | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 810.00 | 3,600.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| 1,1,2,2-Tetrachloroethane | 0.60 | 2.70 | | < 6.1 UJ | < 5.8 UJ | -- | -- | -- | -- | -- | -- |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 670.00 | 2,800.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| 1,1,2-Trichloroethane | 0.15 | 0.63 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| 1,1-Dichloroethane | 3.60 | 16.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| 1,1-Dichloroethene | 23.00 | 100.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| 1,2,4-Trichlorobenzene | 5.80 | 26.00 | | **2.4 J** | < 5.8 U | -- | -- | -- | -- | -- | -- |
| 1,2-Dibromo-3-chloropropane (DBCP) | 0.0053 | 0.0640 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| 1,2-Dibromoethane | 0.036 | 0.16 | | < 6.1 UJ | < 5.8 UJ | -- | -- | -- | -- | -- | -- |
| 1,2-Dichlorobenzene | 180.00 | 930.00 | | **3.6 J** | < 5.8 U | -- | -- | -- | -- | -- | -- |
| 1,2-Dichloroethane | 0.46 | 2.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| 1,2-Dichloropropane | 0.28 | 1.20 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| 1,3-Dichlorobenzene | | | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| 1,4-Dichlorobenzene | 2.60 | 11.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| 2-Butanone | 2,700.00 | 19,000.00 | | < 12 U | < 12 U | -- | -- | -- | -- | -- | -- |
| 2-Hexanone | 20.00 | 130.00 | | < 12 U | < 12 U | -- | -- | -- | -- | -- | -- |
| 4-Methyl-2-pentanone | 3,300.00 | 14,000.00 | | < 12 U | < 12 U | -- | -- | -- | -- | -- | -- |
| Acetone | 6,100.00 | 67,000.00 | | < 25 UJ | **36 J** | -- | -- | -- | -- | -- | -- |
| Benzene | 1.20 | 5.10 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Benzene, 1-methylethyl | 1,900.00 | 9,900.00 | | < 6.1 U | **3.9 J** | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 0.29 | 1.30 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Bromomethane | 0.68 | 3.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 77.00 | 350.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Carbon tetrachloride | 0.65 | 2.90 | | < 6.1 U | **4.7 J** | -- | -- | -- | -- | -- | -- |
| CFC-11 | 2,300.00 | 35,000.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| CFC-12 | 8.70 | 37.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 28.00 | 130.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Chloroethane | 1,400.00 | 5,700.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Chloroform | 0.32 | 1.40 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Chloromethane | 11.00 | 46.00 | | < 6.1 U | **4.1 J** | -- | -- | -- | -- | -- | -- |
| cis-1,2-Dichloroethene | 16.00 | 230.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| cis-1,3-Dichloropropene | | | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Cyclohexane | 650.00 | 2,700.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 8.30 | 39.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5.80 | 25.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Methyl acetate | 7,800.00 | 120,000.00 | | < 6.1 UJ | < 5.8 UJ | -- | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 47.00 | 210.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Methylcyclohexane | | | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Methylene chloride | 35.00 | 320.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Styrene | 600.00 | 3,500.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 8.10 | 39.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Toluene | 490.00 | 4,700.00 | | **13** | **2.2 J** | < 5.1 U | -- | -- | -- | -- | -- |
| trans-1,2-Dichloroethene | 160.00 | 2,300.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| trans-1,3-Dichloropropene | | | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Tribromomethane | 19.00 | 86.00 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 0.41 | 1.90 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Vinyl chloride | 0.059 | 1.70 | | < 6.1 U | < 5.8 U | -- | -- | -- | -- | -- | -- |
| Xylenes (total) | 58.00 | 250.00 | | **12** | < 5.8 U | -- | -- | -- | -- | -- | -- |
| ***Semi-Volatile Organic Compounds (SVOCs) mg/kg (EPA Method 8270C)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,1'-Biphenyl | 4.70 | 20.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| 2,4,5-Trichlorophenol | 630.00 | 8,200.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| 2,4,6-Trichlorophenol | 6.30 | 82.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| 2,4-Dichlorophenol | 19.00 | 250.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| 2,4-Dimethylphenol | 130.00 | 1,600.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| 2,4-Dinitrophenol | 13.00 | 160.00 | | -- | -- | -- | < 390 U | < 350 U | < 410 U | -- | -- |
| 2,4-Dinitrotoluene | 1.70 | 7.40 | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- |
| 2,6-Dinitrotoluene | 0.36 | 1.50 | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- |
| 2-Chloronaphthalene | 6,300.00 | 9,300.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| 2-Chlorophenol | 39.00 | 580.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| 2-Methyl-4,6-dinitrophenol | 0.49 | 6.60 | | -- | -- | -- | < 390 U | < 350 U | < 410 U | -- | -- |
| 2-Methylnaphthalene | 24.00 | 300.00 | | -- | -- | -- | < 78 U | **16,000** | < 83 U | -- | -- |
| 2-Methylphenol | 320.00 | 4,100.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| 2-Nitrobenzenamine | 61.00 | 8,000.00 | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- |
| 2-Nitrophenol | | | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- |
| 3,3'-Dichlorobenzidine | 1.20 | 5.10 | | -- | -- | -- | < 390 U | < 350 U | < 410 U | -- | -- |
| 3-Nitrobenzenamine | | | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- |
| 4-Bromophenyl phenyl ether | | | | -- | -- | -- | < 78 U | **21 J** | < 83 U | -- | -- |
| 4-Chloro-3-methylphenol | 6,200.00 | 8,200.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| 4-Chlorobenzenamine | 2.70 | 11.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| 4-Chlorophenyl phenyl ether | | | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| 4-Methylphenol | 630.00 | 8,200.00 | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- |
| 4-Nitrobenzenamine | 25.00 | 110.00 | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- |
| 4-Nitrophenol | | | | -- | -- | -- | < 390 U | < 350 U | < 410 U | -- | -- |
| Acenaphthene | 360.00 | 4,500.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Acenaphthylene | | | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Acetophenone | 780.00 | 1,200.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Anthracene | 1,800.00 | 23,000.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Atrazine | 2.40 | 10.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Benz(a)anthracene | 1.10 | 21.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Benzaldehyde | 170.00 | 820.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Benzo(a)pyrene | 0.11 | 2.10 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Benzo(b)fluoranthene | 1.10 | 21.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Benzo(ghi)perylene | | | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Benzo(k)fluoranthene | 11.00 | 210.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Bis(2-chloroethoxy)methane | 19.00 | 250.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Bis(2-chloroethyl) ether | 0.23 | 1.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Bis(2-chloroisopropyl) ether | 310.00 | 4,700.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Bis(2-ethylhexyl)phthalate | 39.00 | 160.00 | | -- | -- | -- | < 78 U | **540** | < 83 U | -- | -- |
| Butyl benzyl phthalate | 290.00 | 1,200.00 | | -- | -- | -- | < 150 U | < 140 U | < 160 U | -- | -- |
| Caprolactam | 3,100.00 | 40,000.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Carbazole | | | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Chrysene | 110.00 | 2,100.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Dibenz(a,h)anthracene | 0.11 | 2.10 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Dibenzofuran | 7.30 | 100.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Diethyl phthalate | 5,100.00 | 66,000.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Dimethyl phthalate | | | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Di-n-butyl phthalate | 630.00 | 8,200.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Di-n-octylphthalate | 63.00 | 820.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Fluoranthene | 240.00 | 3,000.00 | | -- | -- | -- | < 78 U | **210** | < 83 U | -- | -- |
| Fluorene | 240.00 | 3,000.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Hexachlorobenzene | 0.21 | 0.96 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Hexachlorobutadiene | 1.20 | 5.30 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Hexachlorocyclopentadiene | 0.18 | 0.75 | | -- | -- | -- | < 390 U | < 350 U | < 410 U | -- | -- |
| Hexachloroethane | 1.80 | 8.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Indeno(1,2,3-cd)pyrene | 0.15 | 2.90 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Isophorone | 570.00 | 2,400.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Naphthalene | 3.80 | 17.00 | | -- | -- | -- | < 78 U | **5,300** | < 83 U | -- | -- |
| Nitrobenzene | 5.10 | 22.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| N-Nitroso-di-n-propylamine | 110.00 | 470.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| N-Nitrosodiphenylamine | 110.00 | 470.00 | | -- | -- | -- | < 78 U | **960** | < 83 U | -- | -- |
| Pentachlorophenol | 1.00 | 4.00 | | -- | -- | -- | < 390 U | < 350 U | < 410 U | -- | -- |
| Phenanthrene | | | | -- | -- | -- | < 78 U | **660** | < 83 U | -- | -- |
| Phenol | 1,900.00 | 25,000.00 | | -- | -- | -- | < 78 U | < 71 U | < 83 U | -- | -- |
| Pyrene | 180.00 | 2,300.00 | | -- | -- | -- | < 78 U | **220** | < 83 U | -- | -- |

**Table 5-6**
**2009 Former Fire Training Area Soil Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Location ID** | **HA01-MW-17** | **HA01-MW-17** | **HA01SB001** | **HA01SB001** | **HA01SB002** | **HA01SB003** | **HA01SB004** | **HA01SB005** |
| | | | **Depth Interval** | 1 - 2 | 6 - 7 | 8 - 10 | 8 - 10 | 6 - 6.5 | 8 - 10 | 2 - 4 | 0 - 2 |
| | | | **Sample Date** | 11/4/2009 | 11/4/2009 | 11/10/2009 | 11/3/2009 | 11/3/2009 | 11/3/2009 | 11/3/2009 | 11/3/2009 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | |
| ***Pesticides µg/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 0.04 | 0.18 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| alpha-Chlordane | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| DDD | 2.30 | 9.60 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| DDE, p,p'- | 2.00 | 9.30 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| DDT | 1.90 | 8.50 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| delta BHC | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| Dieldrin | 0.03 | 0.14 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan I | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan II | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| Endosulfan Sulfate | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| Endrin | 1.90 | 25.00 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| Endrin Aldehyde | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| Endrin ketone | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| gamma-Chlordane | | | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor | 0.13 | 0.63 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | 0.07 | 0.33 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Alpha- | 0.086 | 0.36 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| Hexachlorocyclohexane, Beta- | 0.30 | 1.30 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| Lindane | 0.57 | 2.50 | | < 1.9 U | -- | -- | -- | -- | -- | -- | -- |
| Methoxychlor | 32.00 | 410.00 | | < 7.4 U | -- | -- | -- | -- | -- | -- | -- |
| Toxaphene | 0.49 | 2.10 | | < 92 U | -- | -- | -- | -- | -- | -- | -- |
| ***Metals µg/kg (EPA Method 6010, 7196,7471)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 0.68 | 3.00 | 2,600 | **730** | < 2900 U | **2,300** | **500 J** | -- | -- | -- | -- |
| Barium | 1,500.00 | 22,000.00 | 28,000 | **3,600** | **17,000** | **20,000** | **14,000** | -- | -- | -- | -- |
| Cadmium | 7.10 | 98.00 | 2,600 | **17 J** | **83 J** | < 120 U | < 120 U | -- | -- | -- | -- |
| Chromium (total) | | | 7,700 | **1,800** | **9,300** | **6,900** | **4,200** | -- | -- | **4,900** | **2,600** |
| Lead | 400.00 | 800.00 | 53,000 | **2,300** | **5,200** | **4,200** | **2,000** | -- | -- | -- | -- |
| Mercury | 1.10 | 4.60 | 390 | **32 J** | **23 J** | < 95 U | **20 J** | -- | -- | **44 J** | **21 J** |
| Selenium | 39.00 | 580.00 | 1900 | < 570 U | < 2900 U | < 580 U | < 580 U | -- | -- | -- | -- |
| Silver | 39.00 | 580.00 | 2,600 | **54 J** | < 1400 U | < 290 U | **120 J** | -- | -- | -- | -- |
| **Other %** | | | | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | **86.6** | **85.9** | **84.9** | **85.1** | **91.9** | **79.9** | **81.9** | **88.4** |

Notes:

Concentrations above the Residential RSL are shaded gray.
Concentrations above the Industrial RSL are outlined.
Concentrations above the UBC are underlined.
**1681 Detections are boldfaced.**
EPA - United States Environmental Protection Agency
µg/kg - microgram per kilogram
mg/kg - milligram per kilogram
RSL - Regional Screening Level
UBC - Upper Background Concentration

Laboratory Qualifiers:
H - Sample was prepped or analyzed beyond the specified holding time.
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
T - Tentatively Identified Compound.
U - The analyte was not detected above the reporting limit.
UB - Compound/analyte detected in blank or associated blank, qualified as a non-detect at listed value.
UJ - The analyte was not detected above the reporting limit; however, the reported quantitation limit is approximate and may, or may not represent the actual limit of quantitation necessary to accurately and precisely

**Table 5-7**
**2009 DAACG Area Soil Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | HA01-MW-09 | HA01-MW-09 | HA01-MW-10 | HA01-MW-10 | HA01-MW-11 | HA01-MW-11 | HA01-MW-11 (DUP) | HA01-MW-12 | HA01-MW-12 | HA01-MW-13 | HA01-MW-13 | HA01-MW-14 | HA01-MW-14 | HA01-MW-15 | HA01-MW-15 | HA01-MW-16 | HA01-MW-16 |
| | | | Depth Interval | 1 - 2 | 9 - 10 | 1 - 2 | 3 - 4 | 1 - 2 | 2 - 3 | 2-3 | 1 - 2 | 3-4 | 1 - 2 | 4 - 5 | 1 - 2 | 3 - 4 | 1 - 2 | 5 - 6 | 1 - 2 | 10 - 11 |
| | | | Sample Date | 11/4/2009 | 11/4/2009 | 11/9/2009 | 11/9/2009 | 11/9/2009 | 11/9/2009 | 11/9/2009 | 11/6/2009 | 11/6/2009 | 11/10/2009 | 11/9/2009 | 11/6/2009 | 11/6/2009 | 11/5/2009 | 11/5/2009 | 11/4/2009 | 11/4/2009 |
| Compound | Residential RSL | Industrial RSL | UBC | | | | | | | | | | | | | | | | |
| ***Volatile Organic Compounds (VOCs) mg/kg (EPA Method 8260B)*** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 810.00 | 3,600.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| 1,1,2,2-Tetrachloroethane | 0.60 | 2.70 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 670.00 | 2,800.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| 1,1,2-Trichloroethane | 0.15 | 0.63 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| 1,1-Dichloroethane | 3.60 | 16.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| 1,1-Dichloroethene | 23.00 | 100.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| 1,2,4-Trichlorobenzene | 5.80 | 26.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 UJ | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 UJ | < 5.9 UJ | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| 1,2-Dibromo-3-chloropropane (DBCP) | 0.0053 | 0.0640 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| 1,2-Dibromoethane | 0.036 | 0.16 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| 1,2-Dichlorobenzene | 180.00 | 930.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 UJ | **2.3 J** | < 6.9 U | < 5.6 U | < 6.2 UJ | < 5.9 UJ | < 6.3 U | **3.6 J** | < 5.4 U | < 4.7 U |
| 1,2-Dichloroethane | 0.46 | 2.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| 1,2-Dichloropropane | 0.28 | 1.20 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| 1,3-Dichlorobenzene | | | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 UJ | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 UJ | < 5.9 UJ | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| 1,4-Dichlorobenzene | 2.60 | 11.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 UJ | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 UJ | < 5.9 UJ | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| 2-Butanone | 2,700.00 | 19,000.00 | | < 11 U | < 10 U | < 18 U | < 14 U | < 13 U | < 12 U | < 10 U | < 14 U | < 12 UJ | < 14 U | < 11 U | < 12 U | < 12 U | < 13 U | < 14 U | < 11 U | < 9.4 U |
| 2-Hexanone | 20.00 | 130.00 | | < 11 U | < 10 U | < 18 U | < 14 U | < 13 U | < 12 U | < 10 U | < 14 U | **1.5 J** | < 14 U | < 11 U | < 12 U | < 12 U | < 13 U | < 14 U | < 11 U | < 9.4 U |
| 4-Methyl-2-pentanone | 3,300.00 | 14,000.00 | | < 11 U | < 10 U | < 18 U | < 14 U | < 13 U | < 12 U | < 10 U | < 14 U | < 12 U | < 14 U | < 11 U | < 12 U | < 12 U | < 13 U | < 14 U | < 11 U | < 9.4 U |
| Acetone | 6,100.00 | 67,000.00 | | < 22 U | < 20 U | < 35 U | < 27 U | < 27 U | < 23 U | < 20 U | **24 UB** | < 23 U | < 28 U | < 22 U | < 25 U | < 24 U | < 25 U | < 28 U | < 22 U | < 19 U |
| Benzene | 1.20 | 5.10 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Benzene, 1-methylethyl | 1,900.00 | 9,900.00 | | < 5.5 U | < 5.1 U | < 8.8 U | **8.4** | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 UJ | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 UJ | < 5.9 UJ | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Bromodichloromethane | 0.29 | 1.30 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Bromomethane | 0.68 | 3.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 UJ | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 UJ | < 5.9 UJ | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Carbon disulfide | 77.00 | 350.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | **8** |
| Carbon tetrachloride | 0.65 | 2.90 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | **4.6 J** | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| CFC-11 | 2,300.00 | 35,000.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| CFC-12 | 8.70 | 37.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Chlorobenzene | 28.00 | 130.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Chloroethane | 1,400.00 | 5,700.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Chloroform | 0.32 | 1.40 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Chloromethane | 11,000.00 | 46,000.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | **6.9 J** | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| cis-1,2-Dichloroethene | 16.00 | 230.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| cis-1,3-Dichloropropene | | | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Cyclohexane | 650.00 | 2,700.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Dibromochloromethane | 8.30 | 39.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Diethyl ether | 1,600 | 2,300 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 5.80 | 25.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Methyl acetate | 7,800.00 | 120,000.00 | | < 5.5 U | **9.5** | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Methyl tert-butyl ether | 47,000.00 | 210,000.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Methylcyclohexane | | | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Methylene chloride | 35.00 | 320.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Styrene | 600.00 | 3,500.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Tetrachloroethene | 8.10 | 39.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Toluene | 490.00 | 4,700.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| trans-1,2-Dichloroethene | 160.00 | 2,300.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| trans-1,3-Dichloropropene | | | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Tribromomethane | 19.00 | 86.00 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Trichloroethene | 0.41 | 1.90 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Vinyl chloride | 0.059 | 1.70 | | < 5.5 U | < 5.1 U | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 UJ | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| Xylenes (total) | 58.00 | 250.00 | | **3.5 J** | **3.2 J** | < 8.8 U | < 6.8 U | < 6.7 U | < 5.8 U | < 5.1 U | < 6.9 U | < 5.8 U | < 6.9 U | < 5.6 U | < 6.2 U | < 5.9 U | < 6.3 U | < 6.9 U | < 5.4 U | < 4.7 U |
| ***Pesticides ug/kg (EPA Method 8081)*** | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Aldrin | 0.04 | 0.18 | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| alpha-Chlordane | | | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| DDD | 2.30 | 9.60 | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| DDE, p,p'- | 2.00 | 9.30 | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| DDT | 1.90 | 8.50 | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | **4.9** | -- | < 1.9 U | -- | < 1.8 U | -- |
| delta BHC | | | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Dieldrin | 0.03 | 0.14 | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Endosulfan I | | | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Endosulfan II | | | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Endosulfan Sulfate | | | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Endrin | 1.90 | 25.00 | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Endrin Aldehyde | | | | < 1.8 UJ | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Endrin ketone | | | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| gamma-Chlordane | | | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Heptachlor | 0.13 | 0.63 | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |

**Table 5-7**
**2009 DAACG Area Soil Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | | | | Location ID | HA01-MW-09 | HA01-MW-09 | HA01-MW-10 | HA01-MW-10 | HA01-MW-11 | HA01-MW-11 | HA01-MW-11 (DUP) | HA01-MW-12 | HA01-MW-12 | HA01-MW-13 | HA01-MW-13 | HA01-MW-14 | HA01-MW-14 | HA01-MW-15 | HA01-MW-15 | HA01-MW-16 | HA01-MW-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Depth Interval | 1 - 2 | 9 - 10 | 1 - 2 | 3 - 4 | 1 - 2 | 2 - 3 | 2-3 | 1 - 2 | 3-4 | 1 - 2 | 4 - 5 | 1 - 2 | 3 - 4 | 1 - 2 | 5 - 6 | 1 - 2 | 10 - 11 |
| | | | | Sample Date | 11/4/2009 | 11/4/2009 | 11/9/2009 | 11/9/2009 | 11/9/2009 | 11/9/2009 | 11/9/2009 | 11/6/2009 | 11/6/2009 | 11/10/2009 | 11/9/2009 | 11/6/2009 | 11/6/2009 | 11/5/2009 | 11/5/2009 | 11/4/2009 | 11/4/2009 |
| **Compound** | **Residential RSL** | **Industrial RSL** | **UBC** | | | | | | | | | | | | | | | | | | |
| Heptachlor epoxide | 0.07 | 0.33 | | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Hexachlorocyclohexane, Alpha- | 0.086 | 0.36 | | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Hexachlorocyclohexane, Beta- | 0.30 | 1.30 | | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Lindane | 0.57 | 2.50 | | | < 1.8 U | -- | < 2 U | -- | < 2 U | -- | -- | < 1.9 U | -- | < 1.8 U | -- | < 1.8 U | -- | < 1.9 U | -- | < 1.8 U | -- |
| Methoxychlor | 32.00 | 410.00 | | | < 7 U | -- | < 7.9 U | -- | < 7.9 U | -- | -- | < 7.5 U | -- | < 7.2 U | -- | < 7.1 U | -- | < 7.4 U | -- | < 7.3 U | -- |
| Toxaphene | 0.49 | 2.10 | | | < 86 U | -- | < 98 U | -- | < 98 U | -- | -- | < 93 U | -- | < 89 U | -- | < 87 U | -- | < 92 U | -- | < 90 U | -- |
| ***Metals ug/kg (EPA Method 6010, 7196,7471)*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Arsenic | 0.68 | 3.00 | 2,600 | | **670** | **920** | **1,000** | **470 J** | **300 J** | **460 J** | **480 J** | **470 J** | **480 J** | **250 J** | **290 J** | **1,700** | **470 J** | **1,400** | **720** | **570** | **650** |
| Barium | 1,500.00 | 22,000.00 | 28,000 | | **23,000** | **17,000** | **10,000** | **8,700** | **8,200** | **13,000** | **15,000** | **4,300** | **6,300** | **2,400** | **23,000** | **25,000** | **3,100** | **13,000** | **9,000** | **3,600** | **25,000** |
| Cadmium | 7.10 | 98.00 | 2,600 | | < 110 U | **16 J** | < 120 U | < 130 U | < 120 U | < 130 U | < 120 U | **14 J** | < 120 U | < 110 U | < 110 U | **20 J** | **25 J** | < 110 U | **12 J** | **17 J** | < 110 U |
| Chromium (total) | | | 7,700 | | **4,000** | **4,000** | **2,000** | **2,300** | **3,200** | **6,000** | **6,100** | **1,700** | **2,200** | **910** | **9,900** | **8,600** | **1,400** | **6,800** | **1,000** | **3,000** | **6,300** |
| Lead | 400.00 | 800.00 | 53,000 | | **3,800** | **5,900** | **6,000** | **2,200** | **4,500** | **6,500** | **8,500** | **4,200** | **3,200** | **2,100** | **5,200** | **6,800** | **2,000** | **3,600** | **1,800** | **2,900** | **4,200** |
| Mercury | 1.10 | 4.60 | 390 | | **17 J** | **14 J** | **35 J** | **27 J** | **25 J** | **60 J** | **47 J** | **38 J** | **27 J** | < 94 U | **42 J** | **13 J** | **18 J** | **28 J** | **15 J** | **30 J** | **28 J** |
| Selenium | 39.00 | 580.00 | 1900 | | < 530 U | < 590 U | < 580 U | **230 J** | < 620 U | < 630 U | **380 J** | < 550 U | < 590 U | < 570 U | < 550 U | < 530 U | < 600 U | < 570 U | < 560 U | < 530 U | < 560 U |
| Silver | 39.00 | 580.00 | 2,600 | | < 270 U | < 290 U | < 290 U | < 320 U | **95 J** | **220 J** | **240 J** | < 280 U | < 300 U | < 290 U | < 280 U | < 260 U | **1100** | < 290 U | < 280 U | **200 J** | **420** |
| ***Other %*** | | | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Percent Solid | | | | | **93.7** | **83.1** | **84.2** | **76.4** | **80** | **77.1** | **77.8** | **85.9** | **80.8** | **85.5** | **87.8** | **92.5** | **82.9** | **86.8** | **86.7** | **90.9** | **86.7** |

Notes:
Concentrations above the Residential RSL are shaded gray.
Concentrations above the Industrial RSL are outlined.
Concentrations above the UBC are underlined.
**1681 Detections are boldfaced.**
EPA - United States Environmental Protection Agency
µg/kg - microgram per kilogram
mg/kg - milligram per kilogram
RSL - Regional Screening Level
UBC - Upper Background Concentration

Laboratory Qualifiers:
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was not detected above the reporting limit.
UJ - The analyte was not detected above the reporting limit; however, the reported quantitation limit is approximate and may, or may not represent the actual limit of quantitation necessary to accurately and precisely measure analyte in the sample.

**Table 5-8**
**2014 Surface Water Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| | Location ID | HA01-SW01 | HA01-SW01 (REP) | HA01-SW02 | HA01-SW03 | HA01-SW04 | HA01-SW05 | HA01-SW06 |
|---|---|---|---|---|---|---|---|---|
| | Sample Date | 12/17/2014 | 12/17/2014 | 12/17/2014 | 12/17/2014 | 12/18/2014 | 12/18/2014 | 12/18/2014 |
| **Compound** | **IWQS** | | | | | | | |
| ***Volatile Organic Compounds (VOCs) ug/L (EPA Method 8260B)*** | | | | | | | | |
| 1,1,1-Trichloroethane | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2,2-Tetrachloroethane | 4 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1,2-Trichloroethane | 16 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethane | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1-Dichloroethene | 7,100 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2,4-Trichlorobenzene | 70 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2-Dichlorobenzene | 1,300 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2-Dichloroethane | 37 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,2-Dichloropropane | 15 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,3-Dichlorobenzene | 960 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,4-Dichlorobenzene | 190 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 2-Butanone | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| 2-Hexanone | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| 4-Methyl-2-pentanone | | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U | < 10 U |
| Acetone | | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U | < 20 U |
| Benzene | 51 | **0.27 J** | **0.31 J** | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromodichloromethane | 17 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Bromomethane | 1,500 | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U |
| Carbon disulfide | | **0.64 UB** | **0.55 UB** | **0.35 UB** | **0.32 UB** | < 1 U | < 1 U | < 1 U |
| Carbon tetrachloride | 1.6 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chlorobenzene | 1,600 | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U |
| Chloroethane | | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U |
| Chloroform | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Chloromethane | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| cis-1,2-Dichloroethene | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| cis-1,3-Dichloropropene | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Dibromochloromethane | 13 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Ethylbenzene | 2,100 | **0.4 J** | **0.34 J** | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Methyl tert-butyl ether | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Methylene chloride | 590 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Styrene | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Tetrachloroethene | 3.3 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Toluene | 5,980 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| trans-1,2-Dichloroethene | 10,000 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| trans-1,3-Dichloropropene | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Tribromomethane | 140 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Trichloroethene | 30 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Vinyl chloride | 2.4 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| Xylenes (total) | | **1.8** | **1.9** | < 1 U | < 1 U | **0.36 J** | < 1 U | < 1 U |
| ***Semi-Volatile Organic Compounds (SVOCs) ug/L (EPA Method 8270C)*** | | | | | | | | |
| 2,4,5-Trichlorophenol | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| 2,4,6-Trichlorophenol | 2.4 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| 2,4-Dichlorophenol | 290 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| 2,4-Dimethylphenol | 850 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| 2,4-Dinitrophenol | 5,300 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 250 U | < 5 U |
| 2,4-Dinitrotoluene | 3.4 | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 100 U | < 2 U |
| 2,6-Dinitrotoluene | | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 100 U | < 2 U |

**Table 5-8**
**2014 Surface Water Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Compound | Location ID / Sample Date / IWQS | HA01-SW01 12/17/2014 | HA01-SW01 (REP) 12/17/2014 | HA01-SW02 12/17/2014 | HA01-SW03 12/17/2014 | HA01-SW04 12/18/2014 | HA01-SW05 12/18/2014 | HA01-SW06 12/18/2014 |
|---|---|---|---|---|---|---|---|---|
| 2-Chloronaphthalene | 1,600 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| 2-Chlorophenol | 150 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| 2-Methyl-4,6-dinitrophenol | 280 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 250 U | < 5 U |
| 2-Methylnaphthalene | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| 2-Methylphenol | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| 2-Nitrobenzenamine | | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 100 U | < 2 U |
| 2-Nitrophenol | | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 100 U | < 2 U |
| 3,3'-Dichlorobenzidine | 0.028 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 250 U | < 5 U |
| 3-Nitrobenzenamine | | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 100 U | < 2 U |
| 4-Bromophenyl phenyl ether | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| 4-Chloro-3-methylphenol | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| 4-Chlorobenzenamine | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| 4-Chlorophenyl phenyl ether | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| 4-Methylphenol | | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 100 U | < 2 U |
| 4-Nitrobenzenamine | | < 2 U | < 2 U | < 2 U | < 2 U | < 2 U | < 100 U | < 2 U |
| 4-Nitrophenol | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 250 U | < 5 U |
| Acenaphthene | 990 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Acenaphthylene | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Anthracene | 40,000 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Benz(a)anthracene | 0.018 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Benzo(a)pyrene | 0.018 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Benzo(b)fluoranthene | 0.018 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Benzo(ghi)perylene | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Benzo(k)fluoranthene | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Bis(2-chloroethoxy)methane | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Bis(2-chloroisopropyl) ether | 65,000 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Bis(2-ethylhexyl)phthalate | 2.2 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 250 U | < 5 U |
| Butyl benzyl phthalate | 1,900 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 250 U | < 5 U |
| Carbazole | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Chrysene | 0.018 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Dibenz(a,h)anthracene | 0.018 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Dibenzofuran | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Diethyl phthalate | 44,000 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 250 U | < 5 U |
| Dimethyl phthalate | 1,100,000 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 250 U | < 5 U |
| Di-n-butyl phthalate | 4,500 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 250 U | < 5 U |
| Di-n-octylphthalate | | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 250 U | < 5 U |
| Fluoranthene | 140 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Fluorene | 5,300 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Hexachlorobenzene | 0.00029 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Hexachlorobutadiene | 18 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Hexachlorocyclopentadiene | 1,100 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 250 U | < 5 U |
| Hexachloroethane | 3.3 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Indeno(1,2,3-cd)pyrene | 0.018 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Isophorone | 960 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Naphthalene | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Nitrobenzene | 690 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| N-Nitroso-di-n-propylamine | 0.51 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| N-Nitrosodiphenylamine | 6 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Pentachlorophenol | 3 | < 5 U | < 5 U | < 5 U | < 5 U | < 5 U | < 250 U | < 5 U |

**Table 5-8**
**2014 Surface Water Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Compound | Location ID | HA01-SW01 | HA01-SW01 (REP) | HA01-SW02 | HA01-SW03 | HA01-SW04 | HA01-SW05 | HA01-SW06 |
|---|---|---|---|---|---|---|---|---|
| | Sample Date | 12/17/2014 | 12/17/2014 | 12/17/2014 | 12/17/2014 | 12/18/2014 | 12/18/2014 | 12/18/2014 |
| | IWQS | | | | | | | |
| Phenanthrene | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Phenol | 857,000 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| Pyrene | 4,000 | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 50 U | < 1 U |
| ***Pesticides ug/L(EPA Method 8081)*** | | | | | | | | |
| Aldrin | 0.00005 | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| alpha-Chlordane | | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| DDD | 0.00031 | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| DDE, p,p'- | 0.00022 | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| DDT | 0.00022 | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| delta BHC | | < 0.025 U | **0.0015 UB** | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| Dieldrin | 0.000054 | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| Endosulfan I | 89 | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| Endosulfan II | 89 | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| Endosulfan Sulfate | 89 | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| Endrin | 0.06 | < 0.025 U | **0.001 UB** | < 0.025 U | < 0.025 U | < 0.025 UJ | < 0.25 UJ | < 0.25 UJ |
| Endrin Aldehyde | 0.3 | < 0.025 U | **0.0019 J** | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| Endrin ketone | | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| gamma-Chlordane | | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| Heptachlor | 0.000079 | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| Heptachlor epoxide | 0.000039 | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| Hexachlorocyclohexane, Alpha- | 0.0049 | < 0.025 U | **0.0015 UB** | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| Hexachlorocyclohexane, Beta- | 0.017 | **0.0048 J** | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.25 U | < 0.25 U |
| Lindane | 1.8 | < 0.025 U | **0.002 UB** | **0.0017 UB** | **0.0012 UB** | **0.0015 J** | < 0.25 U | < 0.25 U |
| Methoxychlor | | **0.002 J** | < 0.1 U | < 0.1 U | < 0.1 U | **0.0025 J** | < 1 U | **0.07 J** |
| Toxaphene | 0.00028 | < 0.25 U | < 0.25 U | < 0.25 U | < 0.25 U | < 0.25 U | < 2.5 U | < 2.5 U |
| ***Metals ug/L (EPA Method 6010, 7196,7471)*** | | | | | | | | |
| Arsenic | 50 | **0.53 J** | < 10 U | **0.36 J** | **0.46 J** | **0.7 J** | **0.95 J** | **0.77 J** |
| Barium | | **29 J** | **29 J** | **28** | **28** | **26** | **26** | **24** |
| Cadmium | 0.15 | < 0.1 U | < 2 U | < 0.1 U | < 0.1 U | < 0.1 U | < 0.1 U | < 0.1 U |
| Chromium | 11 | < 5 U | < 5 U | < 5 U | < 5 U | **0.49 J** | **0.85 J** | **0.54 J** |
| Chromium, hexavalent | | < 20 U | < 20 U | < 20 U | < 20 U | < 20 UJ | < 20 UJ | < 20 UJ |
| Lead | 1.2 | **1.1** | **3 J** | **0.91 J** | **0.74 J** | **0.86 J** | **1.5** | **1.5** |
| Mercury | 0.012 | < 0.1 U | < 0.1 U | < 0.1 U | < 0.1 U | < 0.1 U | < 0.1 U | < 0.1 U |
| Selenium | 5 | **1.4** | < 10 U | **1.5** | **0.8 J** | < 1 U | **0.31 J** | **0.25 J** |
| Silver | 65 | < 1 U | **0.7 J** | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |

Notes:
EPA - United States Environmental Protection Agency
IWQS - Georgia Instream water quality standards
µg/kg - microgram per kilogram
mg/kg - milligram per kilogram
RSL - Regional Screening Level
UBC - Upper Background Concentration

Laboratory Qualifiers:
H - Sample was prepped or analyzed beyond the specified holding time.
J - The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.
T - Tentatively Identified Compound.
U - The analyte was not detected above the reporting limit.
UB - Compound/analyte detected in blank or associated blank, qualified as a non-detect at listed value.
UJ - The analyte was not detected above the reporting limit; however, the reported quantitation limit is approximate and may, or may not represent the actual limit of quantitation necessary to accurately and precisely measure analyte in the sample.

# Table 5-9
# 2014 Sediment Sampling Results
# HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS
# Hunter Army Airfield, Georgia

| Compound | Residential RSL | HA01-SD01 12/17/2014 | HA01-SD01 (REP) 12/17/2014 | HA01-SD02 12/17/2014 | HA01-SD03 12/17/2014 | HA01-SD04 12/18/2014 | HA01-SD05 12/18/2014 | HA01-SD06 12/18/2014 |
|---|---|---|---|---|---|---|---|---|
| ***Volatile Organic Compounds (VOCs) mg/kg (EPA Method 8260B)*** | | | | | | | | |
| 1,1,1-Trichloroethane | 810.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 1,1,2,2-Tetrachloroethane | 0.60 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 670.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 1,1,2-Trichloroethane | 0.15 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 1,1-Dichloroethane | 3.60 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 1,1-Dichloroethene | 23.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 1,2,4-Trichlorobenzene | 5.80 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 1,2-Dibromo-3-chloropropane (DBCP) | 0.0053 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 1,2-Dibromoethane | 0.036 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 1,2-Dichlorobenzene | 180.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 1,2-Dichloroethane | 0.46 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 1,2-Dichloropropane | 0.28 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 1,3-Dichlorobenzene | | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 1,4-Dichlorobenzene | 2.60 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| 2-Butanone | 2,700.00 | < 12 U | < 11 U | < 9.5 U | < 10 U | < 12 U | < 13 U | < 19 U |
| 2-Hexanone | 20.00 | < 12 U | < 11 U | < 9.5 U | < 10 U | < 12 U | < 13 U | < 19 U |
| 4-Methyl-2-pentanone | 3,300.00 | < 12 U | < 11 U | < 9.5 U | < 10 U | < 12 U | < 13 U | < 19 U |
| Acetone | 6,100.00 | **11 J** | < 22 U | < 19 U | < 21 U | < 25 U | < 27 U | **42** |
| Benzene | 1.20 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Benzene, 1-methylethyl | 1,900.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | **0.87 J** | < 6.7 U | < 9.4 U |
| Bromodichloromethane | 0.29 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Bromomethane | 0.68 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Carbon disulfide | 77.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Carbon tetrachloride | 0.65 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| CFC-11 | 2,300.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| CFC-12 | 8.70 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Chlorobenzene | 28.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Chloroethane | 1,400.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Chloroform | 0.32 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Chloromethane | 11,000.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| cis-1,2-Dichloroethene | 16.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| cis-1,3-Dichloropropene | | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Cyclohexane | 650.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Dibromochloromethane | 8.30 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Ethylbenzene | 5.80 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Methyl acetate | 7,800.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Methyl tert-butyl ether | 47,000.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Methylcyclohexane | | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Methylene chloride | 35.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Styrene | 600.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Tetrachloroethene | 8.10 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Toluene | 490.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| trans-1,2-Dichloroethene | 160.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| trans-1,3-Dichloropropene | | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Tribromomethane | 19.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Trichloroethene | 0.41 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Vinyl chloride | 0.059 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| Xylenes (total) | 58.00 | < 6.1 U | < 5.6 U | < 4.7 U | < 5.1 U | < 6.2 U | < 6.7 U | < 9.4 U |
| ***Semi-Volatile Organic Compounds (SVOCs) mg/kg (EPA Method 8270C)*** | | | | | | | | |
| 1,1'-Biphenyl | 4.70 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| 2,4,5-Trichlorophenol | 630.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| 2,4,6-Trichlorophenol | 6.30 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| 2,4-Dichlorophenol | 19.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |

**Table 5-9**
**2014 Sediment Sampling Results**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Compound | Residential RSL | HA01-SD01 12/17/2014 | HA01-SD01 (REP) 12/17/2014 | HA01-SD02 12/17/2014 | HA01-SD03 12/17/2014 | HA01-SD04 12/18/2014 | HA01-SD05 12/18/2014 | HA01-SD06 12/18/2014 |
|---|---|---|---|---|---|---|---|---|
| 2,4-Dimethylphenol | 130.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| 2,4-Dinitrophenol | 13.00 | < 0.43 U | < 0.430 U | < 0.21 U | < 0.21 U | < 0.25 U | < 12 U | < 3.1 U |
| 2,4-Dinitrotoluene | 1.70 | < 0.17 U | < 0.17 U | < .082 U | < 0.082 U | < 0.099 U | < 4.9 U | < 1.2 U |
| 2,6-Dinitrotoluene | 0.36 | < 0.17 U | < 0.17 U | < .082 U | < 0.082 U | < 0.099 U | < 4.9 U | < 1.2 U |
| 2-Chloronaphthalene | 6,300.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| 2-Chlorophenol | 39.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| 2-Methyl-4,6-dinitrophenol | 0.49 | < 0.084 U | < 0.43 U | < 0.21 U | < 0.21 U | < 0.25 U | < 12 U | < 3.1 U |
| 2-Methylnaphthalene | 24.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| 2-Methylphenol | 320.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| 2-Nitrobenzenamine | 61.00 | < 0.17 U | < 0.17 U | < 0.082 U | < 0.082 U | < 0.099 U | < 4.9 U | < 1.2 U |
| 2-Nitrophenol | | < 0.17 U | < 0.17 U | < 0.082 U | < 0.082 U | < 0.099 U | < 4.9 U | < 1.2 U |
| 3,3'-Dichlorobenzidine | 1.20 | < 0.43 U | < 0.43 U | < 0.21 U | < 0.21 U | < 0.25 U | < 12 U | < 3.1 U |
| 3-Nitrobenzenamine | | < 0.17 U | < 0.17 U | < 0.082 U | < 0.082 U | < 0.099 U | < 4.9 U | < 1.2 U |
| 4-Bromophenyl phenyl ether | | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| 4-Chloro-3-methylphenol | 6,200.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| 4-Chlorobenzenamine | 2.70 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| 4-Chlorophenyl phenyl ether | | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| 4-Methylphenol | 630.00 | < 0.17 U | < 0.17 U | < 0.082 U | < 0.082 U | < 0.099 U | < 4.9 U | < 1.2 U |
| 4-Nitrobenzenamine | 25.00 | < 0.17 U | < 0.17 U | < 0.082 U | < 0.082 U | < 0.099 U | < 4.9 U | < 1.2 U |
| 4-Nitrophenol | | < 0.43 U | < 0.43 U | < 0.21 U | < 0.21 U | < 0.25 U | < 12 U | < 3.1 U |
| 1.2 J | 360.00 | **0.034 J** | **0.063 J** | < 0.04 U | < 0.04 U | < 0.049 U | **1.2 J** | < 0.061 U |
| Acenaphthylene | | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | **4.4** | **0.7** |
| Acetophenone | 780.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Anthracene | 1,800.00 | **0.088 J** | **0.260 J** | < 0.04 U | < 0.04 U | < 0.049 U | **9.7** | **0.76** |
| Atrazine | 2.40 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Benz(a)anthracene | 1.10 | **0.63** | **0.96** | **0.013 J** | **0.012 J** | < 0.049 U | **39** | **4.8** |
| Benzaldehyde | 170.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Benzo(a)pyrene | 0.11 | **0.72** | **0.98** | **0.011 J** | < 0.04 U | < 0.049 U | **35** | **5.6** |
| Benzo(b)fluoranthene | 1.10 | **1.4** | **2.2** | **0.015 J** | **0.014 J** | < 0.049 U | **51** | **9.6** |
| Benzo(ghi)perylene | | **0.36** | **0.37** | **0.014 J** | < 0.04 U | < 0.049 U | **8.7** | **1.6** |
| Benzo(k)fluoranthene | 11.00 | **0.61** | **0.82** | < 0.04 U | < 0.04 U | < 0.049 U | **23** | **4** |
| Bis(2-chloroethoxy)methane | 19.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Bis(2-chloroethyl) ether | 0.23 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Bis(2-chloroisopropyl) ether | 310.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Bis(2-ethylhexyl)phthalate | 39.00 | **0.15 J** | **1.1 J** | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Butyl benzyl phthalate | 290.00 | < 0.17 U | < 0.17 U | < 0.082 U | < 0.082 U | < 0.099 U | < 4.9 U | < 0.12 U |
| Caprolactam | 3,100.00 | < 0.084 U | < 0.083 U | < 0.04 U | **0.042** | < 0.049 U | < 2.4 U | < 0.061 U |
| Carbazole | | **0.17** | **0.32** | < 0.04 U | < 0.04 U | < 0.049 U | **3.8** | **0.3 J** |
| Chrysene | 110.00 | **0.84** | **1.3** | < 0.04 U | < 0.04 U | < 0.049 U | **39** | **4.9** |
| Dibenz(a,h)anthracene | 0.11 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Dibenzofuran | 7.30 | < 0.084 U | **.040 J** | < 0.04 U | < 0.04 U | < 0.049 U | **2 J** | **0.45 J** |
| Diethyl phthalate | 5,100.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Dimethyl phthalate | | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Di-n-butyl phthalate | 630.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Di-n-octylphthalate | 63.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Fluoranthene | 240.00 | **2** | **2.9** | **0.015 J** | **0.017 J** | < 0.049 U | **94** | **8.2** |
| Fluorene | 240.00 | **0.046 J** | **0.086** | < 0.04 U | < 0.04 U | < 0.049 U | **4.4** | **1** |
| Hexachlorobenzene | 0.21 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Hexachlorobutadiene | 1.20 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Hexachlorocyclopentadiene | 0.18 | < 0.43 U | < 0.43 U | < 0.21 UJ | < 0.21 U | < 0.25 U | < 12 U | < 3.1 U |
| Hexachloroethane | 1.80 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Indeno(1,2,3-cd)pyrene | 0.15 | **0.36** | **0.39** | < 0.04 U | < 0.04 U | < 0.049 U | **9.6** | **1.9** |
| Isophorone | 570.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Naphthalene | 3.80 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |

# Table 5-9
## 2014 Sediment Sampling Results
## HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS
## Hunter Army Airfield, Georgia

| Compound | Residential RSL | HA01-SD01<br>12/17/2014 | HA01-SD01 (REP)<br>12/17/2014 | HA01-SD02<br>12/17/2014 | HA01-SD03<br>12/17/2014 | HA01-SD04<br>12/18/2014 | HA01-SD05<br>12/18/2014 | HA01-SD06<br>12/18/2014 |
|---|---|---|---|---|---|---|---|---|
| Nitrobenzene | 5.10 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| N-Nitroso-di-n-propylamine | 110.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| N-Nitrosodiphenylamine | 110.00 | < 0.084 U | < 0.083 U | < 0.04 U | < 0.04 U | < 0.049 U | < 2.4 U | < 0.061 U |
| Pentachlorophenol | 1.00 | < 0.43 U | < 0.43 U | < 0.21 U | < 0.21 U | < 0.25 U | < 12 U | < 3.1 U |
| Phenanthrene | | **0.92** | **1.2** | < 0.04 U | < 0.04 U | < 0.049 U | **36** | **1.1** |
| Phenol | 1,900.00 | < 0.084 U | < 0.083 U | **0.012 J** | **0.011 J** | < 0.049 U | < 2.4 U | < 0.061 U |
| Pyrene | 180.00 | **1.2** | **1.7** | < 0.04 U | < 0.04 U | < 0.049 U | **63** | **5.7** |
| ***Pesticides mg/kg (EPA Method 8081)*** | | | | | | | | |
| Aldrin | 0.00004 | < 0.022 U | < 0.021 U | < 0.021 U | < 0.021 U | **0.0015 J** | < 0.049 U | < 0.063 U |
| alpha-Chlordane | | < 0.022 U | < 0.021 U | < 0.021 U | < 0.021 U | **0.0013 J** | **0.0055 J** | < 0.063 U |
| DDD | 0.0023 | **.001 J** | **0.0027 J** | < 0.021 U | < 0.021 U | **0.011 J** | **0.038 J** | **0.0036 J** |
| DDE, p,p'- | 0.002 | < 0.022 U | < 0.021 U | < 0.021 U | < 0.021 U | < 0.048 U | < 0.049 U | < 0.063 U |
| DDT | 0.0019 | **0.0027** | **0.0041 J** | < 0.021 U | < 0.021 U | **0.012 J** | **0.013 J** | **0.0062 J** |
| delta BHC | | **0.00062 J** | < 0.021 U | < 0.021 U | < 0.021 U | < 0.048 U | < 0.049 U | **0.0024 J** |
| Dieldrin | 0.00003 | < 0.022 U | **0.00078 J** | < 0.021 U | < 0.021 U | **0.0041 J** | **0.0051 J** | < 0.063 U |
| Endosulfan I | | < 0.022 U | < 0.021 U | < 0.021 U | < 0.021 U | **0.0016 J** | < 0.049 U | < 0.063 U |
| Endosulfan II | | < 0.022 U | **0.00076 J** | < 0.021 U | < 0.021 U | **0.0028 J** | **0.0039 J** | < 0.063 U |
| Endosulfan Sulfate | | **0.0039 J** | **.0053 J** | < 0.021 U | < 0.021 U | **0.029 J** | **0.0052 J** | < 0.063 U |
| Endrin | 0.0019 | **0.0018 J** | **0.002 J** | < 0.021 U | < 0.021 U | **0.014 J** | **0.0059 J** | **0.0068 J** |
| Endrin Aldehyde | | **0.002 J** | **0.0024 J** | < 0.021 U | < 0.021 U | **0.021 J** | **0.017 J** | **0.006 J** |
| Endrin ketone | | **0.0047 J** | **0.0045 J** | < 0.021 U | **0.00056 J** | **0.045 J** | **0.08** | **0.015 J** |
| gamma-Chlordane | | < 0.022 U | < 0.021 U | < 0.021 U | < 0.021 U | **0.0014 J** | **0.0036 J** | < 0.063 U |
| Heptachlor | 0.00013 | < 0.022 U | < 0.021 U | < 0.021 U | < 0.021 U | < 0.048 U | < 0.049 U | < 0.063 U |
| Heptachlor epoxide | 0.00007 | < 0.022 U | < 0.021 U | < 0.021 U | < 0.021 U | < 0.048 U | < 0.049 U | < 0.063 U |
| Hexachlorocyclohexane, Alpha- | 0.000086 | < 0.022 U | < 0.021 U | < 0.021 U | < 0.021 U | < 0.048 U | < 0.049 U | < 0.063 U |
| Hexachlorocyclohexane, Beta- | 0.0003 | < 0.022 U | < 0.021 U | < 0.021 U | < 0.021 U | < 0.048 U | < 0.049 U | < 0.063 U |
| Lindane | 0.00057 | **0.0024 J** | < 0.021 U | < 0.021 U | < 0.021 U | < 0.048 U | < 0.049 U | < 0.063 U |
| Methoxychlor | 0.032 | **0.013 J** | **0.017 J** | < 0.083 U | < 0.083 U | **0.08 J** | **0.11 J** | **0.011 J** |
| Toxaphene | 0.00049 | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.3 U | < 2.4 U | < 3.1 U |
| ***Metals mg/kg (EPA Method 6010, 7196,7471)*** | | | | | | | | |
| Arsenic | 0.68 | **0.47 J** | **0.56 J** | **0.29 J** | **0.23 J** | **0.65 J** | **1.0** | **2.9** |
| Barium | 1,500 | **14** | **100** | **14** | **3.5** | **15** | **16** | **0.018** |
| Cadmium | 7.1 | **0.12** | **0.21** | **0.063 J** | **0.037 J** | **0.23** | **0.33** | **0.26** |
| Chromium | 12,000 | **4.3** | **4.8** | **3.5** | **1.2** | **3.8** | **9.1** | **6.0** |
| Chromium, hexavalent | 0.3 | **0.56 J** | **0.82 J** | **0.65 J** | **0.6 J** | < 1.5 U | < 1.5 UJ | < 1.9 R |
| Lead | 400 | **5.0** | **6.2** | **3.2** | **1.6** | **10** | **18** | **16** |
| Mercury | 1.1 | < 0.097 U | < 0.1 U | < 0.096 U | < 0.097 U | < .12 U | < 0.11 U | **0.019 J** |
| Selenium | 39 | < 0.59 U | < 0.61 U | < 0.57 U | < 0.62 U | **0.26 J** | < 0.71 U | **0.54 J** |
| Silver | 39 | < 0.29 U | < 0.31 U | < 0.29 U | < 0.31 U | < 0.35 U | < 0.35 U | < 0.45 U |
| ***Other %*** | | | | | | | | |
| Percent Solid | | **77.9** | **78.7** | **80.8** | **79.8** | **67.9** | **67.7** | **53.7** |

Notes:

EPA - United States Environmental Protection Agency

IWQS - Georgia Instream water quality standards

µg/kg - microgram per kilogram

mg/kg - milligram per kilogram

RSL - Regional Screening Level

UBC - Upper Background Concentration

Laboratory Qualifiers:

H - Sample was prepped or analyzed beyond the specified holding time.

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

T - Tentatively Identified Compound.

U - The analyte was not detected above the reporting limit.

UB - Compound/analyte detected in blank or associated blank, qualified as a non-detect at listed value.

UJ - The analyte was not detected above the reporting limit; however, the reported quantitation limit is approximate and may, or may not represent the actual limit of quantitation necessary to accurately and precisely measure analyte in the sample.

**Table 6-2**
**December 2014 Groundwater Quality Field Measurements**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Location ID | Screen Interval (ft) | Measurement Date | Temperature (°C) | pH (s.u.) | DO (mg/L) | Conductivity (µmhos/cm) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| **Shallow Surficial Aquifer Monitor Wells** | | | | | | | | |
| HMW-02 | 4.6 - 14.6 | Dec-14 | 21.6 | 5.14 | 7.37 | 33.4 | 251.1 | 220.4 |
| HMW-04 | 3.0 - 13.0 | Dec-14 | 19.27 | 6.36 | 0.33 | 361 | < 2 | 150.7 |
| HMW-06 | 3.0 - 13.0 | Dec-14 | 21.17 | 6.07 | 0.2 | 168 | 9 | -20.8 |
| HMW-08 | 3.0 - 13.0 | Dec-14 | 18.01 | 6.46 | 3.78 | 249 | 6 | -61.6 |
| HMW-09 | 5.0 - 15.0 | Dec-14 | 19.15 | 6.29 | 0.7 | 294 | 17 | -63.6 |
| HMW-10 | 2.7 - 12.8 | Dec-14 | 19.53 | 5.9 | 0.35 | 186 | 32 | 73.7 |
| HMW-11 | 4.7 - 14.8 | Dec-14 | 21.74 | 5.8 | 0.28 | 474 | 7 | -173.7 |
| HMW-12 | 5.1 - 15.2 | Dec-14 | Not Sampled | | | | | |
| HMW-13 | 7.5 - 17.6 | Dec-14 | 23 | 5.85 | 0.38 | 280 | 10.78 | -21.9 |
| HMW-14R | 9.2 - 18.9 | Dec-14 | 20 | 4.99 | 0.34 | 102.7 | 13.67 | 111.3 |
| HMW-15 | 4.7 - 14.7 | Dec-14 | Not Sampled | | | | | |
| HMW-16 | 4.3 - 14.3 | Dec-14 | Not Sampled | | | | | |
| HMW-17 | 4.3 - 14.3 | Dec-14 | Not Sampled | | | | | |
| HMW-18 | 3.7 - 13.5 | Dec-14 | Not Sampled | | | | | |
| HMW-19 | 4.2 - 14.0 | Dec-14 | Not Sampled | | | | | |
| HMW-20 | 3.7 - 13.4 | Dec-14 | Not Sampled | | | | | |
| HMW-21 | 2.0-11.5 | Dec-14 | 17.83 | 5.94 | 0.35 | 126 | 145 | 25.5 |
| HMW-22 | 11.0 - 20.5 | Dec-14 | Not Sampled | | | | | |
| HMW-23 | 5.0 - 15.0 | Dec-14 | 17.14 | 6 | 0.32 | 327 | 11 | 35.5 |
| HMW-24 | 7.0 - 12.0 | Dec-14 | 17.09 | 6.39 | 0.27 | 399 | 4 | -35.3 |
| COE-MW-01 | 15.0 - 20.0 | Dec-14 | 18.4 | 5.23 | 0.27 | 163.5 | 4.1 | -17.4 |
| COE-MW-02 | 14.9 - 19.9 | Dec-14 | 18.7 | 5.4 | 0.25 | 116.3 | 12.16 | -30.5 |
| COE-MW-03 | 15.0 - 20.0 | Dec-14 | 18.3 | 5.37 | 0.41 | 273.9 | 43.39 | 6.5 |
| COE-MW-04 | 10.0 - 15.0 | Dec-14 | 18.5 | 5.69 | 0.34 | 106.1 | 5.42 | 7.2 |
| COE-MW-05 | 10.0 - 15.0 | Dec-14 | 17.89 | 5.91 | 0.47 | 115 | 2 | 3.7 |
| COE-MW-06 | 10.0 - 15.0 | Dec-14 | 18 | 5.71 | 0.43 | 219.6 | 9.63 | 35.5 |
| COE-MW-07 | 10.0 - 15.0 | Dec-14 | 18.07 | 5.79 | 0.4 | 183 | 9 | 13.4 |
| COE-MW-08 | 10.0 - 15.0 | Dec-14 | 17.2 | 5.37 | 0.44 | 873 | 80.9 | 61.7 |
| HA01-MW-09 | 7.0 - 17.0 | Dec-14 | 18.51 | 5.73 | 0.37 | 93 | 20 | -25.6 |
| HA01-MW-10 | 2.0 - 12.0 | Dec-14 | 17.19 | 4.18 | 1.51 | 441 | 4 | 235.7 |
| HA01-MW-11 | 2.0 - 12.0 | Dec-14 | 17.06 | 5.9 | 0.76 | 117 | 24 | 27.5 |

**Table 6-2**
**December 2014 Groundwater Quality Field Measurements**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Location ID | Screen Interval (ft) | Measurement Date | Temperature (°C) | pH (s.u.) | DO (mg/L) | Conductivity (µmhos/cm) | Turbidity (NTU) | ORP (mV) |
|---|---|---|---|---|---|---|---|---|
| **Shallow Surficial Aquifer Monitor Wells** | | | | | | | | |
| HA01-MW-12 | 2.0 - 12.0 | Dec-14 | 18.2 | 5.51 | 0.3 | 389.1 | 7.49 | 0.6 |
| HA01-MW-13 | 2.0 - 12.0 | Dec-14 | 16.86 | 5.9 | 0.49 | 610 | < 2 | 5.9 |
| HA01-MW-14 | 3.0 - 13.0 | Dec-14 | 19.2 | 4.32 | 0.59 | 448.5 | 118.1 | 78.9 |
| HA01-MW-15 | 4.5 - 14.5 | Dec-14 | 18.3 | 5.56 | 0.65 | 89.2 | 18 | -1 |
| HA01-MW-16 | 9.0 - 19.0 | Dec-14 | Not Sampled | | | | | |
| HA01-MW-17 | 4.5 - 14.5 | Dec-14 | 17.65 | 4.99 | 2.61 | 90 | 413 | 300.4 |
| **Deep Surficial Aquifer Monitor Wells** | | | | | | | | |
| HMW-01 | 38.0 - 48.0 | Dec-14 | Not Sampled | | | | | |
| HMW-03 | 39.0 - 49.0 | Dec-14 | Not Sampled | | | | | |
| HMW-05 | 39.0 - 49.0 | Dec-14 | Not Sampled | | | | | |
| HA01-MW-07D | 50.0 - 60.0 | Dec-14 | Not Sampled | | | | | |
| HA01-MW-12D | 40.0 - 50.0 | Dec-14 | 18 | 7.17 | 0.41 | 322 | 2.54 | -121 |
| HA01-MW-14D | 39.0 - 49.0 | Dec-14 | 18.2 | 6.36 | 0.35 | 293.1 | 0 | -26 |
| HA01-MW-18D | 56.0 - 66.0 | Dec-14 | Not Sampled | | | | | |

Notes:
°C = Degrees Celcius
ft = Feet
µmhos/cm = Micromhos per centimeter
mg/L = Milligrams per liter
mV = Millivolts
NTU = Nephelometric Turbidity Unit
s.u. = Standard units

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16.86

**Table 6-5**
**Summary of Statistical Analysis of Groundwater Analytical Data**

**Hunter Army Airfield - DAACG and FTA Areas**
**Savannah, Georgia**

| Constituent | Well | Cleanup Goal/Screening Level/Remediation Goal (µg/L)[1] | Data Range | | | | | | Linear Regression Analysis | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Minimum Concentration (µg/L) | Maximum Concentration (µg/L) | Concentration Measured Most Recently (µg/L) | % of Data Above Laboratory Reporting Limit | Start Date | End Date | Coefficient of Determination, $R^2$ | p-value of Correlation (Significance of Slope) | Attenuation Half-life (days) | Trend Direction[2] | Significance of Trend[3] | Projected Year to Screening Level |
| **cis-1,2- dicholoroethene - DAACG Area** | | | | | | | | | | | | | | |
| cis-1,2-DCE | COE-MW-03 | 70 | 1,900 | 9,000 | 1,900 | 100 | 2/3/2009 | 12/23/2014 | 0.941 | 0.03 | 925 | Decreasing | Significant | 2027 |
| cis-1,2-DCE | COE-MW-05 | 70 | 47.0 | 180 | 180 | 100 | 2/4/2009 | 12/19/2014 | 0.979 | 0.01 | NA | Increasing | Significant | NA |
| cis-1,2-DCE | COE-MW-07 | 70 | 1,500 | 3,800 | 1,500 | 100 | 2/4/2009 | 12/23/2014 | 0.014 | 0.88 | NA | No Trend | NS | NA |
| cis-1,2-DCE | COE-MW-08 | 70 | 14 | 110 | 8,210 | 100 | 2/4/2009 | 7/14/2017 | 0.994 | <0.01 | NA | Increasing | Significant | NA |
| cis-1,2-DCE | HMW-21 | 70 | 15.0 | 3,200 | 2,300 | 100 | 1/4/2009 | 12/19/2014 | 0.379 | 0.38 | NA | Increasing | NS | NA |
| **Vinyl Chloride - DAACG Area** | | | | | | | | | | | | | | |
| Vinyl Chloride | COE-MW-03 | 2 | 120 | 1,230 | 120 | 100 | 7/20/2004 | 12/23/2014 | 0.417 | 0.02 | 1,737 | Decreasing | Significant | 2047 |
| Vinyl Chloride | COE-MW-04 | 2 | 33 | 86 | 59 | 100 | 7/20/2004 | 12/19/2014 | 0.547 | <0.01 | NA | Increasing | Significant | NA |
| Vinyl Chroride | COE-MW-05 | 2 | 1 | 10 | 10 | 100 | 7/20/2004 | 12/19/2014 | 0.043 | 0.52 | NA | No Trend | NS | NA |
| Vinyl Chloride | HMW-21 | 2 | 0.13 | 36 | 20 | 100 | 7/20/2004 | 12/19/2014 | 0.014 | 0.70 | NA | No Trend | NS | NA |
| **Benzene - FTA Area** | | | | | | | | | | | | | | |
| Benzene | COE-MW-03 | 5 | 3.10 | 18 | 3.10 | 100 | 1/16/2005 | 12/23/2014 | 0.054 | 0.49 | NA | No Trend | NS | NA |
| Benzene | HMW-06 | 5 | *0.5* | 120 | 0.87 | 100 | 3/8/1990 | 12/16/2014 | 0.627 | <0.01 | 1,317 | Decreasing | Significant | 2010 |
| Benzene | HMW-09 | 5 | 0.26 | 242 | 0.44 | 67 | 3/12/1992 | 12/23/2014 | 0.011 | 0.68 | NA | No Trend | NS | NA |
| Benzene | HMW-10 | 5 | *0.5* | 670 | 19 | 63 | 10/9/1995 | 12/17/2014 | 0.373 | 0.01 | 831 | Decreasing | Significant | 2010 |
| Benzene | HMW-11 | 5 | *0.5* | 167 | *1.00* | 68 | 10/8/1995 | 12/16/2014 | 0.318 | 0.01 | 914 | Decreasing | Significant | 2011 |
| Benzene | HMW-13 | 5 | 15.1 | 1,200 | 30 | 100 | 10/9/1995 | 12/16/2014 | 0.734 | <0.01 | 1,216 | Decreasing | Significant | 2020 |
| Benzene | HMW-23 | 5 | 0.36 | 336 | 1.10 | 100 | 7/19/2004 | 12/17/2014 | 0.688 | <0.01 | 387 | Decreasing | Significant | 2010 |
| Benzene | HMW-24 | 5 | *1.0* | 140 | 6.10 | 82 | 7/19/2004 | 12/17/2014 | 0.019 | 0.69 | 3,044 | No Trend | NS | NA |

**Notes, Abbreviations and Assumptions:**
µg/L = micrograms per liter
NS = not significant
NA = not applicable due to increasing trend or non-significant trend
cis-1,2-DCE = cis-1,2-dichoroethene

[1] Screening levels from NCAC 2L Groundwater Standard

[2] Linear regression analysis with $R^2$ value <0.1 and no statistically significant trend is defined as having no apparent trend (No Trend).

[3] Statistically significant trend defined as having p-value ≤ 0.1.

*Data in italics* ND taken at reporting limit/reported value
Data underlined Qualified data converted to reported value

**Table 8-1**
**Selection of Constituents of Potential Concern for Surface Soil (0-2 Feet)**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent [a] | | CASN | Frequency of Detection | | | | Detection Limits | | | Detected Concentrations | | | Location of Maximum Concentration (Depth Interval) | USEPA Regional Screening Level [b] | | Background Level [c] | Is Constituent a COPC? [d] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Number of Detections | | Number of Samples | FOD | Minimum (mg/kg) | | Maximum (mg/kg) | Minimum (mg/kg) | | Maximum (mg/kg) | | Residential Soil (mg/kg) | | (mg/kg) | (YES, no) | Rationale |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | |
| Acetone | | 67-64-1 | 8 | - | 49 | 16 | 5.60E-03 | - | 6.70E-02 | 5.20E-02 | - | 1.70E-01 | HMW-16A (0 - 1.5) | 6.10E+03 | n | – | no | BSL |
| Chloromethane | | 74-87-3 | 1 | - | 24 | 4 | 5.00E-03 | - | 1.20E-02 | 6.90E-03 | - | 6.90E-03 | HA01-MW-12 (1 - 2) | 1.10E+01 | n | – | no | BSL |
| 1,2-Dichlorobenzene | | 95-50-1 | 2 | - | 24 | 8 | 5.40E-03 | - | 4.20E-01 | 3.60E-03 | - | 9.90E-02 | FTASB-15 (.5 - 2.5) | 1.80E+02 | n | – | no | BSL |
| Methylene chloride | | 75-09-2 | 3 | - | 24 | 13 | 5.00E-03 | - | 8.80E-03 | 2.00E-03 | - | 4.00E-03 | FTASB-17 (.5 - 2.5) | 3.50E+01 | n | – | no | BSL |
| Styrene | | 100-42-5 | 1 | - | 19 | 5 | 5.00E-03 | - | 8.80E-03 | 1.00E-03 | - | 1.00E-03 | HMW-12 (1.5 - 3) | 6.00E+02 | n | – | no | BSL |
| Tetrachloroethene | | 127-18-4 | 3 | - | 54 | 6 | 5.00E-03 | - | 5.30E-02 | 1.00E-03 | - | 6.10E-03 | SB-018 (0 - 1.5) | 8.10E+00 | n | – | no | BSL |
| Toluene | | 108-88-3 | 5 | - | 54 | 9 | 5.00E-03 | - | 5.30E-02 | 1.00E-03 | - | 2.00E-02 | FTASB-06 (.5 - 1) | 4.90E+02 | n | – | no | BSL |
| 1,2,4-Trichlorobenzene | | 120-82-1 | 1 | - | 19 | 5 | 5.40E-03 | - | 4.20E-01 | 2.40E-03 | - | 2.40E-03 | HA01-MW-17 (1 - 2) | 5.80E+00 | n | – | no | BSL |
| Trichlorofluoromethane (CFC-11) | | 75-69-4 | 4 | - | 14 | 29 | 5.30E-03 | - | 8.80E-03 | 1.00E-02 | - | 1.40E-02 | PSB-1 (0 - 1) | 2.30E+03 | ns | – | no | BSL |
| Xylenes (total) | | 1330-20-7 | 3 | - | 54 | 6 | 5.00E-03 | - | 5.30E-02 | 2.00E-03 | - | 1.20E-02 | HA01-MW-17 (1 - 2) | 5.80E+01 | n | – | no | BSL |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | |
| Benzoic acid | | 65-85-0 | 1 | - | 10 | 10 | 1.80E+00 | - | 2.20E+00 | 5.10E-01 | - | 5.10E-01 | HMW-10 (0 - 2) | 2.50E+04 | n | – | no | BSL |
| Bis(2-ethylhexyl)phthalate | | 117-81-7 | 6 | - | 39 | 15 | 3.30E-01 | - | 3.50E+00 | 8.60E-02 | - | 3.90E-01 | HMW-12 (1.5 - 3) | 3.90E+01 | c** | – | no | BSL |
| Butyl benzyl phthalate | | 85-68-7 | 1 | - | 10 | 10 | 3.40E-01 | - | 4.20E-01 | 1.00E-01 | - | 1.00E-01 | HMW-12 (1.5 - 3) | 2.90E+02 | c** | – | no | BSL |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | | | | |
| Acenaphthene | | 83-32-9 | 1 | - | 44 | 2 | 7.40E-02 | - | 3.50E+00 | 1.70E+00 | - | 1.70E+00 | SB-038 (0 - 2) | 3.60E+02 | n | – | no | BSL |
| Acenaphthylene | [e] | 208-96-8 | 10 | - | 44 | 23 | 7.40E-02 | - | 8.10E-01 | 1.10E-01 | - | 3.60E+00 | HMW-16A (0 - 1.5) | 1.80E+02 | n | – | no | BSL |
| Anthracene | | 120-12-7 | 13 | - | 44 | 30 | 7.40E-02 | - | 4.80E-01 | 4.20E-02 | - | 7.50E+00 | HMW-16A (0 - 1.5) | 1.80E+03 | n | – | no | BSL |
| Benz(a)anthracene | | 56-55-3 | 18 | - | 44 | 41 | 1.10E-01 | - | 4.80E-01 | 1.40E-01 | - | 3.40E+01 | HMW-16A (0 - 1.5) | 1.10E+00 | c | – | **YES** | ASL |
| Benzo(ghi)perylene | [e] | 191-24-2 | 14 | - | 44 | 32 | 1.70E-01 | - | 8.70E-01 | 9.50E-02 | - | 1.40E+01 | HMW-16A (0 - 1.5) | 1.80E+02 | n | – | no | BSL |
| Benzo(a)pyrene | | 50-32-8 | 18 | - | 44 | 41 | 1.50E-01 | - | 4.80E-01 | 1.60E-01 | - | 2.60E+01 | HMW-16A (0 - 1.5) | 1.10E-01 | c* | – | **YES** | ASL |
| Benzo(b)fluoranthene | | 205-99-2 | 18 | - | 44 | 41 | 1.10E-01 | - | 4.80E-01 | 1.60E-01 | - | 2.80E+01 | HMW-16A (0 - 1.5) | 1.10E+00 | c | – | **YES** | ASL |
| Benzo(k)fluoranthene | | 207-08-9 | 11 | - | 44 | 25 | 1.10E-01 | - | 4.80E-01 | 1.50E-01 | - | 2.70E+01 | HMW-16A (0 - 1.5) | 1.10E+01 | c | – | **YES** | ASL |
| Chrysene | | 218-01-9 | 18 | - | 44 | 41 | 1.10E-01 | - | 4.80E-01 | 1.30E-01 | - | 3.30E+01 | HMW-16A (0 - 1.5) | 1.10E+02 | c | – | no | BSL |
| Dibenz(a,h)anthracene | | 53-70-3 | 7 | - | 44 | 16 | 1.60E-01 | - | 3.50E+00 | 9.10E-02 | - | 3.90E+00 | SB-027 (0 - 1.5) | 1.10E-01 | c | – | **YES** | ASL |
| Fluoranthene | | 206-44-0 | 19 | - | 44 | 43 | 7.70E-02 | - | 4.80E-01 | 1.20E-01 | - | 7.20E+01 | HMW-16A (0 - 1.5) | 2.40E+02 | n | – | no | BSL |
| Fluorene | | 86-73-7 | 3 | - | 44 | 7 | 7.40E-02 | - | 3.50E+00 | 1.60E-01 | - | 3.90E+00 | SB-038 (0 - 2) | 2.40E+02 | n | – | no | BSL |
| Indeno(1,2,3-cd)pyrene | | 193-39-5 | 14 | - | 44 | 32 | 1.70E-01 | - | 8.70E-01 | 9.20E-02 | - | 1.60E+01 | HMW-16A (0 - 1.5) | 1.10E+00 | c | – | **YES** | ASL |
| Naphthalene | [f] | 91-20-3 | 2 | - | 44 | 5 | 7.40E-02 | - | 3.50E+00 | 1.00E-01 | - | 5.30E-01 | SB-038 (0 - 2) | 1.30E+01 | n | – | no | BSL |
| Phenanthrene | [e] | 85-01-8 | 15 | - | 44 | 34 | 7.40E-02 | - | 4.80E-01 | 4.90E-02 | - | 3.90E+01 | SB-038 (0 - 2) | 1.80E+02 | n | – | no | BSL |
| Pyrene | | 129-00-0 | 18 | - | 44 | 41 | 7.40E-02 | - | 4.80E-01 | 1.30E-01 | - | 4.90E+01 | HMW-16A (0 - 1.5) | 1.80E+02 | n | – | no | BSL |
| **Pesticides** | | | | | | | | | | | | | | | | – | | |
| 4,4'-DDT | | 50-29-3 | 1 | - | 9 | 11 | 1.80E-03 | - | 2.00E-03 | 4.90E-03 | - | 4.90E-03 | HA01-MW-14 (1 - 2) | 1.90E+00 | c** | – | no | BSL |
| Dieldrin | | 60-57-1 | 3 | - | 20 | 15 | 1.80E-03 | - | 7.30E-03 | 2.60E-02 | - | 4.30E-02 | SB-027 (0 - 1.5) | 3.40E-02 | c** | – | **YES** | ASL |
| Methoxychlor | | 72-43-5 | 1 | - | 20 | 5 | 7.00E-03 | - | 1.90E-01 | 1.40E-01 | - | 1.40E-01 | SB-026 (0 - 1.5) | 3.20E+01 | n | – | no | BSL |

**Table 8-1**
**Selection of Constituents of Potential Concern for Surface Soil (0-2 Feet)**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent [a] | | CASN | Frequency of Detection | | | Detection Limits | | | Detected Concentrations | | | Location of Maximum Concentration (Depth Interval) | USEPA Regional Screening Level [b] | | Background Level [c] | Is Constituent a COPC? [d] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Number of Detections | | Number of Samples | FOD | Minimum (mg/kg) | | Maximum (mg/kg) | Minimum (mg/kg) | | Maximum (mg/kg) | | Residential Soil (mg/kg) | | (mg/kg) | (YES, no) | Rationale |
| **Inorganics** | | | | | | | | | | | | | | | | | | |
| Arsenic | | 7440-38-2 | 24 | - | 24 | 100 | – | - | – | 2.50E-01 | - | 2.14E+00 | FTASB-17 (.5 - 2.5) | 6.80E-01 | c**R | 2.6 | no | BBKG |
| Barium | | 7440-39-3 | 24 | - | 24 | 100 | – | - | – | 2.40E+00 | - | 2.50E+01 | HA01-MW-14 (1 - 2) | 1.50E+03 | n | 28 | no | BSL |
| Cadmium | | 7440-43-9 | 13 | - | 24 | 54 | 1.10E-01 | - | 2.40E+00 | 1.40E-02 | - | 2.50E+00 | FTASB-09 (.5 - 1) | 7.10E+00 | n | 2.6 | no | BSL |
| Chromium | [g] | 7440-47-3 | 26 | - | 26 | 100 | – | - | – | 9.10E-01 | - | 8.60E+00 | HA01-MW-14 (1 - 2) | 3.00E-01 | c* | 7.7 | **YES** | ASL |
| Lead | | 7439-92-1 | 23 | - | 24 | 96 | 6.70E+00 | - | 6.70E+00 | 2.10E+00 | - | 2.80E+01 | PSB-1 (0 - 1) | 4.00E+02 | L | 53 | no | BSL |
| Mercury | [h] | 7439-97-6 | 19 | - | 25 | 76 | 9.00E-02 | - | 1.00E-01 | 1.30E-02 | - | 4.60E-02 | HMW-10 (0 - 2) | 1.10E+00 | n | 0.39 | no | BSL |
| Selenium | | 7782-49-2 | 10 | - | 24 | 42 | 2.60E-01 | - | 6.20E-01 | 1.70E-01 | - | 1.10E+00 | FTASB-14 (.5 - 2.5), FTASB-15 (.5 - 2.5), FTASB-16 (.5 - 2.5), FTASB-17 (.5 - 2.5) | 3.90E+01 | n | 1.9 | no | BSL |
| Silver | | 7440-22-4 | 12 | - | 24 | 50 | 2.60E-01 | - | 2.40E+00 | 5.40E-02 | - | 2.50E+00 | FTASB-09 (.5 - 1) | 3.90E+01 | n | 2.6 | no | BSL |

| | | | |
|---|---|---|---|
| – | Not applicable. | c | cancer-based screening values. |
| CASN | Chemical abstracts registry number. | * | non-cancer screening values is less than 100x the cancer screening level. |
| COPC | Constituent of potential concern. | ** | non-cancer screening values is less than 10x the cancer screening level. |
| FOD | Frequency of detection. | L | Lead Regional Screening Level is based on acceptable blood lead levels. |
| mg/kg | Milligram per kilogram. | n | non-cancer based screening values |
| NA | Not available or not applicable. | R | Relative bioavailability factor incorporated. |

[a] Only detected constituents are presented.
[b] Screening levels from United States Environmental Protection Agency (USEPA) Regional Screening Level (RSL) Table (USEPA 2018b).
Screening levels are based on a target cancer risk of $1 \times 10^{-6}$ and a target noncancer hazard of 0.1 (to account for additive effects).
The screening level for lead is based on a target blood lead level.
[c] Background concentrations were from the Revised Final Compliance Status Report for the Fire Training Station at HAAF (Law 2002).
[d] Constituents with a maximum concentration above the screening level (ASL) were considered COPCs. Constituents with a maximum concentration below the screening level (BSL) or below background (BBKG) were not considered COPCs.
Constituents with no screening level (NSL) were conservatively identified as COPCs.
[e] The screening level for pyrene is used as a surrogate.
[f] The noncancer screening level for naphthalene was used.
[g] The screening level for chromium VI is presented.
[h] The screening level for elemental mercury is presented.

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**Table 8-2**
**Selection of Constituents of Potential Concern for Soil (0-10 Feet)**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent [a] | | CASN | Frequency of Detection: Number of Detections | | Number of Samples | FOD | Detection Limits: Minimum (mg/kg) | | Maximum (mg/kg) | Detected Concentrations: Minimum (mg/kg) | | Maximum (mg/kg) | Location of Maximum Concentration (Depth Interval) | USEPA Regional Screening Level [b]: Residential Soil (mg/kg) | | Groundwater Protection (mg/kg) | Background Level [c] (mg/kg) | Is Constituent a COPC?: Residential Soil [d] (YES, no) | Rationale | Groundwater Protection [e] (YES, no) | Rationale |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | | |
| Acetone | | 67-64-1 | 26 | - | 113 | 23 | 5.60E-03 | - | 6.00E+00 | 3.60E-02 | - | 2.70E+01 | HSB-5 (5 - 8) | 6.10E+03 | n | 2.90E-01 | – | no | BSL | **YES** | ASL |
| Benzene | | 71-43-2 | 45 | - | 117 | 39 | 1.20E-03 | - | 2.50E+00 | 2.80E-03 | - | 1.80E+01 | FTASB-10 (9 - 10.4) | 1.20E+00 | c** | 2.60E-03 | – | **YES** | ASL | **YES** | ASL |
| 2-Butanone | | 78-93-3 | 3 | - | 62 | 5 | 9.96E-03 | - | 3.00E+00 | 1.30E-02 | - | 1.51E+01 | HSB-5 (5 - 8) | 2.70E+03 | n | 1.20E-01 | – | no | BSL | **YES** | ASL |
| Carbon tetrachloride | | 56-23-5 | 2 | - | 62 | 3 | 1.00E-03 | - | 1.60E+00 | 4.60E-03 | - | 4.70E-03 | HA01-MW-17 (6 - 7) | 6.50E-01 | c* | 1.90E-03 | – | no | BSL | **YES** | ASL |
| Chlorobenzene | | 108-90-7 | 1 | - | 62 | 2 | 6.90E-04 | - | 1.60E+00 | 7.00E-03 | - | 7.00E-03 | FTASB-11 (9.5 - 10) | 2.80E+01 | n | 6.80E-02 | – | no | BSL | no | BSL |
| Chloromethane | | 74-87-3 | 3 | - | 62 | 5 | 5.00E-03 | - | 3.60E+00 | 4.10E-03 | - | 3.90E+01 | HSB-5 (5 - 8) | 1.10E+01 | n | 4.90E-03 | – | **YES** | ASL | **YES** | ASL |
| 1,2-Dichlorobenzene | | 95-50-1 | 4 | - | 57 | 7 | 5.10E-03 | - | 3.90E+00 | 2.30E-03 | - | 9.90E-02 | FTASB-15 (.5 - 2.5) | 1.80E+02 | n | 5.80E-01 | – | no | BSL | no | BSL |
| cis-1,2-Dichloroethene | | 156-59-2 | 1 | - | 108 | 1 | 5.00E-03 | - | 1.60E+00 | 2.70E-01 | - | 2.70E-01 | HMW-14R (7 - 9) | 1.60E+01 | n | 2.10E-02 | – | no | BSL | **YES** | ASL |
| trans-1,2-Dichloroethene | | 156-60-5 | 1 | - | 108 | 1 | 5.00E-03 | - | 1.60E+00 | 1.30E-02 | - | 1.30E-02 | HMW-14R (7 - 9) | 1.60E+02 | n | 3.10E-02 | – | no | BSL | no | BSL |
| Ethylbenzene | | 100-41-4 | 45 | - | 180 | 25 | 1.10E-03 | - | 5.50E-02 | 1.10E-02 | - | 1.20E+02 | FTASB-10 (9 - 10.4) | 5.80E+00 | c* | 7.80E-01 | – | **YES** | ASL | **YES** | ASL |
| 2-Hexanone | | 591-78-6 | 1 | - | 50 | 2 | 3.30E-03 | - | 3.00E+00 | 1.50E-03 | - | 1.50E-03 | HA01-MW-12 (2 - 12) | 2.00E+01 | n | 8.80E-04 | – | no | BSL | **YES** | ASL |
| Methyl acetate | | 79-20-9 | 1 | - | 18 | 6 | 5.10E-03 | - | 8.80E-03 | 9.50E-03 | - | 9.50E-03 | HA01-MW-09 (9 - 10) | 7.80E+03 | n | 4.10E-01 | – | no | BSL | no | BSL |
| 1-Methylethyl benzene | | 98-82-8 | 2 | - | 18 | 11 | 5.10E-03 | - | 8.80E-03 | 3.90E-03 | - | 8.40E-03 | HA01-MW-10 (3 - 4) | 1.90E+02 | n | 7.40E-02 | – | no | BSL | no | BSL |
| 4-Bromofluorobenzene | [f] | 460-00-4 | 5 | - | 5 | 100 | – | - | – | 5.00E-02 | - | 6.20E-02 | HSB-3 (6 - 8) | 3.10E+00 | n | 5.10E-04 | – | no | BSL | **YES** | ASL |
| Methylene chloride | | 75-09-2 | 8 | - | 62 | 13 | 1.70E-03 | - | 2.60E+00 | 2.00E-03 | - | 6.70E-03 | HSB-6 (8 - 10) | 3.50E+01 | n | 1.30E-03 | – | no | BSL | **YES** | ASL |
| Styrene | | 100-42-5 | 2 | - | 50 | 4 | 1.70E-03 | - | 2.50E+00 | 1.00E-03 | - | 1.00E-03 | FTASB-13 (2.5 - 4.5), HMW-12 (1.5 - 3) | 6.00E+02 | n | 1.10E-01 | – | no | BSL | no | BSL |
| Tetrachloroethene | | 127-18-4 | 3 | - | 125 | 2 | 5.40E-04 | - | 1.60E+00 | 1.00E-03 | - | 6.10E-03 | SB-018 (0 - 1.5) | 8.10E+00 | n | 2.30E-03 | – | no | BSL | **YES** | ASL |
| Toluene | | 108-88-3 | 23 | - | 181 | 13 | 8.20E-04 | - | 1.10E+00 | 1.00E-03 | - | 3.20E+01 | EB-K7 (8.11) | 4.90E+02 | n | 6.90E-01 | – | no | BSL | **YES** | ASL |
| 1,2,4-Trichlorobenzene | | 120-82-1 | 1 | - | 45 | 2 | 5.10E-03 | - | 1.60E+00 | 2.40E-03 | - | 2.40E-03 | HA01-MW-17 (1 - 2) | 5.80E+00 | n | 2.00E-01 | – | no | BSL | no | BSL |
| Trichlorofluoromethane (CFC-11) | | 75-69-4 | 8 | - | 30 | 27 | 5.10E-03 | - | 3.00E-02 | 5.80E-03 | - | 1.40E-02 | PSB-1 (0 - 1) | 2.30E+03 | ns | 3.30E-01 | – | no | BSL | no | BSL |
| Xylenes (total) | | 1330-20-7 | 45 | - | 180 | 25 | 1.10E-03 | - | 1.50E-01 | 1.00E-03 | - | 3.10E+02 | HMW-13 (2 - 4) | 5.80E+01 | n | 9.90E+00 | – | **YES** | ASL | **YES** | ASL |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | | |
| Benzoic acid | | 65-85-0 | 4 | - | 27 | 15 | 1.80E+00 | - | 8.20E+00 | 5.10E-01 | - | 6.40E-01 | FTASB-13 (2.5 - 4.5) | 2.50E+04 | n | 1.50E+00 | – | no | BSL | no | BSL |
| Bis(2-ethylhexyl)phthalate | | 117-81-7 | 23 | - | 88 | 26 | 3.00E-03 | - | 3.50E+00 | 8.60E-02 | - | 2.00E+00 | FTASB-10 (9 - 10.4) | 3.90E+01 | c** | 1.40E+00 | – | no | BSL | **YES** | ASL |
| 4-Bromophenyl phenyl ether | [g] | 101-55-3 | 1 | - | 30 | 3 | 7.80E-02 | - | 1.60E+00 | 2.10E-02 | - | 2.10E-02 | HA01SB002 (6 - 6.5) | 6.30E-01 | n | 5.30E-03 | – | no | BSL | **YES** | ASL |
| Butyl benzyl phthalate | | 85-68-7 | 4 | - | 30 | 13 | 1.40E-01 | - | 1.60E+00 | 1.00E-01 | - | 3.30E-01 | HMW-11 (6 - 8) | 2.90E+02 | c** | 2.40E-01 | – | no | BSL | **YES** | ASL |
| Dibenzofuran | | 132-64-9 | 7 | - | 30 | 23 | 7.10E-02 | - | 4.30E-01 | 8.20E-02 | - | 2.30E+00 | FTASB-10 (9 - 10.4) | 7.30E+00 | n | 1.50E-02 | – | no | BSL | **YES** | ASL |
| Di-n-octylphthalate | | 117-84-0 | 1 | - | 30 | 3 | 7.10E-02 | - | 1.60E+00 | 1.10E-01 | - | 1.10E-01 | HMW-13 (8 - 10) | 6.30E+01 | n | 5.70E+00 | – | no | BSL | no | BSL |
| 2,4-Dinitrotoluene | | 121-14-2 | 1 | - | 30 | 3 | 1.40E-01 | - | 1.60E+00 | 6.50E-01 | - | 6.50E-01 | FTASB-14 (4.5 - 6.5) | 1.70E+00 | c** | 3.20E-04 | – | no | BSL | **YES** | ASL |
| N-Nitrosodiphenylamine | | 86-30-6 | 1 | - | 30 | 3 | 7.80E-02 | - | 1.60E+00 | 9.60E-01 | - | 9.60E-01 | HA01SB002 (6 - 6.5) | 1.10E+02 | c | 6.70E-02 | – | no | BSL | **YES** | ASL |

Table 8-2
Selection of Constituents of Potential Concern for Soil (0-10 Feet)
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent [a] | | CASN | Frequency of Detection: Number of Detections | | Number of Samples | FOD | Detection Limits: Minimum (mg/kg) | | Maximum (mg/kg) | Detected Concentrations: Minimum (mg/kg) | | Maximum (mg/kg) | Location of Maximum Concentration (Depth Interval) | USEPA Regional Screening Level [b]: Residential Soil (mg/kg) | | Groundwater Protection (mg/kg) | Background Level [c] (mg/kg) | Is Constituent a COPC? Residential Soil [d] (YES, no) | Rationale | Groundwater Protection [e] (YES, no) | Rationale |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | | | | | | | |
| Acenaphthene | | 83-32-9 | 5 | - | 104 | 5 | 7.10E-02 | - | 8.50E+01 | 1.10E-01 | - | 2.30E+00 | SB-030 (6 - 8) | 3.60E+02 | n | 5.50E-01 | – | no | BSL | **YES** | ASL |
| Acenaphthylene | [h] | 208-96-8 | 18 | - | 104 | 17 | 7.10E-02 | - | 8.40E+00 | 1.10E-01 | - | 6.60E+00 | SB-030 (6 - 8) | 1.80E+02 | n | 1.30E+00 | – | no | BSL | **YES** | ASL |
| Anthracene | | 120-12-7 | 23 | - | 104 | 22 | 7.10E-02 | - | 8.50E+01 | 4.20E-02 | - | 7.50E+00 | HMW-16A (0 - 1.5) | 1.80E+03 | n | 5.80E+00 | – | no | BSL | **YES** | ASL |
| Benz(a)anthracene | | 56-55-3 | 31 | - | 104 | 30 | 6.20E-02 | - | 5.60E+00 | 6.10E-02 | - | 3.40E+01 | HMW-16A (0 - 1.5) | 1.10E+00 | c | 1.10E-02 | – | **YES** | ASL | **YES** | ASL |
| Benzo(ghi)perylene | [h] | 191-24-2 | 22 | - | 104 | 21 | 7.10E-02 | - | 9.00E+00 | 8.00E-02 | - | 1.40E+01 | HMW-16A (0 - 1.5) | 1.80E+02 | n | 1.30E+00 | – | no | BSL | **YES** | ASL |
| Benzo(a)pyrene | | 50-32-8 | 28 | - | 104 | 27 | 7.10E-02 | - | 7.90E+00 | 8.10E-02 | - | 2.60E+01 | HMW-16A (0 - 1.5) | 1.10E-01 | c* | 2.40E-01 | – | **YES** | ASL | **YES** | ASL |
| Benzo(b)fluoranthene | | 205-99-2 | 29 | - | 104 | 28 | 7.10E-02 | - | 5.60E+00 | 1.10E-01 | - | 2.80E+01 | HMW-16A (0 - 1.5) | 1.10E+00 | c | 3.00E-01 | – | **YES** | ASL | **YES** | ASL |
| Benzo(k)fluoranthene | | 207-08-9 | 14 | - | 104 | 14 | 7.10E-02 | - | 5.60E+00 | 1.50E-01 | - | 2.70E+01 | HMW-16A (0 - 1.5) | 1.10E+01 | c | 2.90E+00 | – | **YES** | ASL | **YES** | ASL |
| Chrysene | | 218-01-9 | 31 | - | 104 | 30 | 7.10E-02 | - | 5.60E+00 | 5.50E-02 | - | 3.30E+01 | HMW-16A (0 - 1.5) | 1.10E+02 | c | 9.00E+00 | – | no | BSL | **YES** | ASL |
| Dibenz(a,h)anthracene | | 53-70-3 | 11 | - | 104 | 11 | 6.30E-02 | - | 9.00E+00 | 9.10E-02 | - | 4.20E+00 | SB-030 (6 - 8) | 1.10E-01 | c | 9.60E-02 | – | **YES** | ASL | **YES** | ASL |
| Fluoranthene | | 206-44-0 | 36 | - | 104 | 35 | 7.70E-02 | - | 3.90E+00 | 1.20E-01 | - | 7.20E+01 | HMW-16A (0 - 1.5) | 2.40E+02 | n | 8.90E+00 | – | no | BSL | **YES** | ASL |
| Fluorene | | 86-73-7 | 12 | - | 105 | 11 | 3.00E-03 | - | 3.90E+00 | 1.60E-01 | - | 3.90E+00 | SB-038 (0 - 2) | 2.40E+02 | n | 5.40E-01 | – | no | BSL | **YES** | ASL |
| Indeno(1,2,3-cd)pyrene | | 193-39-5 | 22 | - | 104 | 21 | 7.10E-02 | - | 9.00E+00 | 8.00E-02 | - | 1.60E+01 | HMW-16A (0 - 1.5) | 1.10E+00 | c | 9.80E-01 | – | **YES** | ASL | **YES** | ASL |
| 1-Methylnaphthalene | | 90-12-0 | 33 | - | 55 | 60 | – | - | – | 4.80E-01 | - | 4.00E+01 | EW-L8-B (3.8) | 1.80E+01 | c* | 6.00E-03 | – | **YES** | ASL | **YES** | ASL |
| 2-Methylnaphthalene | | 91-57-6 | 36 | - | 86 | 42 | 2.00E-03 | - | 4.30E-01 | 2.80E-01 | - | 9.90E+01 | FTASB-10 (9 - 10.4) | 2.40E+01 | n | 1.90E-02 | – | **YES** | ASL | **YES** | ASL |
| Naphthalene | [h] | 91-20-3 | 38 | - | 160 | 24 | 2.00E-03 | - | 3.50E+00 | 1.00E-01 | - | 7.90E+01 | FTASB-10 (9 - 10.4) | 1.30E+01 | n | 5.00E+00 | – | **YES** | ASL | **YES** | ASL |
| Phenanthrene | [i] | 85-01-8 | 33 | - | 160 | 21 | 3.00E-03 | - | 3.90E+00 | 4.90E-02 | - | 3.90E+01 | SB-038 (0 - 2) | 1.80E+02 | n | 1.30E+00 | – | no | BSL | **YES** | ASL |
| Pyrene | | 129-00-0 | 35 | - | 104 | 34 | 7.20E-02 | - | 3.90E+00 | 1.30E-01 | - | 4.90E+01 | HMW-16A (0 - 1.5) | 1.80E+02 | n | 1.30E+00 | – | no | BSL | **YES** | ASL |
| **Pesticides** | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | | 72-54-8 | 11 | - | 64 | 17 | 1.80E-03 | - | 2.00E-03 | 4.20E-03 | - | 1.50E-02 | EB-L5 (5.43) | 1.90E-01 | n | 1.50E-03 | – | no | BSL | **YES** | ASL |
| 4,4'-DDE | | 72-55-9 | 10 | - | 64 | 16 | 1.80E-03 | - | 2.00E-03 | 3.20E-03 | - | 2.40E-02 | EB-L5 (5.43) | 2.00E+00 | c** | 1.10E-02 | – | no | BSL | **YES** | ASL |
| 4,4'-DDT | | 50-29-3 | 1 | - | 9 | 11 | 1.80E-03 | - | 2.00E-03 | 4.90E-03 | - | 4.90E-03 | HA01-MW-14 (1 - 2) | 1.90E+00 | c** | 7.70E-02 | – | no | BSL | no | BSL |
| Dieldrin | | 60-57-1 | 4 | - | 83 | 5 | 1.80E-03 | - | 7.30E-03 | 1.00E-02 | - | 4.30E-02 | SB-027 (0 - 1.5) | 3.40E-02 | c** | 7.10E-05 | – | **YES** | ASL | **YES** | ASL |
| Methoxychlor | | 72-43-5 | 1 | - | 28 | 4 | 7.00E-03 | - | 1.90E-01 | 1.40E-01 | - | 1.40E-01 | SB-026 (0 - 1.5) | 3.20E+01 | n | 2.20E+00 | – | no | BSL | no | BSL |
| **Polychlorinated Biphenyls** | | | | | | | | | | | | | | | | | | | | | |
| Aroclor 1254 | | 11097-69-1 | 2 | - | 55 | 4 | – | - | – | 2.60E-02 | - | 8.10E-02 | EW-L8-B (3.8) | 1.20E-01 | n | 2.00E-03 | – | no | BSL | **YES** | ASL |
| **Inorganics** | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | | 7440-38-2 | 61 | - | 65 | 94 | 4.80E-01 | - | 2.90E+00 | 1.20E-05 | - | 2.44E+00 | PSB-2 (3 - 4) | 6.80E-01 | c**R | 2.90E-01 | 2.6 | no | BBKG | no | BBKG |
| Barium | | 7440-39-3 | 121 | - | 121 | 100 | – | - | – | 2.71E-05 | - | 3.30E+01 | FTASB-13 (2.5 - 4.5) | 1.50E+03 | n | 8.20E+01 | 28 | no | BSL | no | BSL |
| Cadmium | | 7440-43-9 | 29 | - | 120 | 24 | 1.10E-01 | - | 2.60E+00 | 2.00E-08 | - | 2.50E+00 | FTASB-09 (.5 - 1) | 7.10E+00 | n | 3.80E-01 | 2.6 | no | BSL | no | BBKG |
| Chromium | [j] | 7440-47-3 | 75 | - | 128 | 59 | – | - | – | 2.84E-06 | - | 3.17E+01 | HMW-13 (8 - 10) | 3.00E-01 | c* | 6.70E-04 | 7.7 | **YES** | ASL | **YES** | ASL |
| Lead | | 7439-92-1 | 85 | - | 120 | 71 | 5.26E+00 | - | 7.62E+00 | 1.18E-03 | - | 5.90E+01 | FTASB-09 (6 - 7) | 4.00E+02 | L | 1.40E+01 | 53 | no | BSL | **YES** | ASL |
| Mercury | [k] | 7439-97-6 | 46 | - | 67 | 69 | 9.00E-02 | - | 1.30E-01 | 7.90E-07 | - | 1.10E-01 | FTASB-17 (4.5 - 6.5) | 1.10E+00 | n | 1.00E-01 | 0.39 | no | BSL | no | BBKG |
| Selenium | | 7782-49-2 | 31 | - | 65 | 48 | 2.60E-01 | - | 2.90E+00 | 2.20E-07 | - | 1.20E+00 | FTASB-16 (6.5 - 8.1) | 3.90E+01 | n | 2.60E-01 | 1.9 | no | BSL | no | BBKG |
| Silver | | 7440-22-4 | 16 | - | 65 | 25 | 7.98E-06 | - | 2.60E+00 | 5.40E-02 | - | 2.50E+00 | FTASB-09 (.5 - 1) | 3.90E+01 | n | 8.00E-02 | 2.6 | no | BSL | no | BBKG |

| | | | |
|---|---|---|---|
| – | Not applicable. | c | cancer-based screening values. |
| CASN | Chemical abstracts registry number. | * | non-cancer screening values is less than 100x the cancer screening level. |
| COPC | Constituent of potential concern. | ** | non-cancer screening values is less than 10x the cancer screening level. |
| FOD | Frequency of detection. | L | Lead Regional Screening Level is based on acceptable blood lead levels. |
| mg/kg | Milligram per kilogram. | n | non-cancer based screening values |
| NA | Not available or not applicable. | R | Relative bioavailability factor incorporated. |

[a] Only detected constituents are presented.
[b] Screening levels from United States Environmental Protection Agency (USEPA) Regional Screening Level (RSL) Table (USEPA 2018b).
Screening levels are based on a target cancer risk of $1x10^{-6}$ and a target noncancer hazard of 0.1 (to account for additive effects).
Screening level for the protection of groundwater were based on maximum contaminant level (MCL) where available. If unavailable, the screening levels are based on the Tapwater Regional Screening Level.
Screening levels for exposure to soil for lead are based on a target blood lead level.
[c] Background concentrations were from the Revised Final Compliance Status Report for the Fire Training Station at HAAF (Law 2002).
[d] Constituents with a maximum concentration above the screening level (ASL) were considered COPCs. Constituents with a maximum concentration below the screening level (BSL) or below background (BBKG) were not considered COPCs. Constituents with no screening level (NSL) were conservatively identified as COPCs.
[e] Constituents detected with maximum concentrations greater than the health based protection of groundwater screening levels were considered COPCs for the leaching to groundwater pathway.
[f] The screening level for 1,3-dibromobenzene is presented.
[g] The screening level for 2,2',4,4'-tetrabromodiphenyl ether is presented.
[h] The noncancer screening level for naphthalene was used.
[i] The screening level for pyrene is used as a surrogate.
[j] The screening level for chromium VI is presented.
[k] The screening level for elemental mercury is presented.

**Table 8-3**
**Selection of Constituents of Potential Concern for Groundwater**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent [a] | | CASN | Frequency of Detection: Number of Detections | | Number of Samples | FOD | Detection Limits: Minimum (mg/L) | | Maximum (mg/L) | Detected Concentrations: Minimum (mg/L) | | Maximum (mg/L) | Location of Maximum Concentration (Sample Collection Date) | Screening Levels: Tapwater [b] (mg/L) | | Vapor Intrusion [c] (mg/L) | Is Constituent a COPC? [d]: Tapwater (YES, no) | Tapwater Rationale | Vapor Intrusion (YES, no) | Vapor Intrusion Rationale |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | |
| Acetone | | 67-64-1 | 10 | - | 95 | 11 | 1.80E-03 | - | 5.00E-01 | 3.40E-03 | - | 4.90E-01 | HMW-13(12/17/2009) | 1.40E+00 | n | 2.25E+03 | no | BSL | no | BSL |
| Benzene | | 71-43-2 | 41 | - | 95 | 43 | 5.00E-04 | - | 2.00E-02 | 1.60E-04 | - | 1.40E-01 | HMW-24(2/3/2009) | 4.60E-04 | c** | 1.59E-03 | **YES** | ASL | **YES** | ASL |
| 2-Butanone | | 78-93-3 | 1 | - | 95 | 1 | 1.00E-02 | - | 5.00E-01 | 2.40E-03 | - | 2.40E-03 | HMW-11(12/16/2014) | 5.60E-01 | n | 2.24E+02 | no | BSL | no | BSL |
| Carbon disulfide | | 75-15-0 | 9 | - | 95 | 9 | 1.80E-04 | - | 2.50E-02 | 1.00E-04 | - | 7.30E-04 | HA01-MW-13(12/16/2009) | 8.10E-02 | n | 1.24E-01 | no | BSL | no | BSL |
| Chlorobenzene | | 108-90-7 | 4 | - | 95 | 4 | 5.00E-04 | - | 4.00E-02 | 3.80E-04 | - | 2.90E-03 | HMW-23(12/17/2014) | 7.80E-03 | n | 4.10E-02 | no | BSL | no | BSL |
| Chloroethane | | 75-00-3 | 2 | - | 95 | 2 | 5.00E-04 | - | 4.00E-02 | 5.50E-04 | - | 6.50E-04 | HMW-13 (Rep)(12/16/2014) | 2.10E+00 | n | 2.30E+00 | no | BSL | no | BSL |
| Chloroform | | 67-66-3 | 2 | - | 95 | 2 | 5.00E-04 | - | 2.50E-02 | 4.00E-04 | - | 1.70E-03 | COE-MW-04(2/4/2009) | 2.20E-04 | c* | 8.14E-04 | **YES** | ASL | **YES** | ASL |
| Chloromethane | | 74-87-3 | 2 | - | 95 | 2 | 5.00E-04 | - | 2.50E-02 | 5.10E-04 | - | 7.30E-04 | HMW-13 (Rep)(12/16/2014) | 1.90E-02 | n | 2.60E-02 | no | BSL | no | BSL |
| Cyclohexane | | 110-82-7 | 10 | - | 61 | 16 | 5.00E-04 | - | 2.50E-02 | 3.40E-04 | - | 1.30E-01 | HMW-13(12/17/2009) | 1.30E+00 | n | 1.02E-01 | no | BSL | **YES** | ASL |
| Dibromochloromethane | | 124-48-1 | 1 | - | 95 | 1 | 5.00E-04 | - | 2.50E-02 | 6.80E-04 | - | 6.80E-04 | HMW-09(1/25/2011) | 8.70E-04 | c* | NA | no | BSL | **YES** | NSL |
| 1,2-Dichlorobenzene | | 95-50-1 | 8 | - | 95 | 8 | 5.00E-04 | - | 2.50E-02 | 2.90E-04 | - | 7.30E-04 | HMW-23(1/18/2010) | 3.00E-02 | n | 2.66E-01 | no | BSL | no | BSL |
| 1,1-Dichloroethene | | 75-35-4 | 15 | - | 95 | 16 | 5.00E-04 | - | 2.50E-02 | 2.10E-04 | - | 1.30E-02 | COE-MW-07(1/26/2011) | 2.80E-02 | n | 1.95E-02 | no | BSL | no | BSL |
| cis-1,2-Dichloroethene | | 156-59-2 | 41 | - | 95 | 43 | 5.00E-04 | - | 1.00E-03 | 2.20E-04 | - | 9.00E+00 | COE-MW-03(2/3/2009) | 3.60E-03 | n | NA | **YES** | ASL | **YES** | NSL |
| trans-1,2-Dichloroethene | | 156-60-5 | 30 | - | 95 | 32 | 5.00E-04 | - | 2.00E-02 | 1.90E-04 | - | 2.40E-01 | COE-MW-03(2/3/2009) | 3.60E-02 | n | NA | **YES** | ASL | **YES** | NSL |
| 1,2-Dichloropropane | | 78-87-5 | 4 | - | 95 | 4 | 5.00E-04 | - | 2.50E-02 | 2.80E-04 | - | 1.10E-03 | HMW-13(1/25/2011) | 8.20E-04 | n | 3.62E-03 | **YES** | ASL | no | BSL |
| Ethylbenzene | | 100-41-4 | 17 | - | 95 | 18 | 5.00E-04 | - | 2.50E-02 | 1.80E-04 | - | 5.60E-02 | HMW-13(12/17/2009) | 1.50E-03 | c* | 3.49E-03 | **YES** | ASL | **YES** | ASL |
| 2-Hexanone | | 591-78-6 | 15 | - | 95 | 16 | 1.00E-02 | - | 5.00E-01 | 3.00E-04 | - | 1.10E-02 | HMW-13(2/2/2009) | 3.80E-03 | n | 8.21E-01 | **YES** | ASL | no | BSL |
| 1-Methylethyl benzene | | 98-82-8 | 11 | - | 61 | 18 | 1.00E-04 | - | 2.50E-02 | 3.10E-03 | - | 8.60E-02 | HMW-13(12/17/2009) | 4.50E-02 | n | 8.87E-02 | **YES** | ASL | no | BSL |
| 4-Methyl-2-pentanone | | 108-10-1 | 1 | - | 95 | 1 | 1.00E-02 | - | 5.00E-01 | 2.40E-03 | - | 2.40E-03 | HMW-13(12/17/2009) | 6.30E-01 | n | 5.55E+01 | no | BSL | no | BSL |
| Methyl tert-butyl ether | | 1634-04-4 | 1 | - | 95 | 1 | 5.00E-04 | - | 2.50E-02 | 7.40E-04 | - | 7.40E-04 | HMW-10(2/3/2009) | 1.40E-02 | c* | 4.50E-01 | no | BSL | no | BSL |
| Methylcyclohexane | [e] | 108-87-2 | 8 | - | 61 | 13 | 5.00E-03 | - | 2.50E-01 | 1.10E-03 | - | 1.60E-01 | HMW-13(12/17/2009) | 1.30E+00 | n | 1.02E-01 | no | BSL | **YES** | ASL |
| 1,1,2,2-Tetrachloroethane | | 79-34-5 | 3 | - | 95 | 3 | 5.00E-04 | - | 2.50E-02 | 1.60E-04 | - | 8.40E-04 | HMW-13(12/17/2009) | 7.60E-05 | c | 3.23E-03 | **YES** | ASL | no | BSL |
| Toluene | | 108-88-3 | 17 | - | 95 | 18 | 5.00E-04 | - | 2.00E-02 | 1.80E-04 | - | 2.40E-01 | HA01-MW-14(12/16/2009) | 1.10E-01 | n | 1.92E+00 | **YES** | ASL | no | BSL |
| 1,1,1-Trichloroethane | | 71-55-6 | 2 | - | 95 | 2 | 5.00E-04 | - | 2.50E-02 | 2.00E-04 | - | 2.00E-04 | HMW-10(12/17/2014),HMW-11(12/16/2014) | 8.00E-01 | n | 7.42E-01 | no | BSL | no | BSL |
| 1,1,2-Trichloroethane | | 79-00-5 | 1 | - | 95 | 1 | 5.00E-04 | - | 2.50E-02 | 8.50E-03 | - | 8.50E-03 | HMW-13(1/25/2011) | 4.10E-05 | n | 6.19E-04 | **YES** | ASL | **YES** | ASL |
| Trichloroethene | | 79-01-6 | 5 | - | 95 | 5 | 5.00E-04 | - | 2.50E-02 | 3.00E-04 | - | 1.50E-03 | HMW-14R(12/16/2009) | 2.80E-04 | n | 5.18E-04 | **YES** | ASL | **YES** | ASL |
| Vinyl chloride | | 75-01-4 | 26 | - | 95 | 27 | 5.00E-04 | - | 2.00E-02 | 1.30E-04 | - | 1.00E+00 | COE-MW-03(2/3/2009),COE-MW-03(12/16/2009) | 1.90E-05 | c | 1.47E-04 | **YES** | ASL | **YES** | ASL |
| Xylenes (total) | | 1330-20-7 | 18 | - | 95 | 19 | 5.00E-04 | - | 2.50E-02 | 1.90E-04 | - | 6.10E-02 | HMW-13(12/17/2009) | 1.90E-02 | n | 3.85E-02 | **YES** | ASL | **YES** | ASL |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | |
| 4-Chlorobenzenamine | | 106-47-8 | 1 | - | 35 | 3 | 1.00E-03 | - | 1.00E-02 | 2.50E-02 | - | 2.50E-02 | HMW-23(12/17/2009) | 3.70E-04 | c* | NA | **YES** | ASL | no | NV |
| 4-Methylphenol | | 106-44-5 | 1 | - | 35 | 3 | 2.00E-03 | - | 2.00E-02 | 9.90E-03 | - | 9.90E-03 | HMW-13(12/17/2009) | 1.90E-01 | n | NA | no | BSL | no | NV |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | | | | | | |
| Benzo(ghi)perylene | [f] | 191-24-2 | 1 | - | 35 | 3 | 1.00E-03 | - | 1.00E-02 | 7.80E-04 | - | 7.80E-04 | HMW-13(12/17/2009) | 1.20E-02 | n | NA | no | BSL | **YES** | NSL |
| Benzo(b)fluoranthene | | 205-99-2 | 1 | - | 35 | 3 | 1.00E-03 | - | 1.00E-02 | 2.50E-04 | - | 2.50E-04 | HMW-13(12/17/2009) | 2.50E-04 | c | NA | no | BSL | no | NV |
| Benzo(k)fluoranthene | | 207-08-9 | 1 | - | 35 | 3 | 1.00E-03 | - | 1.00E-02 | 1.20E-04 | - | 1.20E-04 | HMW-13(12/17/2009) | 2.50E-03 | c | NA | no | BSL | no | NV |
| Indeno(1,2,3-cd)pyrene | | 193-39-5 | 1 | - | 35 | 3 | 1.00E-03 | - | 1.00E-02 | 4.30E-04 | - | 4.30E-04 | HMW-13(12/17/2009) | 2.50E-04 | c | NA | **YES** | ASL | no | NV |
| 2-Methylnaphthalene | | 91-57-6 | 10 | - | 35 | 29 | 1.00E-03 | - | 1.00E-02 | 2.10E-04 | - | 2.20E-02 | HMW-13(12/17/2009),HMW-13 (Rep)(12/16/2014) | 3.60E-03 | n | NA | **YES** | ASL | **YES** | NSL |
| Naphthalene | [g] | 91-20-3 | 12 | - | 35 | 34 | 1.00E-03 | - | 1.00E-02 | 3.20E-03 | - | 1.20E-01 | HMW-13 (Rep)(12/16/2014) | 6.11E-04 | n | 1.74E-02 | **YES** | ASL | **YES** | ASL |

**Table 8-3**
**Selection of Constituents of Potential Concern for Groundwater**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent [a] | | CASN | Frequency of Detection: Number of Detections | | Number of Samples | FOD | Detection Limits: Minimum (mg/L) | | Maximum (mg/L) | Detected Concentrations: Minimum (mg/L) | | Maximum (mg/L) | Location of Maximum Concentration (Sample Collection Date) | Screening Levels: Tapwater [b] (mg/L) | | Vapor Intrusion [c] (mg/L) | Is Constituent a COPC? [d]: Tapwater (YES, no) | Tapwater Rationale | Vapor Intrusion (YES, no) | Vapor Intrusion Rationale |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pesticides** | | | | | | | | | | | | | | | | | | | | |
| Aldrin | | 309-00-2 | 13 | - | 46 | 28 | 2.50E-05 | - | 2.50E-04 | 1.80E-06 | - | 4.60E-03 | COE-MW-01(12/16/2009) | 9.20E-07 | c* | 3.19E-04 | **YES** | ASL | **YES** | ASL |
| delta BHC | [h] | 319-86-8 | 5 | - | 46 | 11 | 2.60E-06 | - | 2.90E-05 | 6.10E-06 | - | 5.70E-05 | HMW-24(2/3/2009) | 2.50E-05 | c | NA | **YES** | ASL | no | NV |
| alpha-Chlordane | [i] | 5103-71-9 | 3 | - | 46 | 7 | 2.50E-05 | - | 2.90E-05 | 1.80E-06 | - | 7.70E-05 | HMW-24(2/3/2009) | 2.00E-05 | c** | 1.41E-02 | **YES** | ASL | no | BSL |
| gamma-Chlordane | [i] | 5566-34-7 | 9 | - | 46 | 20 | 2.50E-05 | - | 2.90E-05 | 1.80E-06 | - | 3.90E-03 | HMW-14R(2/3/2009) | 2.00E-05 | c** | 1.41E-02 | **YES** | ASL | no | BSL |
| 4,4'-DDD | | 72-54-8 | 2 | - | 46 | 4 | 2.50E-05 | - | 2.90E-05 | 6.40E-06 | - | 5.60E-05 | HMW-24(2/3/2009) | 6.30E-06 | n | NA | **YES** | ASL | no | NV |
| 4,4'-DDE | | 72-55-9 | 3 | - | 46 | 7 | 2.50E-05 | - | 2.90E-05 | 1.00E-05 | - | 4.40E-05 | HMW-24(2/3/2009) | 4.60E-05 | c* | 1.70E-02 | no | BSL | no | BSL |
| 4,4'-DDT | | 50-29-3 | 2 | - | 46 | 4 | 2.50E-05 | - | 2.80E-05 | 7.00E-06 | - | 2.70E-05 | HMW-09(2/3/2009) | 2.30E-04 | c** | NA | no | BSL | no | NV |
| Dieldrin | | 60-57-1 | 3 | - | 46 | 7 | 2.50E-05 | - | 2.90E-05 | 1.50E-06 | - | 2.80E-05 | HMW-24(2/3/2009) | 1.80E-06 | c* | NA | **YES** | ASL | no | NV |
| Endosulfan I | [j] | 959-98-8 | 3 | - | 46 | 7 | 2.50E-05 | - | 2.90E-05 | 2.30E-06 | - | 5.70E-05 | HMW-24(2/3/2009) | 1.00E-02 | n | NA | no | BSL | **YES** | NSL |
| Endosulfan II | [j] | 33213-65-9 | 1 | - | 46 | 2 | 2.50E-05 | - | 2.90E-05 | 4.90E-06 | - | 4.90E-06 | HA01-MW-14 (Rep)(12/16/2014) | 1.00E-02 | n | NA | no | BSL | **YES** | NSL |
| Endosulfan Sulfate | [j] | 1031-07-8 | 3 | - | 46 | 7 | 2.50E-05 | - | 2.90E-05 | 1.70E-06 | - | 1.00E-05 | COE-MW-02(12/23/2014) | 1.00E-02 | n | NA | no | BSL | **YES** | NSL |
| Endrin | | 72-20-8 | 3 | - | 46 | 7 | 2.50E-05 | - | 2.90E-05 | 3.50E-06 | - | 1.70E-05 | HA01-MW-09(12/23/2014) | 2.30E-04 | n | NA | no | BSL | no | NV |
| Endrin Aldehyde | [k] | 7421-93-4 | 5 | - | 46 | 11 | 5.40E-06 | - | 2.90E-05 | 4.50E-06 | - | 3.10E-05 | HA01-MW-14(12/16/2009) | 2.30E-04 | n | NA | no | BSL | no | NV |
| Heptachlor epoxide | | 1024-57-3 | 8 | - | 46 | 17 | 2.50E-05 | - | 2.80E-05 | 2.30E-06 | - | 2.50E-03 | HMW-09(2/3/2009) | 1.40E-06 | c** | 1.26E-03 | **YES** | ASL | **YES** | ASL |
| alpha-Hexachlorocyclohexane | | 319-84-6 | 4 | - | 46 | 9 | 1.00E-06 | - | 2.90E-05 | 3.10E-06 | - | 5.20E-05 | HMW-24(2/3/2009) | 7.20E-06 | c | NA | **YES** | ASL | no | NV |
| beta-Hexachlorocyclohexane | | 319-85-7 | 14 | - | 46 | 30 | 2.50E-05 | - | 2.80E-05 | 4.60E-06 | - | 8.20E-04 | COE-MW-04(2/4/2009) | 2.50E-05 | c | NA | **YES** | ASL | no | NV |
| Lindane | | 58-89-9 | 8 | - | 46 | 17 | 6.30E-06 | - | 2.80E-05 | 3.90E-06 | - | 1.70E-04 | HMW-09(2/3/2009) | 4.20E-05 | c** | NA | **YES** | ASL | no | NV |
| Methoxychlor | | 72-43-5 | 2 | - | 46 | 4 | 1.00E-04 | - | 1.20E-04 | 8.40E-06 | - | 2.10E-05 | HA01-MW-09(12/23/2014) | 3.70E-03 | n | NA | no | BSL | no | NV |
| 2,4,5-Trichlorophenoxyacetic Acid | | 93-76-5 | 3 | - | 20 | 15 | 5.00E-04 | - | 5.60E-04 | 2.50E-04 | - | 2.60E-03 | HMW-09(2/3/2009) | 1.60E-02 | n | NA | no | BSL | no | NV |
| **Inorganics** | | | | | | | | | | | | | | | | | | | | |
| Arsenic | | 7440-38-2 | 6 | - | 61 | 10 | 1.00E-02 | - | 1.00E-02 | 4.70E-03 | - | 6.70E-03 | HMW-13(2/2/2009) | 5.20E-05 | c* | NA | **YES** | ASL | no | NV |
| Barium | | 7440-39-3 | 52 | - | 52 | 100 | – | - | – | 9.40E-03 | - | 1.40E-01 | COE-MW-08(2/4/2009) | 3.80E-01 | n | NA | no | BSL | no | NV |
| Cadmium | | 7440-43-9 | 1 | - | 52 | 2 | 2.00E-03 | - | 2.00E-03 | 9.50E-04 | - | 9.50E-04 | COE-MW-02(12/16/2009) | 9.20E-04 | n | NA | **YES** | ASL | no | NV |
| Chromium | [l] | 7440-47-3 | 10 | - | 52 | 19 | 2.20E-03 | - | 7.30E-03 | 2.60E-03 | - | 2.50E-01 | HA01-MW-14 (Rep)(12/16/2014) | 3.50E-05 | c | NA | **YES** | ASL | no | NV |
| Iron | | 7439-89-6 | 9 | - | 9 | 100 | – | - | – | 1.80E+00 | - | 3.60E+01 | HMW-13(1/25/2011) | 1.40E+00 | n | NA | **YES** | ASL | no | NV |
| Lead | | 7439-92-1 | 11 | - | 52 | 21 | 1.90E-03 | - | 1.10E-02 | 2.80E-03 | - | 2.30E-02 | HA01-MW-14 (Rep)(12/16/2014) | 1.50E-02 | L | NA | **YES** | ASL | no | NV |
| Manganese | | 7439-96-5 | 9 | - | 9 | 100 | – | - | – | 5.50E-02 | - | 1.80E+00 | HMW-13(1/25/2011) | 4.30E-02 | n | NA | **YES** | ASL | no | NV |
| Mercury | | 7439-97-6 | 12 | - | 52 | 23 | 1.00E-04 | - | 1.00E-04 | 1.60E-05 | - | 1.00E-04 | HMW-02(2/2/2009),HMW-11(2/3/2009),HMW-21(12/19/2014) | 6.30E-05 | n | 8.89E-05 | **YES** | ASL | **YES** | ASL |
| Silver | | 7440-22-4 | 11 | - | 52 | 21 | 5.60E-04 | - | 5.00E-03 | 4.00E-04 | - | 3.00E-03 | COE-MW-02(12/16/2009) | 9.40E-03 | n | NA | no | BSL | no | NV |
| **Inorganics, Dissolved** | | | | | | | | | | | | | | | | | | | | |
| Barium | | 7440-39-3 | 6 | - | 6 | 100 | – | - | – | 1.60E-02 | - | 9.90E-02 | COE-MW-08(12/19/2014) | 3.80E-01 | n | NA | no | BSL | no | NV |
| Chromium | [l] | 7440-47-3 | 2 | - | 6 | 33 | 5.00E-03 | - | 5.00E-03 | 6.20E-03 | - | 6.60E-03 | HA01-MW-14 (Rep)(12/16/2014) | 3.50E-05 | c | NA | **YES** | ASL | no | NV |
| Iron | | 7439-89-6 | 9 | - | 9 | 100 | – | - | – | 3.50E-01 | - | 3.40E+01 | HMW-13(1/25/2011) | 1.40E+00 | n | NA | **YES** | ASL | no | NV |
| Lead | | 7439-92-1 | 5 | - | 6 | 83 | 1.00E-02 | - | 1.00E-02 | 4.10E-03 | - | 7.20E-03 | HA01-MW-14(12/16/2014) | 1.50E-02 | L | NA | no | BSL | no | NV |
| Manganese | | 7439-96-5 | 9 | - | 9 | 100 | – | - | – | 5.30E-02 | - | 1.80E+00 | HMW-13(1/25/2011) | 4.30E-02 | n | NA | **YES** | ASL | no | NV |
| Mercury | | 7439-97-6 | 1 | - | 6 | 17 | 1.00E-04 | - | 1.00E-04 | 2.40E-05 | - | 2.40E-05 | COE-MW-08(12/19/2014) | 6.30E-05 | n | 8.89E-05 | no | BSL | no | BSL |
| Silver | | 7440-22-4 | 1 | - | 6 | 17 | 5.00E-03 | - | 5.00E-03 | 4.00E-04 | - | 4.00E-04 | COE-MW-03(12/23/2014) | 9.40E-03 | n | NA | no | BSL | no | NV |

| | |
|---|---|
| – | Not applicable. |
| CASN | Chemical abstracts registry number. |
| COPC | Constituent of potential concern. |
| FOD | Frequency of detection. |
| mg/L | Milligram per liter. |
| NA | Not available or not applicable. |
| NV | Not volatile. |
| c | cancer-based screening values. |
| * | non-cancer screening values is less than 100x the cancer screening level. |
| ** | non-cancer screening values is less than 10x the cancer screening level. |
| L | Lead Regional Screening Level is based on acceptable blood lead levels. |
| n | non-cancer based screening values |

[a] Only detected constituents are presented.

[b] Tapwater screening levels are from the United States Environmental Protection Agency (USEPA) Regional Screening Level (RSL) Table (USEPA 2018b).
Screening levels are based on a target cancer risk of $1x10^{-6}$ and a target noncancer hazard of 0.1 (to account for additive effects).

[c] Screening levels for vapor intrusion are the USEPA Vapor Intrusion Screening Levels (VISL; USEPA 2018c).

[d] Constituents with a maximum concentration above the screening level (ASL) were considered COPCs. Constituents with a maximum concentration below the screening level (BSL) or below background (BBKG) were not considered COPCs. Constituents with no screening level (NSL) were conservatively identified as COPCs.

[e] The screening level for cyclohexane is used as a surrogate.

[f] The screening level for pyrene is used as a surrogate.

[g] The noncancer screening level for naphthalene was used based on GAEPD comments dated March 22, 2019.

[h] The screening level for technical-BHC is used as a surrogate.

[i] The screening level for chlordane is used as a surrogate.

[j] The screening level for endosulfan is used as a surrogate.

[k] The screening level for endrin is used as a surrogate.

[l] The screening level for chromium VI is presented.

Table 8-4
Selection of Constituents of Potential Concern for Sediment
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent [a] | | CASN | Frequency of Detection: Number of Detections | | Number of Samples | FOD | Detection Limits: Minimum (mg/kg) | | Maximum (mg/kg) | Detected Concentrations: Minimum (mg/kg) | | Maximum (mg/kg) | Location of Maximum Concentration (Collection Date) | USEPA Regional Screening Level [b] Residential Soil (mg/kg) | | Background Level [c] (mg/kg) | Is Constituent a COPC? [d] (YES, no) | Rationale |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | |
| Acetone | | 67-64-1 | 2 | - | 6 | 33 | 1.90E-02 | - | 2.70E-02 | 1.10E-02 | - | 4.20E-02 | HA01-SD06(12/18/2014) | 6.10E+03 | n | – | no | BSL |
| 1-Methylethyl benzene | | 98-82-8 | 1 | - | 6 | 17 | 4.70E-03 | - | 9.40E-03 | 8.70E-04 | - | 8.70E-04 | HA01-SD04(12/18/2014) | 1.90E+02 | n | – | no | BSL |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | | 117-81-7 | 1 | - | 6 | 17 | 4.00E-02 | - | 2.40E+00 | 1.10E+00 | - | 1.10E+00 | HA01-SD01(12/17/2014) | 3.90E+01 | c** | – | no | BSL |
| Caprolactam | | 105-60-2 | 1 | - | 6 | 17 | 4.00E-02 | - | 2.40E+00 | 4.20E-02 | - | 4.20E-02 | HA01-SD03(12/17/2014) | 3.10E+03 | n | – | no | BSL |
| Carbazole | | 86-74-8 | 3 | - | 6 | 50 | 4.00E-02 | - | 4.90E-02 | 3.00E-01 | - | 3.80E+00 | HA01-SD05(12/18/2014) | NA | | – | **YES** | NSL |
| Dibenzofuran | | 132-64-9 | 3 | - | 6 | 50 | 4.00E-02 | - | 4.90E-02 | 4.00E-02 | - | 2.00E+00 | HA01-SD05(12/18/2014) | 7.30E+00 | n | – | no | BSL |
| Phenol | | 108-95-2 | 2 | - | 6 | 33 | 4.90E-02 | - | 2.40E+00 | 1.10E-02 | - | 1.20E-02 | HA01-SD02(12/17/2014) | 1.90E+03 | n | – | no | BSL |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | | | | |
| Acenaphthene | | 83-32-9 | 2 | - | 6 | 33 | 4.00E-02 | - | 6.10E-01 | 6.30E-02 | - | 1.20E+00 | HA01-SD05(12/18/2014) | 3.60E+02 | n | – | no | BSL |
| Acenaphthylene | [e] | 208-96-8 | 2 | - | 6 | 33 | 4.00E-02 | - | 8.30E-02 | 7.00E-01 | - | 4.40E+00 | HA01-SD05(12/18/2014) | 1.80E+02 | n | – | no | BSL |
| Anthracene | | 120-12-7 | 3 | - | 6 | 50 | 4.00E-02 | - | 4.90E-02 | 2.60E-01 | - | 9.70E+00 | HA01-SD05(12/18/2014) | 1.80E+03 | n | – | no | BSL |
| Benz(a)anthracene | | 56-55-3 | 5 | - | 6 | 83 | 4.90E-02 | - | 4.90E-02 | 1.20E-02 | - | 3.90E+01 | HA01-SD05(12/18/2014) | 1.10E+00 | c | – | **YES** | ASL |
| Benzo(ghi)perylene | [e] | 191-24-2 | 4 | - | 6 | 67 | 4.00E-02 | - | 4.90E-02 | 1.40E-02 | - | 8.70E+00 | HA01-SD05(12/18/2014) | 1.80E+02 | n | – | no | BSL |
| Benzo(a)pyrene | | 50-32-8 | 4 | - | 6 | 67 | 4.00E-02 | - | 4.90E-02 | 1.10E-02 | - | 3.50E+01 | HA01-SD05(12/18/2014) | 1.10E-01 | c* | – | **YES** | ASL |
| Benzo(b)fluoranthene | | 205-99-2 | 5 | - | 6 | 83 | 4.90E-02 | - | 4.90E-02 | 1.40E-02 | - | 5.10E+01 | HA01-SD05(12/18/2014) | 1.10E+00 | c | – | **YES** | ASL |
| Benzo(k)fluoranthene | | 207-08-9 | 3 | - | 6 | 50 | 4.00E-02 | - | 4.90E-02 | 8.20E-01 | - | 2.30E+01 | HA01-SD05(12/18/2014) | 1.10E+01 | c | – | **YES** | ASL |
| Chrysene | | 218-01-9 | 3 | - | 6 | 50 | 4.00E-02 | - | 4.90E-02 | 1.30E+00 | - | 3.90E+01 | HA01-SD05(12/18/2014) | 1.10E+02 | c | – | no | BSL |
| Fluoranthene | | 206-44-0 | 5 | - | 6 | 83 | 4.90E-02 | - | 4.90E-02 | 1.50E-02 | - | 9.40E+01 | HA01-SD05(12/18/2014) | 2.40E+02 | n | – | no | BSL |
| Fluorene | | 86-73-7 | 3 | - | 6 | 50 | 4.00E-02 | - | 4.90E-02 | 8.60E-02 | - | 4.40E+00 | HA01-SD05(12/18/2014) | 2.40E+02 | n | – | no | BSL |
| Indeno(1,2,3-cd)pyrene | | 193-39-5 | 3 | - | 6 | 50 | 4.00E-02 | - | 4.90E-02 | 3.90E-01 | - | 9.60E+00 | HA01-SD05(12/18/2014) | 1.10E+00 | c | – | **YES** | ASL |
| Phenanthrene | [e] | 85-01-8 | 3 | - | 6 | 50 | 4.00E-02 | - | 4.90E-02 | 1.10E+00 | - | 3.60E+01 | HA01-SD05(12/18/2014) | 1.80E+02 | n | – | no | BSL |
| Pyrene | | 129-00-0 | 3 | - | 6 | 50 | 4.00E-02 | - | 4.90E-02 | 1.70E+00 | - | 6.30E+01 | HA01-SD05(12/18/2014) | 1.80E+02 | n | – | no | BSL |
| **Pesticides** | | | | | | | | | | | | | | | | | | |
| Aldrin | | 309-00-2 | 1 | - | 6 | 17 | 2.10E-02 | - | 6.30E-02 | 1.50E-03 | - | 1.50E-03 | HA01-SD04(12/18/2014) | 3.90E-02 | c** | – | no | BSL |
| delta BHC | [f] | 319-86-8 | 2 | - | 6 | 33 | 2.10E-02 | - | 4.90E-02 | 6.20E-04 | - | 2.40E-03 | HA01-SD06(12/18/2014) | 8.60E-02 | c | – | no | BSL |
| alpha-Chlordane | [g] | 5103-71-9 | 2 | - | 6 | 33 | 2.10E-02 | - | 6.30E-02 | 1.30E-03 | - | 5.50E-03 | HA01-SD05(12/18/2014) | 1.70E+00 | c** | – | no | BSL |
| gamma-Chlordane | [g] | 5566-34-7 | 2 | - | 6 | 33 | 2.10E-02 | - | 6.30E-02 | 1.40E-03 | - | 3.60E-03 | HA01-SD05(12/18/2014) | 1.70E+00 | c** | – | no | BSL |
| 4,4'-DDD | | 72-54-8 | 4 | - | 6 | 67 | 2.10E-02 | - | 2.10E-02 | 2.70E-03 | - | 3.80E-02 | HA01-SD05(12/18/2014) | 1.90E-01 | n | – | no | BSL |
| 4,4'-DDT | | 50-29-3 | 4 | - | 6 | 67 | 2.10E-02 | - | 2.10E-02 | 4.10E-03 | - | 1.30E-02 | HA01-SD05(12/18/2014) | 1.90E+00 | c** | – | no | BSL |
| Dieldrin | | 60-57-1 | 3 | - | 6 | 50 | 2.10E-02 | - | 6.30E-02 | 7.80E-04 | - | 5.10E-03 | HA01-SD05(12/18/2014) | 3.40E-02 | c** | – | no | BSL |
| Endosulfan I | [h] | 959-98-8 | 1 | - | 6 | 17 | 2.10E-02 | - | 6.30E-02 | 1.60E-03 | - | 1.60E-03 | HA01-SD04(12/18/2014) | 4.70E+01 | n | – | no | BSL |
| Endosulfan II | [h] | 33213-65-9 | 3 | - | 6 | 50 | 2.10E-02 | - | 6.30E-02 | 7.60E-04 | - | 3.90E-03 | HA01-SD05(12/18/2014) | 4.70E+01 | n | – | no | BSL |
| Endosulfan Sulfate | [h] | 1031-07-8 | 3 | - | 6 | 50 | 2.10E-02 | - | 6.30E-02 | 5.20E-03 | - | 2.90E-02 | HA01-SD04(12/18/2014) | 4.70E+01 | n | – | no | BSL |
| Endrin | | 72-20-8 | 4 | - | 6 | 67 | 2.10E-02 | - | 2.10E-02 | 2.00E-03 | - | 1.40E-02 | HA01-SD04(12/18/2014) | 1.90E+00 | n | – | no | BSL |
| Endrin Aldehyde | [i] | 7421-93-4 | 4 | - | 6 | 67 | 2.10E-02 | - | 2.10E-02 | 2.40E-03 | - | 2.10E-02 | HA01-SD04(12/18/2014) | 1.90E+00 | n | – | no | BSL |
| Endrin ketone | [i] | 53494-70-5 | 5 | - | 6 | 83 | 2.10E-02 | - | 2.10E-02 | 5.60E-04 | - | 8.00E-02 | HA01-SD05(12/18/2014) | 1.90E+00 | n | – | no | BSL |
| Lindane | | 58-89-9 | 1 | - | 6 | 17 | 2.10E-02 | - | 6.30E-02 | 2.40E-03 | - | 2.40E-03 | HA01-SD01(12/17/2014) | 5.70E-01 | c** | – | no | BSL |
| Methoxychlor | | 72-43-5 | 4 | - | 6 | 67 | 8.30E-02 | - | 8.30E-02 | 1.10E-02 | - | 1.10E-01 | HA01-SD05(12/18/2014) | 3.20E+01 | n | – | no | BSL |
| **Inorganics** | | | | | | | | | | | | | | | | | | |
| Arsenic | | 7440-38-2 | 6 | - | 6 | 100 | – | - | – | 2.30E-01 | - | 2.90E+00 | HA01-SD06(12/18/2014) | 6.80E-01 | c**R | – | **YES** | ASL |
| Barium | | 7440-39-3 | 6 | - | 6 | 100 | – | - | – | 3.50E+00 | - | 1.80E+01 | HA01-SD06(12/18/2014) | 1.50E+03 | n | – | no | BSL |
| Cadmium | | 7440-43-9 | 6 | - | 6 | 100 | – | - | – | 3.70E-02 | - | 3.30E-01 | HA01-SD05(12/18/2014) | 7.10E+00 | n | – | no | BSL |
| Chromium | [j] | 7440-47-3 | 6 | - | 6 | 100 | – | - | – | 1.20E+00 | - | 9.10E+00 | HA01-SD05(12/18/2014) | 1.20E+04 | n | – | no | BSL |
| Chromium, hexavalent | | 18540-29-9 | 3 | - | 6 | 50 | 1.50E+00 | - | 1.90E+00 | 6.00E-01 | - | 8.20E-01 | HA01-SD01(12/17/2014) | 3.00E-01 | c* | – | **YES** | ASL |
| Lead | | 7439-92-1 | 6 | - | 6 | 100 | – | - | – | 1.60E+00 | - | 1.80E+01 | HA01-SD05(12/18/2014) | 4.00E+02 | L | – | no | BSL |
| Mercury | [k] | 7439-97-6 | 1 | - | 6 | 17 | 9.60E-02 | - | 1.20E-01 | 1.90E-02 | - | 1.90E-02 | HA01-SD06(12/18/2014) | 1.10E+00 | n | – | no | BSL |
| Selenium | | 7782-49-2 | 2 | - | 6 | 33 | 5.70E-01 | - | 7.10E-01 | 2.60E-01 | - | 5.40E-01 | HA01-SD06(12/18/2014) | 3.90E+01 | n | – | no | BSL |

**Table 8-4**
**Selection of Constituents of Potential Concern for Sediment**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent [a] | CASN | Frequency of Detection | | | Detection Limits | | Detected Concentrations | | Location of Maximum Concentration (Collection Date) | USEPA Regional Screening Level [b] | Background Level [c] | Is Constituent a COPC? [d] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Number of Detections | Number of Samples | FOD | Minimum (mg/kg) | Maximum (mg/kg) | Minimum (mg/kg) | Maximum (mg/kg) | | Residential Soil (mg/kg) | (mg/kg) | (YES, no) | Rationale |

| | | | |
|---|---|---|---|
| – | Not applicable. | c | cancer-based screening values. |
| CASN | Chemical abstracts registry number. | * | non-cancer screening values is less than 100x the cancer screening level. |
| COPC | Constituent of potential concern. | ** | non-cancer screening values is less than 10x the cancer screening level. |
| FOD | Frequency of detection. | L | Lead Regional Screening Level is based on acceptable blood lead levels. |
| mg/kg | Milligram per kilogram. | n | non-cancer based screening values |
| NA | Not available or not applicable. | R | Relative bioavailability factor incorporated. |

[a] Only detected constituents are presented.
[b] Screening levels from United States Environmental Protection Agency (USEPA) Regional Screening Level (RSL) Table (USEPA 2018b).
Screening levels are based on a target cancer risk of $1x10^{-6}$ and a target noncancer hazard of 0.1 (to account for additive effects).
Screening levels for lead are based on a target blood lead level.
[d] Constituents with a maximum concentration above the screening level (ASL) were considered COPCs. Constituents with a maximum concentration below the screening level (BSL) were not considered COPCs.
[e] The screening level for pyrene is used as a surrogate.
[f] The screening level for alpha-BHC is used as a surrogate.
[g] The screening level for chlordane is used as a surrogate.
[h] The screening level for endosulfan is used as a surrogate.
[i] The screening level for endrin is used as a surrogate.
[j] The screening level for trivalent chromium is used.
[k] The screening level for elemental mercury is presented.

**Table 8-5**
**Selection of Constituents of Potential Concern for Surface Water**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent [a] | CASN | Frequency of Detection | | | Detection Limits | | Detected Concentrations | | Location of Maximum Concentration (Collection Date) | Screening Levels [b] | | Is Constituent a COPC? [c] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Number of Detections | Number of Samples | FOD | Minimum (mg/L) | Maximum (mg/L) | Minimum (mg/L) | Maximum (mg/L) | | (mg/L) | | (YES, no) | Rationale |
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 1 | 6 | 17 | 1.00E-03 | 1.00E-03 | 3.10E-04 | 3.10E-04 | HA01-SW01(12/17/2014) | 5.10E-02 | GA-avg | no | BSL |
| Ethylbenzene | 100-41-4 | 1 | 6 | 17 | 1.00E-03 | 1.00E-03 | 4.00E-04 | 4.00E-04 | HA01-SW01(12/17/2014) | 2.10E+00 | GA-avg | no | BSL |
| Xylenes (total) | 1330-20-7 | 2 | 6 | 33 | 1.00E-03 | 1.00E-03 | 3.60E-04 | 1.90E-03 | HA01-SW01(12/17/2014) | 1.90E-02 | RSL | no | BSL |
| **Pesticides** | | | | | | | | | | | | | |
| Endrin Aldehyde | 7421-93-4 | 1 | 6 | 17 | 2.50E-05 | 2.50E-04 | 1.90E-06 | 1.90E-06 | HA01-SW01(12/17/2014) | 3.00E-04 | GA-avg | no | BSL |
| beta-Hexachlorocyclohexane | 319-85-7 | 1 | 6 | 17 | 2.50E-05 | 2.50E-04 | 4.80E-06 | 4.80E-06 | HA01-SW01(12/17/2014) | 1.70E-05 | GA-avg | no | BSL |
| Lindane | 58-89-9 | 1 | 6 | 17 | 1.20E-06 | 2.50E-04 | 1.50E-06 | 1.50E-06 | HA01-SW04(12/18/2014) | 1.80E-03 | GA-avg | no | BSL |
| Methoxychlor | 72-43-5 | 3 | 6 | 50 | 1.00E-04 | 1.00E-03 | 2.00E-06 | 7.00E-05 | HA01-SW06(12/18/2014) | 3.00E-05 | GA-7Q10 | no | [d] |
| **Inorganics** | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 6 | 6 | 100 | – | – | 3.60E-04 | 9.50E-04 | HA01-SW05(12/18/2014) | 5.00E-02 | GA-avg | no | BSL |
| Barium | 7440-39-3 | 6 | 6 | 100 | – | – | 2.40E-02 | 2.90E-02 | HA01-SW01(12/17/2014) | 1.00E+03 | NAWQC | no | BSL |
| Chromium | 7440-47-3 | 3 | 6 | 50 | 5.00E-03 | 5.00E-03 | 4.90E-04 | 8.50E-04 | HA01-SW05(12/18/2014) | 4.20E-02 | GA-chr. | no | BSL |
| Lead | 7439-92-1 | 6 | 6 | 100 | – | – | 7.40E-04 | 3.00E-03 | HA01-SW01(12/17/2014) | 1.20E-03 | GA-chr. | no | [e] |
| Selenium | 7782-49-2 | 5 | 6 | 83 | 1.00E-03 | 1.00E-03 | 2.50E-04 | 1.50E-03 | HA01-SW02(12/17/2014) | 5.00E-03 | GA-chr. | no | BSL |
| Silver | 7440-22-4 | 1 | 6 | 17 | 1.00E-03 | 1.00E-03 | 7.00E-04 | 7.00E-04 | HA01-SW01(12/17/2014) | 6.50E-02 | GA | no | BSL |

CASN Chemical abstracts registry number.
COPC Constituent of potential concern.
FOD Frequency of detection.
mg/L Milligram per liter.
RSL Regional Screening Level

[a] Only detected constituents are presented.
[b] Surface water screening levels were identified from the following sources:
Georgia Instream standard assuming annual average or higher stream flow conditions (GA-avg.)
Georgia Instream standard assuming 7-day, 10-year minimum flow (GA-7Q10).
Georgia Instream standard for metals assuming a hardness of 50 that are protective of freshwater aquatic organisms under chronic (GA_chr.) and acute conditions (GA-acute).
Georgia Instream standard protective of chronic exposure of freshwater aquatic organisms assuming a hardness of 50 (GA_chr.).
United States Environmental Protection Agency (USEPA) Recommended National Water Quality Criteria (NAWQC) based on human health from exposure to water and organisms (USEPA 2015a).
USEPA Tapwater Regional Screening Level (RSL; USEPA 2018b).
[c] Constituents with a maximum concentration below the screening level (BSL) were not considered COPCs.
[d] Methoxychlor was not selected as a human health COPC because while the maximum concentration exceeded the GA-instream value, it did not exceed the USEPA tap-water Regional Screening Level (RSL) of (0.0037 mg/L) or the USEPA drinking water maximum contaminant level (MCL) of 0.04 mg/L.
[e] Lead as not selected as a human health COPC because while lead was detected at a maximum concentration that exceeded the GA instream standard for protection of chronic exposure of freshwater organisms, it did not exceed the acute standard (0.03 mg/L) and furthermore, it does not exceed the USEPA drinking water maximum contaminant level (MCL) of 0.015 mg/L.

Table 8-6
Exposure Point Concentrations
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent [a] | CASN | Constituent of Potential Concern (COPC)? | | | | | | | Exposure Point Concentration [b] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Surface Soil (0-2 ft) | Soil (0-10 ft) | | Groundwater | | Sediment | Surface Water | Surface Soil (0-2 ft) | Soil (0-10 ft) | | Groundwater | | | | Sediment | Surface Water | | | |
| | | | Direct Contact | Leaching | Drinking Water | Vapor Intrusion | | | | Direct Contact | Leaching | Drinking Water | | Vapor Intrusion | | | | | | |
| | | (yes/no) | (yes/no) | (yes/no) | (yes/no) | (yes/no) | (yes/no) | (yes/no) | (mg/kg) | (mg/kg) | | (mg/kg) | | (mg/L) | | (mg/L) | | (mg/kg) | | (mg/L) | |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | |
| Acetone | 67-64-1 | no | no | **YES** | no | no | no | no | – | – | | 1.98E+00 | UCL | – | | – | | – | | – |
| Benzene | 71-43-2 | no | **YES** | **YES** | **YES** | **YES** | no | no | – | 1.04E+00 | UCL | 1.04E+00 | UCL | 5.10E-03 | UCL | 5.10E-03 | UCL | – | | – |
| 2-Butanone | 78-93-3 | no | no | **YES** | no | no | no | no | – | – | | 1.51E+01 | max | – | | – | | – | | – |
| Carbon tetrachloride | 56-23-5 | no | no | **YES** | no | no | no | no | – | – | | 4.70E-03 | max | – | | – | | – | | – |
| Chloroform | 67-66-3 | no | no | no | **YES** | **YES** | no | no | – | – | | – | | 1.70E-03 | max | 1.70E-03 | max | – | | – |
| Chloromethane | 74-87-3 | no | **YES** | **YES** | no | no | no | no | – | 3.90E+01 | max | 3.90E+01 | max | – | | – | | – | | – |
| Cyclohexane | 110-82-7 | no | no | no | no | **YES** | no | no | – | – | | – | | – | | 1.21E-02 | UCL | – | | – |
| Dibromochloromethane | 124-48-1 | no | no | no | no | **YES** | no | no | – | – | | – | | – | | 6.80E-04 | max | – | | – |
| cis-1,2-Dichloroethene | 156-59-2 | no | no | **YES** | **YES** | **YES** | no | no | – | – | | 2.70E-01 | max | 9.27E-01 | UCL | 9.27E-01 | UCL | – | | – |
| trans-1,2-Dichloroethene | 156-60-5 | no | no | no | **YES** | **YES** | no | no | – | – | | – | | 6.66E-03 | UCL | 6.66E-03 | UCL | – | | – |
| 1,2-Dichloropropane | 78-87-5 | no | no | no | **YES** | no | no | no | – | – | | – | | 1.10E-03 | max | – | | – | | – |
| Ethylbenzene | 100-41-4 | no | **YES** | **YES** | **YES** | **YES** | no | no | – | 7.10E+00 | UCL | 7.10E+00 | UCL | 5.05E-03 | UCL | 5.05E-03 | UCL | – | | – |
| 2-Hexanone | 591-78-6 | no | no | **YES** | **YES** | no | no | no | – | – | | 1.50E-03 | max | 3.75E-03 | UCL | – | | – | | – |
| 1-Methylethyl benzene | 98-82-8 | no | no | no | **YES** | no | no | no | – | – | | – | | 9.10E-03 | UCL | – | | – | | – |
| 4-Bromofluorobenzene | 460-00-4 | no | no | **YES** | no | no | no | no | – | – | | 6.20E-02 | max | – | | – | | – | | – |
| Methylcyclohexane | 108-87-2 | no | no | no | no | **YES** | no | no | – | – | | – | | – | | 1.40E-02 | UCL | – | | – |
| Methylene chloride | 75-09-2 | no | no | **YES** | no | no | no | no | – | – | | 3.44E-03 | UCL | – | | – | | – | | – |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | no | no | no | **YES** | no | no | no | – | – | | – | | 8.40E-04 | max | – | | – | | – |
| Tetrachloroethene | 127-18-4 | no | no | **YES** | no | no | no | no | – | – | | 6.10E-03 | max | – | | – | | – | | – |
| Toluene | 108-88-3 | no | no | **YES** | **YES** | no | no | no | – | – | | 1.64E+00 | UCL | 1.61E-02 | UCL | – | | – | | – |
| 1,1,2-Trichloroethane | 79-00-5 | no | no | no | **YES** | **YES** | no | no | – | – | | – | | 8.50E-03 | max | 8.50E-03 | max | – | | – |
| Trichloroethene | 79-01-6 | no | no | no | **YES** | **YES** | no | no | – | – | | – | | 3.88E-04 | UCL | 3.88E-04 | UCL | – | | – |
| Vinyl chloride | 75-01-4 | no | no | no | **YES** | **YES** | no | no | – | – | | – | | 1.06E-01 | UCL | 1.06E-01 | UCL | – | | – |
| Xylenes (total) | 1330-20-7 | no | **YES** | **YES** | **YES** | **YES** | no | no | – | 2.07E+01 | UCL | 2.07E+01 | UCL | 5.92E-03 | UCL | 5.92E-03 | UCL | – | | – |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | no | no | **YES** | no | no | no | no | – | – | | 6.55E-01 | UCL | – | | – | | – | | – |
| 4-Bromophenyl phenyl ether | 101-55-3 | no | no | **YES** | no | no | no | no | – | – | | 2.10E-02 | max | – | | – | | – | | – |
| Butyl benzyl phthalate | 85-68-7 | no | no | **YES** | no | no | no | no | – | – | | 3.30E-01 | max | – | | – | | – | | – |
| Carbazole | 86-74-8 | no | no | no | no | no | **YES** | no | – | – | | – | | – | | – | | 3.80E+00 | max | – |
| 4-Chlorobenzenamine | 106-47-8 | no | no | no | **YES** | no | no | no | – | – | | – | | 2.50E-02 | max | – | | – | | – |
| Dibenzofuran | 132-64-9 | no | no | **YES** | no | no | no | no | – | – | | 4.04E-01 | UCL | – | | – | | – | | – |
| 2,4-Dinitrotoluene | 121-14-2 | no | no | **YES** | no | no | no | no | – | – | | 6.50E-01 | max | – | | – | | – | | – |
| N-Nitrosodiphenylamine | 86-30-6 | no | no | **YES** | no | no | no | no | – | – | | 9.60E-01 | max | – | | – | | – | | – |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | | | | | | |
| Acenaphthene | 83-32-9 | no | no | **YES** | no | no | no | no | – | – | | 1.75E-01 | UCL | – | | – | | – | | – |
| Acenaphthylene | 208-96-8 | no | no | **YES** | no | no | no | no | – | – | | 4.78E-01 | UCL | – | | – | | – | | – |
| Anthracene | 120-12-7 | no | no | **YES** | no | no | no | no | – | – | | 9.40E-01 | UCL | – | | – | | – | | – |
| Benz(a)anthracene | 56-55-3 | **YES** | **YES** | **YES** | no | no | **YES** | no | 6.47E+00 | UCL | 1.06E+00 | UCL | 1.06E+00 | UCL | – | | – | 3.90E+01 | max | – |
| Benzo(ghi)perylene | 191-24-2 | no | no | **YES** | no | **YES** | no | no | – | – | | 1.28E+00 | UCL | – | | 7.80E-04 | max | – | | – |
| Benzo(a)pyrene | 50-32-8 | **YES** | **YES** | **YES** | no | no | **YES** | no | 5.28E+00 | UCL | 2.27E+00 | UCL | 2.27E+00 | UCL | – | | – | 3.50E+01 | max | – |
| Benzo(b)fluoranthene | 205-99-2 | **YES** | **YES** | **YES** | no | no | **YES** | no | 4.50E+00 | UCL | 2.35E+00 | UCL | 2.35E+00 | UCL | – | | – | 5.10E+01 | max | – |
| Benzo(k)fluoranthene | 207-08-9 | **YES** | **YES** | **YES** | no | no | **YES** | no | 3.06E+00 | UCL | 1.66E+00 | UCL | 1.66E+00 | UCL | – | | – | 2.30E+01 | max | – |
| Chrysene | 218-01-9 | no | no | **YES** | no | no | no | no | – | – | | 1.08E+00 | UCL | – | | – | | – | | – |
| Dibenz(a,h)anthracene | 53-70-3 | **YES** | **YES** | **YES** | no | no | no | no | 5.37E-01 | UCL | 3.82E-01 | UCL | 3.82E-01 | UCL | – | | – | – | | – |
| Fluoranthene | 206-44-0 | no | no | **YES** | no | no | no | no | – | – | | 6.34E+00 | UCL | – | | – | | – | | – |
| Fluorene | 86-73-7 | no | no | **YES** | no | no | no | no | – | – | | 3.20E-01 | UCL | – | | – | | – | | – |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | **YES** | **YES** | **YES** | **YES** | no | **YES** | no | 2.63E+00 | UCL | 1.37E+00 | UCL | 1.37E+00 | UCL | 4.30E-04 | max | – | 9.60E+00 | max | – |
| 1-Methylnaphthalene | 90-12-0 | no | **YES** | **YES** | no | no | no | no | – | 1.59E+01 | UCL | 1.59E+01 | UCL | – | | – | | – | | – |
| 2-Methylnaphthalene | 91-57-6 | no | **YES** | **YES** | **YES** | **YES** | no | no | – | 1.68E+01 | UCL | 1.68E+01 | UCL | 5.48E-03 | UCL | 5.48E-03 | UCL | – | | – |
| Naphthalene | 91-20-3 | no | **YES** | **YES** | **YES** | **YES** | no | no | – | 5.51E+00 | UCL | 5.51E+00 | UCL | 2.87E-02 | UCL | 2.87E-02 | UCL | – | | – |
| Phenanthrene | 85-01-8 | no | no | **YES** | no | no | no | no | – | – | | 1.90E+00 | UCL | – | | – | | – | | – |
| Pyrene | 129-00-0 | no | no | **YES** | no | no | no | no | – | – | | 1.52E+00 | UCL | – | | – | | – | | – |

Table 8-6
Exposure Point Concentrations
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent [a] | CASN | Constituent of Potential Concern (COPC)? | | | | | | | Exposure Point Concentration [b] | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Surface Soil (0-2 ft) | Soil (0-10 ft) | | Groundwater | | Sediment | Surface Water | Surface Soil (0-2 ft) | | Soil (0-10 ft) | | | Groundwater | | | | Sediment | | Surface Water | | | |
| | | | Direct Contact | Leaching | Drinking Water | Vapor Intrusion | | | | | Direct Contact | | Leaching | | Drinking Water | | Vapor Intrusion | | | | | |
| | | (yes/no) | (yes/no) | (yes/no) | (yes/no) | (yes/no) | (yes/no) | (yes/no) | (mg/kg) | | (mg/kg) | | (mg/kg) | | (mg/L) | | (mg/L) | | (mg/kg) | | (mg/L) | | | |
| **Pesticides** | | | | | | | | | – | | – | | – | | – | | – | | – | | – | | | |
| Aldrin | 309-00-2 | no | no | no | **YES** | **YES** | no | no | – | | – | | – | | 6.10E-04 | UCL | 6.10E-04 | UCL | – | | – | | | |
| delta BHC | 319-86-8 | no | no | no | **YES** | no | no | no | – | | – | | – | | 1.24E-05 | UCL | – | | – | | – | | | |
| alpha-Chlordane | 5103-71-9 | no | no | no | **YES** | no | no | no | – | | – | | – | | 7.70E-05 | max | – | | – | | – | | | |
| gamma-Chlordane | 5566-34-7 | no | no | no | **YES** | no | no | no | – | | – | | – | | 6.25E-04 | UCL | – | | – | | – | | | |
| 4,4'-DDD | 72-54-8 | no | no | **YES** | **YES** | no | no | no | – | | – | | 7.07E-03 | UCL | 5.60E-05 | max | – | | – | | – | | | |
| 4,4'-DDE | 72-55-9 | no | no | **YES** | no | no | no | no | – | | – | | 9.11E-03 | UCL | – | | – | | – | | – | | | |
| Dieldrin | 60-57-1 | **YES** | **YES** | **YES** | **YES** | no | no | no | 4.30E-02 | max | 4.30E-02 | max | 4.30E-02 | max | 2.80E-05 | max | – | | – | | – | | | |
| Endosulfan I | 959-98-8 | no | no | no | no | **YES** | no | no | – | | – | | – | | – | | 5.70E-05 | max | – | | – | | | |
| Endosulfan II | 33213-65-9 | no | no | no | no | **YES** | no | no | – | | – | | – | | – | | 4.90E-06 | max | – | | – | | | |
| Endosulfan Sulfate | 1031-07-8 | no | no | no | no | **YES** | no | no | – | | – | | – | | – | | 1.00E-05 | max | – | | – | | | |
| Heptachlor epoxide | 1024-57-3 | no | no | no | **YES** | **YES** | no | no | – | | – | | – | | 3.20E-04 | UCL | 3.20E-04 | UCL | – | | – | | | |
| alpha-Hexachlorocyclohexane | 319-84-6 | no | no | no | **YES** | no | no | no | – | | – | | – | | 5.20E-05 | max | – | | – | | – | | | |
| beta-Hexachlorocyclohexane | 319-85-7 | no | no | no | **YES** | no | no | no | – | | – | | – | | 1.46E-04 | UCL | – | | – | | – | | | |
| Lindane | 58-89-9 | no | no | no | **YES** | no | no | no | – | | – | | – | | 2.24E-05 | UCL | – | | – | | – | | | |
| **Polychlorinated Biphenyls** | | | | | | | | | | | | | | | | | | | | | | | | |
| Aroclor 1254 | 11097-69-1 | no | no | **YES** | no | no | no | no | – | | – | | 8.10E-02 | max | – | | – | | – | | – | | | |
| **Inorganics** | | | | | | | | | – | | – | | – | | – | | – | | – | | – | | | |
| Arsenic | 7440-38-2 | no | no | no | **YES** | no | **YES** | no | – | | – | | – | | 6.06E-03 | UCL | – | | 2.90E+00 | max | – | | | |
| Cadmium | 7440-43-9 | no | no | no | **YES** | no | no | no | – | | – | | – | | 9.50E-04 | max | – | | – | | – | | | |
| Chromium | 7440-47-3 | **YES** | **YES** | **YES** | **YES** | no | no | no | 4.75E+00 | UCL | 6.32E+00 | UCL | 6.32E+00 | UCL | 2.98E-02 | UCL | – | | – | | – | | | |
| Chromium, hexavalent | 18540-29-9 | no | no | no | no | no | **YES** | no | – | | – | | – | | – | | – | | 8.20E-01 | max | – | | | |
| Iron | 7439-89-6 | no | no | no | **YES** | no | no | no | – | | – | | – | | 1.88E+01 | UCL | – | | – | | – | | | |
| Lead | 7439-92-1 | no | no | **YES** | **YES** | no | no | no | – | | – | | 1.40E+01 | UCL | 5.07E-03 | UCL | – | | – | | – | | | |
| Manganese | 7439-96-5 | no | no | no | **YES** | no | no | no | – | | – | | – | | 1.16E+00 | UCL | – | | – | | – | | | |
| Mercury | 7439-97-6 | no | no | no | **YES** | **YES** | no | no | – | | – | | – | | 5.32E-05 | UCL | 5.32E-05 | UCL | – | | – | | | |
| **Inorganics, Dissolved** | | | | | | | | | | | | | | | | | | | | | | | | |
| Chromium | 7440-47-3 | no | no | no | **YES** | no | no | no | – | | – | | – | | 6.60E-03 | max | – | | – | | – | | | |
| Iron | 7439-89-6 | no | no | no | **YES** | no | no | no | – | | – | | – | | 1.66E+01 | UCL | – | | – | | – | | | |
| Manganese | 7439-96-5 | no | no | no | **YES** | no | no | no | – | | – | | – | | 1.15E+00 | UCL | – | | – | | – | | | |

–  Not detected/ not analyzed/ not applicable.
CASN  Chemical abstracts registry number.
mg/kg  Milligram per kilogram.
mg/L  Milligram per liter.

[a]  Only detected constituents are presented.
[b]  The exposure point concentration (EPC) was the upper confidence level on the mean (UCL) or the maximum concentration where the UCL was incalculable.
The UCLs were calculated using ProUCL (5.1.00). The UCL used is the one recommended by ProUCL (5.1.00).
EPCs marked with "max" are based on the maximum detected concentration.

**Table 8-7**
**Receptor Exposure Parameters**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Parameter | Symbol | Units | Resident | | | | | | | | | | | | Site Worker | | Construction Worker | | Utility Trench Worker | | Adolescent Trespasser (6 to 16 years) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | For the Constituents with a Mutagenic Mode of Action | | | | | | Child 0 to 6 years | | Adult 6 to 26 years | | | | | | | | | | | |
| | | | Child / Youth | | | | Adult 16-26 Years | | | | | | | | | | | | | | | |
| | | | 0-2 Years | | 2-6 Years | | 6-16 Years | | | | | | | | | | | | | | | |
| | | | Value | [ref] | Value | [ref] | Value | [ref] | Value | [ref] | Value | [ref] | Value | [ref] | Value | [ref] | Value | [ref] | Value | [ref] | Value | [ref] | Value | [ref] |
| *General Factors* | | | | | | | | | | | | | | | | | | | | | | |
| Averaging Time (cancer) | ATc | days | 25,550 | [1,2,a] | 25,550 | [1,2,a] | 25,550 | [1,2,a] | 25,550 | [1,2,a] | 25,550 | [1,2,a] | 25,550 | [1,2,a] | 25,550 | [1,2,a] | 25,550 | [1,2,a] | 25,550 | [1,2,a] | 25,550 | [1,2,a] |
| Averaging Time (noncancer) | ATnc | days | 730 | [1,2,a] | 1,460 | [1,2,a] | 3,650 | [1,2,a] | 3,650 | [1,2,a] | 2,190 | [1,2,a] | 7,300 | [1,2,a] | 9,125 | [1,2,a] | 182 | [1,2,a] | 14 | [1,2,a] | 3,650 | [1,2,a] |
| Body Weight | BW | kg | 15 | [7] | 15 | [1,2] | 80 | [7] | 80 | [2] | 15 | [1,2] | 80 | [2] | 80 | [2] | 80 | [2] | 80 | [2] | 45 | [6] |
| Exposure Frequency | EF | days/year | 350 | [1,2] | 350 | [1,2] | 350 | [1,2] | 350 | [1,2] | 350 | [1,2] | 350 | [1,2] | 250 | [2,3] | 130 | PJ [e] | 130 | PJ [e] | 52 | PJ [h] |
| Exposure Duration | ED | years | 2 | [5] | 4 | [5] | 10 | [5] | 10 | [5] | 6 | [1,2] | 20 | [1,2] | 25 | [1,2] | – | | – | | 10 | PJ |
| Age-Dependent Adjustment Factor | ADAF | unitless | 10 | [5] | 3 | [5] | 3 | [5] | 1 | [5] | – | | – | | – | | – | | – | | 3 | [5] |
| *Subchronic Exposure* | | | | | | | | | | | | | | | | | | | | | | |
| Exposure Frequency - subchronic | EFsc | days/week | – | | – | | – | | – | | – | | – | | – | | 5 | PJ [e] | 5 | PJ [e] | – | |
| Exposure Duration - subchronic | EDsc | weeks | – | | – | | – | | – | | – | | – | | – | | 26 | PJ [e] | 2 | PJ [e] | – | |
| *Inhalation* | | | | | | | | | | | | | | | | | | | | | | |
| Exposure Time | ET | hour/day | 24 | [2] | 24 | [2] | 24 | [2] | 24 | [2] | 24 | [2] | 24 | [2] | 8 | [2] | 8 | [2] | 8 | [2] | 1 | PJ |
| Conversion Factor | CF | day/hour | 0.042 | | 0.042 | | 0.042 | | 0.042 | | 0.042 | | 0.042 | | 0.042 | | 0.042 | | 0.042 | | 0.042 | |
| *Groundwater - Ingestion (Oral)* | | | | | | | | | | | | | | | | | | | | | | |
| Groundwater Ingestion Rate | IRgw | L/day | 0.78 | [2] | 0.78 | [2] | 2.5 | [2] | 2.5 | [2] | 0.78 | [2] | 2.5 | [2] | 1.0 | PJ [b] | – | | – | | – | |
| *Groundwater - Dermal Contact* | | | | | | | | | | | | | | | | | | | | | | |
| Exposed Skin Surface Area | SSAgw | cm² | 6,365 | [2] | 6,365 | [2] | 19,652 | [2] | 19,652 | [2] | 6,365 | [2] | 19,652 | [2] | 980 | PJ [c] | – | | – | | – | |
| Exposure Time; groundwater contact | ETgw | hours/day | 0.54 | [2,4] | 0.54 | [2,4] | 0.71 | [2] | 0.71 | [2] | 0.54 | [2,4] | 0.71 | [2] | 0.25 | PJ [d] | – | | – | | – | |
| *Soil - Ingestion (Oral)* | | | | | | | | | | | | | | | | | | | | | | |
| Incidental Soil Ingestion Rate | IRs | mg/day | 200 | [2,3] | 200 | [2,3] | 100 | [2,3] | 100 | [2,3] | 200 | [2,3] | 100 | [2,3] | 100 | [2,3] | 330 | [3] | 330 | [3] | 50 | [6] |
| *Soil - Dermal Contact* | | | | | | | | | | | | | | | | | | | | | | |
| Exposed Skin Surface Area | SSAs | cm² | 2,373 | [2] | 2,373 | [2] | 6,032 | [2] | 6,032 | [2] | 2,373 | [2] | 6,032 | [2] | 3,527 | [2] | 3,527 | [2] | 3,527 | [2] | 3,054 | [6,i] |
| Soil-to-Skin Adherence Rate | SAR | mg/cm²/day | 0.2 | [2,4] | 0.2 | [2,4] | 0.07 | [2,4] | 0.07 | [2,4] | 0.2 | [2,4] | 0.07 | [2,4] | 0.12 | [2] | 0.3 | [3,g] | 0.3 | [3,g] | 0.07 | [4,j] |
| *Sediment - Ingestion (Oral)* | | | | | | | | | | | | | | | | | | | | | | |
| Incidental Sediment Ingestion Rate | IRsed | mg/day | – | | – | | – | | – | | – | | – | | – | | – | | – | | 50 | PJ [k] |
| *Sediment - Dermal Contact* | | | | | | | | | | | | | | | | | | | | | | |
| Exposed Skin Surface Area | SSAsed | cm² | – | | – | | – | | – | | – | | – | | – | | – | | – | | 3,054 | [6,i] |
| Exposure Frequency | EFsed | days/year | – | | – | | – | | – | | – | | – | | – | | – | | – | | 24 | PJ [l] |
| Sediment-to-Skin Adherence Rate | SedAR | mg/cm²/day | – | | – | | – | | – | | – | | – | | – | | – | | – | | 0.2 | [4,m] |
| *Surface Water - Ingestion (Oral) and Dermal Contact* | | | | | | | | | | | | | | | | | | | | | | |
| Surface Water Ingestion Rate | IRsw | L/hour | – | | – | | – | | – | | – | | – | | – | – | – | | – | | 0.0021 | PJ [n] |
| Exposed Skin Surface Area | SSAsw | cm² | – | | – | | – | | – | | – | | – | | – | – | – | | – | | 3,054 | [6,i] |
| Exposure Frequency | EFsw | days/year | – | | – | | – | | – | | – | | – | | – | – | – | | – | | 24 | PJ [l] |
| Exposure Time | ETsw | hours/day | – | | – | | – | | – | | – | | – | | – | – | – | | – | | 1 | PJ |

**Table 8-7**
**Receptor Exposure Parameters**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

References [ref]:


[1] USEPA 1989
[2] USEPA 2014
[3] USEPA 2002
[4] USEPA 2004a
[5] USEPA 2005b
[6] USEPA 2011
[7] USEPA 2018b


[a] The averaging time for cancer risk is the expected lifespan of 70 years expressed in days.
The averaging time for non-cancer hazard is the total exposure duration (ED) expressed in days.
[b] The site worker is assumed to drink 1 liter of water a day during work hours.
[c] The site worker skin surface area for exposure to groundwater used as potable water was set at the mean area of adult hands.
[d] The site worker was assumed to be exposed to groundwater used as potable water for 15 minutes a day while washing hands.
[e] The construction worker is assumed to work 5 days a week for 26 weeks (utility trench work is assumed to take place over a two week time period).
[f] The incidental groundwater ingestion rate for the construction and utility worker is assumed to be 1/10$^{th}$ the ingestion rate during swimming (USEPA 2011).
[g] The soil-to-skin adherence factor for the construction and utility worker is based on the 95$^{th}$ weighted percentile adherence factor for construction workers (USEPA 2004a).
[h] The adolescent trespasser exposure frequency to soil is assumed to occur once a week.
[i] The skin surface area for the adolescent trespasser assumes that a receptor is wearing a short-sleeved shirt, shorts, and shoes. Therefore the SSA is the time-weighted average of the surface area for the hands, forearms, and lower legs for trespassers between 6 to 16 years old, using the following parameters from USEPA 2011:

| Adolescent Trespasser (6 to 16 years) | Elapsed Time (Years) | Mean per body part (m2) | | | | | Sum |
|---|---|---|---|---|---|---|---|
| | | Arms | *(Forearms)* | Hands | Legs | *(Lower Legs)* | |
| | | Default (USEPA 2011) | *Eq = Arms (m2) * 0.45* | Default (USEPA 2011) | Default (USEPA 2011) | *Eq = Legs (m2) * 0.4* | |
| 6 to <11 years | 5 | 0.151 | *0.068* | 0.051 | 0.311 | *0.1244* | 0.24335 |
| 11 to <16 years | 5 | 0.227 | *0.102* | 0.072 | 0.483 | *0.1932* | 0.36735 |

Equation:
(Sum [6 to <11 years] × Elapsed time [6 to <11 years] + Sum [11 to <16 years] × Elapsed time [11 to <16 years]) / 10

total-trespasser m$^2$ 0.3054
total-trespasser cm$^2$ 3054

[j] The soil-to-skin adherence factor for the adolescent trespasser is based on the geometric mean adherence factor for gardeners (USEPA 2004a).
[k] Incidental ingestion of sediment is assumed to be equal to the rate of incidental ingestion of soil.
[l] The adolescent trespasser exposure frequency to sediment/surface water while wading is assumed to occur twice a week during the six warmer months of the year.
[m] The sediment-to-skin adherence rate for the adolescent trespasser is based on the adherence factor for wet sand (USEPA 2004a).
[n] The surface water ingestion rate for an adolescent trespasser is assumed to equal the mean water ingestion rate while swimming (USEPA 2011).

| | | | | | |
|---|---|---|---|---|---|
| cm$^2$ | Centimeter squared. | L | Liter. | PJ | Professional judgment. |
| kg | Kilogram. | mg | Milligram. | – | Not applicable. |

**Table 8-8**
**Risk and Hazard Equations for Resident and Site Worker Exposure to Soil/Sediment**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

**ROUTE-SPECIFIC RISK/HAZARD:**

Oral: $ELCR_o$ *or* $HQ_o = \frac{EPCs \times IRs \times EF \times ED \times RBF \times ADAF}{(10^6\ mg/kg) \times BW \times (AT_C\ or\ AT_{NC}) \times ([1/CSF_o]\ or\ RfD_o)}$

Dermal: $ELCR_d$ *or* $HQ_d = \frac{EPCs \times SSAs \times SAR \times ABSd \times EF \times ED \times ADAF}{(10^6\ mg/kg) \times BW \times (AT_C\ or\ AT_{NC}) \times ([1/CSF_a]\ or\ RfD_a)}$

Inhalation: $ELCR_i$ *or* $HQ_i = \frac{EPCs \times ET \times CF \times EF \times ED \times ADAF}{(VF\text{-}sl\ or\ PEF_{wind}) \times (AT_C\ or\ AT_{NC}) \times ([1/IUR \times 10^{-3}\ mg/\mu g]\ or\ RfC)}$

$VF\text{-}sl = \frac{Q/C_{vol} \times [3.14 \times D_A \times T]^{1/2}}{2 \times \rho_b \times D_A \times (10{,}000\ cm^2/m^2)}$ — used for volatiles

$PEF_{wind} = \frac{Q/C_{wind} \times (3{,}600\ sec/hr)}{RPF \times (1\text{-}V) \times (U_m/U_t)^3 \times F(x)}$ — used for non-volatiles

$D_A = \frac{[(\theta_{as}^{10/3} \times D_{air} \times Ho) + (\theta_{ws}^{10/3} \times D_{wat})] / \theta_T^2}{(\rho_b \times Koc \times Foc) + \theta_{ws} + (\theta_{as} \times Ho)}$

$EPC_s$ = MINIMUM [ EPCs, $C_{sat}$ ] OR = EPCs when $C_{sat}$ is not relevant

$C_{sat} = \frac{S}{\rho_b} \times [(Koc \times Foc \times \rho_b) + \theta_{ws} + (Ho \times \theta_{as})]$

$C_{sat}$ is relevant only for organic constituents with melting point below 30ºC.

**TOTAL CANCER RISK:** $ELCR = ELCR_o + ELCR_d + ELCR_i$

**TOTAL NON-CANCER HAZARD:** $HI = HQ_o + HQ_d + HQ_i$

**Variable Definitions:**

| | |
|---|---|
| $\theta_{as}$ | Air-filled porosity of the soil (unitless) (Table 8-14). |
| $\theta_T$ | Total soil porosity (unitless) (Table 8-14). |
| $\theta_{ws}$ | Water-filled porosity of the soil (unitless) (Table 8-14). |
| $\rho_b$ | Dry soil bulk density (g/cm³) (Table 8-14). |
| ABSd | Dermal absorption efficiency (unitless) (Table 8-17). |
| ADAF | Age-Dependent Adjustment Factor for evaluation of risk from constituents with a mutagenicity mode of action (Table 8-7). |
| $AT_C$ | Averaging time for cancer effects (days) (Table 8-7). |
| $AT_{NC}$ | Averaging time for noncancer effects (days) (Table 8-7). |
| BW | Body weight (kg) (Table 8-7). |
| CF | Conversion Factor 0.042 day/hour. |
| $C_{sat}$ | Constituent saturation limit in soil (mg/kg) (Table 8-14). |
| CSF | Cancer slope factor for oral (CSFo) or dermal (adjusted to an absorbed dose, CSFa) exposure (kg-day/mg [inverse mg/kg/day]) (Table 8-20). |
| $D_A$ | Apparent diffusivity in soil (cm²/sec) (Table 8-15). |
| $D_{air}$ | Constituent diffusivity in air (cm²/sec) (Table 8-13). |
| $D_{wat}$ | Constituent diffusivity in water (cm²/sec) (Table 8-13). |
| ED | Exposure duration (years) (Table 8-7). |
| EF | Exposure frequency (days/year) (Table 8-7). |

**Table 8-8**
**Risk and Hazard Equations for Resident and Site Worker Exposure to Soil/Sediment**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| | |
|---|---|
| ELCR | Excess lifetime cancer risk (unitless) from the following pathways: oral ($_o$), dermal ($_d$), and inhalation ($_i$). |
| EPCs | Exposure point concentration in soil (mg/kg). |
| ET | Exposure time (hrs/day) (Table 8-7). |
| Foc | Fraction organic carbon in the soil (unitless) (Table 8-14). |
| F(x) | Function of Ut/Um (unitless); Fx = 0.18 × ( $8x^3 + 12x$ ) × exp[-($x^2$)], where x = 0.886 × (Ut/Um) (Table 8-16). |
| HI | Hazard index for non-cancer effects (unitless); sum of the HQs. |
| Ho | Dimensionless Henry's law constant (unitless); calculated as Ho = H / RT (Table 8-13). |
| HQ | Hazard quotient for non-cancer effects (unitless) from the following pathways: oral ($_o$), dermal ($_d$), and inhalation ($_i$). |
| IRs | Ingestion rate of soil (mg/day) (Table 8-7). |
| IUR | Inhalation Unit Risk ($m^3$/mg) (Table 8-21). |
| Koc | Organic carbon partition coefficient ($cm^3$/g = mL/g = L/kg) (Table 8-13). |
| $PEF_{wind}$ | Particulate emission factor due to wind ($m^3$/kg) (Table 8-16). |
| $Q/C_{vol}$ | Volatile emission flux per unit concentration [(g/$m^2$/sec)/(kg/$m^3$)] (Table 8-14). |
| $Q/C_{wind}$ | Particulate emission flux per unit concentration [(g/$m^2$/sec)/(kg/$m^3$)] (Table 8-16). |
| RBF | Relative bioavailability factor; constituent specific; default of 100% (unitless).<br>RBF for arsenic in soil was set at 30% consistent with USEPA recommendations(USEPA 2018b). |
| RfC | Reference concentration (mg/$m^3$) (Table 8-19). |
| RfD | Reference dose for oral (RfDo) and dermal (adjusted to an absorbed dose, RfDa), exposure (mg/kg/day) (Table 8-18). |
| RPF | Respirable particle fraction (0.036 g/$m^2$/hr) (Table 8-16). |
| S | Constituent solubility limit in water (mg/L). |
| SAR | Soil-to-skin adherence rate (mg/$cm^2$/day) (Table 8-7). |
| SSAs | Exposed skin surface area for soil contact ($cm^2$) (Table 8-7). |
| T | Exposure interval (sec) (Table 8-14). |
| $U_m$ | Mean annual wind speed (m/sec) (Table 8-16). |
| $U_t$ | Equivalent threshold value of windspeed at 7 meters (11.32 m/sec) (Table 8-16). |
| V | Fraction of vegetative cover (unitless) (Table 8-16). |
| VF-sl | Soil volatilization factor ($m^3$/kg) (Table 8-14). |
| x | Intermediate value in the calculation of PEF; x = 0.886 × (Ut/Um) (Table 8-16). |

**Table 8-9**
**Risk and Hazard Equations for Construction Worker Exposure to Soil**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

**ROUTE-SPECIFIC RISK/HAZARD:**

Oral:

$$ELCR_o \text{ or } HQ_o = \frac{EPCs \times IRs \times EF \times ED \times RBF}{(10^6 \text{ mg/kg}) \times BW \times (AT_C \text{ or } AT_{NC}) \times ([1/CSF_o] \text{ or } RfD_o)}$$

Dermal:

$$ELCR_d \text{ or } HQ_d = \frac{EPCs \times SSAs \times SAR \times ABSd \times EF \times ED}{(10^6 \text{ mg/kg}) \times BW \times (AT_C \text{ or } AT_{NC}) \times ([1/CSF_a] \text{ or } RfD_a)}$$

Inhalation:

$$ELCR_i \text{ or } HQ_i = \frac{EPCs \times ET \times CF \times EF \times ED}{(VF_{sc} \text{ or } PEF_{sc}) \times (AT_C \text{ or } AT_{NC}) \times ([1/IUR \times 10^{-3} \text{ mg/µg}] \text{ or } RfC)}$$

$$VF\text{-}sl_{cons} = \frac{Q/C_{sa} \times (1/F_D) \times [3.14 \times D_A \times T]^{1/2}}{2 \times \rho_b \times D_A \times (10{,}000 \text{ cm}^2/\text{m}^2)}$$

used for volatiles

$$PEF_{cons} = \frac{Q/C_{sr} \times (1/F_D) \times T \times A_R}{556 \times (W/3)^{0.4} \times [(365 - p)/365] \times \Sigma VKT}$$

used for non-volatiles

$EPC_s$ = MINIMUM [ EPCs, $C_{sat}$ ] OR = EPCs when $C_{sat}$ is not relevant

$$C_{sat} = \frac{S}{\rho_b} \times [(Koc \times Foc \times \rho_b) + \theta_{ws} + (Ho \times \theta_{as})]$$

$C_{sat}$ is relevant only for organic constituents with melting point below 30ºC.

**TOTAL CANCER RISK:** $ELCR = ELCR_o + ELCR_d + ELCR_i$

**TOTAL NON-CANCER HAZARD:** $HI = HQ_o + HQ_d + HQ_i$

**Variable Definitions:**

| | |
|---|---|
| $\theta_{as}$ | Air-filled porosity of the soil (unitless) (Table 8-14). |
| $\theta_{ws}$ | Water-filled porosity of the soil (unitless) (Table 8-14). |
| $\rho_b$ | Dry soil bulk density (g/cm³) (Table 8-14). |
| ABSd | Dermal absorption efficiency (unitless) (Table 8-17). |
| $AT_C$ | Averaging time for cancer effects (days) (Table 8-7). |
| $AT_{NC}$ | Averaging time for noncancer effects (days) (Table 8-7). |
| $A_R$ | Surface area of contaminated road (m2) (Table 8-16). |
| BW | Body weight (kg) (Table 8-7). |
| CF | Conversion Factor 0.042 day/hour. |
| $C_{sat}$ | Constituent saturation limit in soil (mg/kg) (Table 8-14). |
| CSF | Cancer slope factor for oral (CSFo) or dermal (adjusted to an absorbed dose, CSFa) exposure (kg-day/mg [inverse mg/kg/day]) (Table 8-20). |
| $D_A$ | Apparent diffusivity in soil (cm²/sec) (Table 8-15). |
| ED | Exposure duration (years) (Table 8-7). |
| EF | Exposure frequency (days/year) (Table 8-7). |
| ELCR | Excess lifetime cancer risk (unitless) from the following pathways: oral ($_o$), dermal ($_d$), and inhalation ($_i$). |
| EPCs | Exposure point concentration in soil (mg/kg) (Table 8-6). |
| ET | Exposure time (hrs/day) (Table 8-7). |
| $F_D$ | Dispersion correction factor (unitless) (Table 8-14). |
| Foc | Fraction organic carbon in the soil (unitless) (Table 8-14). |
| HI | Hazard index for non-cancer effects (unitless); sum of the HQs. |
| Ho | Dimensionless Henry's law constant (unitless); calculated as Ho = H / RT (Table 8-13). |
| HQ | Hazard quotient for non-cancer effects (unitless) from the following pathways: oral ($_o$), dermal ($_d$), and inhalation ($_i$). |
| IRs | Ingestion rate of soil (mg/day) (Table 8-7). |
| IUR | Inhalation Unit Risk (m³/µg) (Table 8-21). |
| Koc | Organic carbon partition coefficient (cm³/g = mL/g = L/kg) (Table 8-13). |
| p | Number of days with 0.01 inches of precipitation (days/year) (Table 8-16). |
| $PEF_{cons}$ | Particulate emission factor during construction road activities (m³/kg) (Table 8-16). |
| $Q/C_{sr}$ | Particulate emission flux per unit concentration [(g/m²/sec)/(kg/m³)] (Table 8-14). |

**Table 8-9**
**Risk and Hazard Equations for Construction Worker Exposure to Soil**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| | |
|---|---|
| $Q/C_{sa}$ | Volatile emission flux per unit concentration [(g/m²/sec)/(kg/m³)] (Table 8-16). |
| RBF | Relative bioavailability factor; constituent specific; default of 100% (unitless). |
| | RBF for arsenic in soil was set at 30% consistent with USEPA recommendations (USEPA 2018b). |
| RfC | Reference concentration (mg/m³) (Table 8-19). |
| RfD | Reference dose for oral (RfDo) and dermal (adjusted to an absorbed dose, RfDa), exposure (mg/kg/day) (Table 8-18). |
| S | Constituent solubility limit in water (mg/L). |
| SAR | Soil-to-skin adherence rate (mg/cm²/day) (Table 8-7). |
| SSAs | Exposed skin surface area for soil contact (cm²) (Table 8-7). |
| T | Exposure interval (sec) (Table 8-14). |
| $VF\text{-}sl_{cons}$ | Soil volatilization factor (m³/kg) during construction activities (Table 8-14). |
| ΣVKT | Sum of fleet vehicle kilometers traveled during construction (Number of vehicles x LR x Number of Construction Days per year) (km) (Table 8-16). |
| W | Mean vehicle weight (tons) (Table 8-16). |

**Table 8-10**
**Risk and Hazard Equations for Exposure to Groundwater for a Utility Worker**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

**ROUTE-SPECIFIC RISK/HAZARD:**

Inhalation:

$$ELCR_i \text{ or } HQ_i = \frac{VF\text{-}gw_{trench} \times EPCgw \times ETgw \times CF \times EF \times ED}{(AT_C \text{ or } AT_{NC}) \times ([1/IUR \times 10^{-3} \text{ mg/µg}] \text{ or } RfC)}$$

*where:* *groundwater intersects trench bottom*

$$VF\text{-}gw_{trench} = \frac{K_i \times A \times F \times 10^{-3} \times 10^4 \times 3600}{ACH \times V} \qquad \text{(VDEQ 2018)}$$

$$K_i = \frac{1}{\{(1/k_{iL}) + [RT/(H \times k_{iG})]\}}$$

**Variable Definitions:**

| | |
|---|---|
| A | Area of trench (length x width) (m2) (Table 8-14). |
| ACH | Air changes per hour (h-1) (Table 8-14). |
| $AT_C$ | Averaging time for cancer effects (days) (Table 8-7). |
| $AT_{NC}$ | Averaging time for non-cancer effects (days) (Table 8-7). |
| CF | Conversion Factor 0.042 day/hour. |
| ED | Exposure duration (years) (Table 8-7). |
| EF | Exposure frequency (days/year) (Table 8-7). |
| ELCR | Excess lifetime cancer risk (unitless) from the following pathways: oral ($_o$), dermal ($_d$), and inhalation ($_i$). |
| EPCgw | Exposure point concentration in groundwater (mg/L) (Table 8-6). |
| ETgw | Exposure time for groundwater contact (hours/day) (Table 8-7). |
| F | Fraction of trench floor through which contaminant can enter (unitless) (Table 8-14). |
| H | Henry's law constant (atm-m³/mol) (Table 8-13). |
| HQ | Hazard quotient for non-cancer effects (unitless) from the following pathways: oral ($_o$), dermal ($_d$), and inhalation ($_i$). |
| IUR | Inhalation Unit Risk (m³/µg) (Table 8-21). |
| $k_{iG}$ | Gas-phase mass transfer coefficient (cm/sec) » (0.833 cm/sec) × [(18 g/mol)/MW]^0.335 × (T/298.15)^1.005 (Table 8-15). |
| $K_i$ | Overall mass transfer coefficient of contaminant (cm/sec) (Table 8-15). |
| $k_{iL}$ | Liquid-phase mass transfer coefficient (cm/sec) » (0.002 cm/sec) × (T/298.15) × [(32 g/mol)/MW]^1/2 (Table 8-15). |
| RfC | Reference concentration (mg/m³) (Table 8-19). |
| RT | Product of the universal gas constant (R = 8.206 × $10^{-5}$ atm-$m^3$/mol/K) and the relevant Kelvin temperature (T = 298.15 K); RT = 0.02447 atm-m3/mol (Table 8-15). |
| V | Volume of trench (m3) (Table 8-15). |
| $VF\text{-}gw_{trench}$ | Volatilization factor in a trench (L/m³) (VDEQ 2018) (Table 8-15). |

**Table 8-11**
**Risk and Hazard Equations for Resident and Site Worker Exposure to Groundwater Used as Potable Water**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

**ROUTE-SPECIFIC RISK/HAZARD:**

Oral:

$$ELCR_o \text{ or } HQ_o = \frac{EPCgw \times IRgw \times EF \times ED \times ADAF}{BW \times (AT_C \text{ or } AT_{NC}) \times ([1/CSF_o] \text{ or } RfD_o)}$$

Dermal:

$$ELCR_d \text{ or } HQ_d = \frac{EPCgw \times DA \times SSAgw \times EF \times ED \times ADAF}{BW \times (AT_C \text{ or } AT_{NC}) \times ([1/CSF_a] \text{ or } RfD_a)}$$

*Inorganics:*

$$DA\,[0] = \frac{K_p \times ETgw}{1000\ cm^3/L}$$

*Organics:*

$$DA\,[1] = \frac{2\,FA \times K_p}{1000\ cm^3/L} \times \sqrt{(6\,\tau \times ETgw)/\pi} \quad \text{if } ETgw \le t^*$$

*or*

$$DA\,[2] = \frac{FA \times K_p}{1000\ cm^3/L} \times \left( \frac{ETgw}{1+B} + \frac{2\,\tau\,(1+3B+3B^2)}{(1+B)^2} \right) \quad \text{if } ETgw > t^*$$

Inhalation:

$$ELCR_i \text{ or } HQ_i = \frac{VFres \times EPCgw \times ETgw \times CF \times EF \times ED \times ADAF}{(AT_C \text{ or } AT_{NC}) \times ([1/IUR \times (10^{-3}\ mg/\mu g)] \text{ or } RfC)}$$

**TOTAL CANCER RISK:** $ELCR = ELCR_o + ELCR_d + ELCR_i$

**TOTAL NON-CANCER HAZARD:** $HI = HQ_o + HQ_d + HQ_i$

**Variable Definitions:**

| | |
|---|---|
| $\tau$ | Lag time for dermal absorption through the skin (hour) (Table 8-17). |
| ADAF | Age-Dependent Adjustment Factor for evaluation of risk from constituents with a mutagenicity mode of action (Table 8-7). |
| $AT_C$ | Averaging time for cancer effects (days) (Table 8-7). |
| $AT_{NC}$ | Averaging time for non-cancer effects (days) (Table 8-7). |
| B | Dimensionless ratio of the permeability coefficient of a compound through the stratum corneum relative to its permeability coefficient across the viable epidermis (unitless) (Table 8-17). |
| BW | Body weight (kg) (Table 8-7). |
| CF | Conversion Factor 0.042 day/hour. |
| CSF | Cancer slope factor for oral (CSFo) or dermal (adjusted to an absorbed dose, CSFa) exposure (kg-day/mg [inverse mg/kg/day]) (Table 8-20). |
| DA | Dermal absorption factor (L/cm²/day), calculated using Equation [0], [1], or [2], as appropriate (Table 8-17). |
| ED | Exposure duration (years) (Table 8-7). |
| EF | Exposure frequency (days/year) (Table 8-7). |
| ELCR | Excess lifetime cancer risk (unitless) from the following pathways: oral ($_o$), dermal ($_d$), and inhalation ($_i$). |
| EPCgw | Exposure point concentration in groundwater (mg/L) (Table 8-6). |
| ETgw | Exposure time for groundwater contact (hours/day) (Table 8-7). |
| FA | Fraction of absorbed water (unitless) (Table 8-17). |
| HI | Hazard index for non-cancer effects (unitless); sum of the HQs. |
| HQ | Hazard quotient for non-cancer effects (unitless) from the following pathways: oral ($_o$), dermal ($_d$), and inhalation ($_i$). |
| IRgw | Ingestion rate of groundwater (L/day) (Table 8-7). |
| IUR | Inhalation Unit Risk (m³/µg) (Table 8-21). |
| Kp | Permeability coefficient (cm/hour) (Table 8-17). |
| RfC | Reference concentration (mg/m³) (Table 8-19). |
| RfD | Reference dose for oral (RfDo) and dermal (adjusted to an absorbed dose, RfDa), exposure (mg/kg/day) (Table 8-18). |
| SSAgw | Exposed skin surface area for groundwater contact (cm²) (Table 8-7). |
| t* | Time required to reach steady state (hour) (Table 8-17). |
| VFres | Residential volatilization factor for household tap water (0.5 L/m³); applicable only for volatile organic compounds (USEPA 1991). |

**Table 8-12**
**Risk and Hazard Equations for Exposure to Sediment**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

**ROUTE-SPECIFIC RISK/HAZARD:**

Oral: $ELCR_o$ *or* $HQ_o = \frac{EPCsed \times IRsed \times EF \times ED \times ADAF}{(10^6\ mg/kg) \times BW \times (AT_C\ or\ AT_{NC}) \times ([1/CSF_o]\ or\ RfD_o)}$

Dermal: $ELCR_d$ *or* $HQ_d = \frac{EPCsed \times SSAsed \times SedAR \times ABSd \times EF \times ED \times ADAF}{(10^6\ mg/kg) \times BW \times (AT_C\ or\ AT_{NC}) \times ([1/CSF_a]\ or\ RfD_a)}$

**TOTAL CANCER RISK:** $ELCR = ELCR_o + ELCR_d$

**TOTAL NON-CANCER HAZARD:** $HI = HQ_o + HQ_d$

**Variable Definitions:**

| | |
|---|---|
| ABSd | Dermal absorption efficiency (unitless) (Table 8-17). |
| ADAF | Age-Dependent Adjustment Factor for evaluation of risk from constituents with a mutagenicity mode of action (Table 8-7). |
| $AT_C$ | Averaging time for cancer effects (days) (Table 8-7). |
| $AT_{NC}$ | Averaging time for non-cancer effects (days) (Table 8-7). |
| BW | Body weight (kg) (Table 8-7). |
| CSF | Cancer slope factor for oral (CSFo) or dermal (adjusted to an absorbed dose, CSFa) exposure (kg-day/mg [inverse mg/kg/day]) (Table 8-20). |
| ED | Exposure duration (years) (Table 8-7). |
| EF | Exposure frequency (days/year) (Table 8-7). |
| ELCR | Excess lifetime cancer risk (unitless) from the following pathways: oral ($_o$) and dermal ($_d$). |
| EPCsed | Exposure point concentration in sediment (mg/L) (Table 8-6). |
| HI | Hazard index for non-cancer effects (unitless); sum of the HQs. |
| HQ | Hazard quotient for non-cancer effects (unitless) from the following pathways: oral ($_o$) and dermal ($_d$). |
| IRsed | Ingestion rate of sediment (mg/day) (Table 8-7). |
| RBF | Relative bioavailability factor; constituent specific; default of 100% (unitless).<br>RBF for arsenic in soil was set at 60% consistent with USEPA recommendations(USEPA 2018b). |
| RfD | Reference dose for oral (RfDo) and dermal (adjusted to an absorbed dose, RfDa), exposure (mg/kg/day) (Table 8-18). |
| SedAR | Sediment-to-skin adherence rate (mg/cm²/day) (Table 8-7). |
| SSAsed | Exposed skin surface area for sediment contact (cm²) (Table 8-7). |

Table 8-13
Physical and Chemical Properties
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | Molecular Weight [a] (MW) (g/mol) | Melting Point [b] (Tm) (°C) | Henry's Law Constant at 25 °C (unitless) | Henry's Law Constant at 25 °C [a] (atm-m³/mol) | Diffusivity in Air [a] (cm²/sec) | Diffusivity in Water [a] (cm²/sec) | Kd [a] (L/kg) | Koc [a] (L/kg) | Log Kow [a] (L/kg) | Water Solubility (S) [a] (mg/L 25 °C) | For Volatile Constituents [c] | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Vapor Pressure (mm Hg 25 °C) | Enthalpy of Vaporization at Boiling Point (DHv,b) (cal/mol) | Normal Boiling point (Tb) (°K) | Critical Temperature (Tc) (°K) |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 7.81E+01 | 5.50E+00 | 2.27E-01 | 5.55E-03 | 8.95E-02 | 1.03E-05 | NA | 1.46E+02 | 2.13E+00 | 1.79E+03 | 9.48E+01 | 7.34E+03 | 3.53E+02 | 5.62E+02 |
| Chloroform | 67-66-3 | 1.19E+02 | -6.36E+01 | 1.50E-01 | 3.67E-03 | 7.69E-02 | 1.09E-05 | NA | 3.18E+01 | 1.97E+00 | 7.95E+03 | 1.97E+02 | 6.99E+03 | 3.34E+02 | 5.36E+02 |
| Chloromethane | 74-87-3 | 5.05E+01 | -9.77E+01 | 3.60E-01 | 8.82E-03 | 1.24E-01 | 1.36E-05 | NA | 1.32E+01 | 9.10E-01 | 5.32E+03 | 4.30E+03 | 5.11E+03 | 2.49E+02 | 4.16E+02 |
| Dibromochloromethane | 124-48-1 | 2.08E+02 | -2.00E+01 | 3.20E-02 | 7.83E-04 | 3.66E-02 | 1.06E-05 | NA | 3.18E+01 | 2.16E+00 | 2.70E+03 | 5.54E+00 | 5.90E+03 | 3.93E+02 | 6.78E+02 |
| cis-1,2-Dichloroethene | 156-59-2 | 9.69E+01 | -8.00E+01 | 1.67E-01 | 4.08E-03 | 8.84E-02 | 1.13E-05 | NA | 3.96E+01 | 1.86E+00 | 6.41E+03 | 2.00E+02 | 7.22E+03 | 3.33E+02 | 5.36E+02 |
| trans-1,2-Dichloroethene | 156-60-5 | 9.69E+01 | -4.98E+01 | 3.83E-01 | 9.38E-03 | 8.76E-02 | 1.12E-05 | NA | 3.96E+01 | 2.09E+00 | 4.52E+03 | 3.31E+02 | 6.91E+03 | 3.22E+02 | 5.16E+02 |
| 1,2-Dichloropropane | 78-87-5 | 1.13E+02 | -1.00E+02 | 1.15E-01 | 2.82E-03 | 7.33E-02 | 9.73E-06 | NA | 6.07E+01 | 1.98E+00 | 2.80E+03 | 5.33E+01 | 7.59E+03 | 3.69E+02 | 5.72E+02 |
| Ethylbenzene | 100-41-4 | 1.06E+02 | -9.49E+01 | 3.22E-01 | 7.88E-03 | 6.85E-02 | 8.46E-06 | NA | 4.46E+02 | 3.15E+00 | 1.69E+02 | 9.60E+00 | 8.50E+03 | 4.09E+02 | 6.17E+02 |
| 2-Hexanone | 591-78-6 | 1.00E+02 | -5.55E+01 | 3.81E-03 | 9.32E-05 | 7.04E-02 | 8.44E-06 | NA | 1.50E+01 | 1.38E+00 | 1.72E+04 | 1.16E+01 | 8.69E+03 | 4.01E+02 | 5.87E+02 |
| 1-Methylethyl benzene | 98-82-8 | 1.20E+02 | -9.60E+01 | 4.70E-01 | 1.15E-02 | 6.03E-02 | 7.86E-06 | NA | 6.98E+02 | 3.66E+00 | 6.13E+01 | 4.50E+00 | 1.03E+04 | 4.26E+02 | 6.31E+02 |
| Methylcyclohexane | 108-87-2 | 9.80E+01 | - | 4.20E+00 | 1.03E-01 | 7.35E-02 | 8.52E-06 | NA | 7.85E+01 | 3.61E+00 | 1.40E+01 | 4.60E+01 | 7.47E+03 | 3.74E+02 | 5.72E+02 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1.68E+02 | -4.38E+01 | 1.50E-02 | 3.67E-04 | 4.89E-02 | 9.29E-06 | NA | 9.49E+01 | 2.39E+00 | 2.83E+03 | 4.62E+00 | 9.00E+03 | 4.20E+02 | 6.45E+02 |
| Toluene | 108-88-3 | 9.21E+01 | -9.49E+01 | 2.71E-01 | 6.64E-03 | 7.78E-02 | 9.20E-06 | NA | 2.34E+02 | 2.73E+00 | 5.26E+02 | 2.84E+01 | 7.93E+03 | 3.84E+02 | 5.92E+02 |
| 1,1,2-Trichloroethane | 79-00-5 | 1.33E+02 | -3.66E+01 | 3.37E-02 | 8.24E-04 | 6.69E-02 | 1.00E-05 | NA | 6.07E+01 | 1.89E+00 | 4.59E+03 | 2.30E+01 | 8.32E+03 | 3.87E+02 | 6.02E+02 |
| Trichloroethene | 79-01-6 | 1.31E+02 | -8.47E+01 | 4.03E-01 | 9.85E-03 | 6.87E-02 | 1.02E-05 | NA | 6.07E+01 | 2.42E+00 | 1.28E+03 | 6.90E+01 | 7.51E+03 | 3.60E+02 | 5.71E+02 |
| Vinyl chloride | 75-01-4 | 6.25E+01 | -1.54E+02 | 1.14E+00 | 2.78E-02 | 1.07E-01 | 1.20E-05 | NA | 2.17E+01 | 1.38E+00 | 8.80E+03 | 2.98E+03 | 4.97E+03 | 2.60E+02 | 4.25E+02 |
| Xylenes (total) | 1330-20-7 | 1.06E+02 | -2.52E+01 | 2.71E-01 | 6.63E-03 | 6.85E-02 | 8.46E-06 | NA | 3.83E+02 | 3.16E+00 | 1.06E+02 | 7.99E+00 | 8.52E+03 | 4.12E+02 | 6.20E+02 |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| Carbazole | 86-74-8 | 1.67E+02 | - | 6.25E-07 | 1.53E-08 | 3.90E-02 | 7.03E-06 | NA | 3.38E+03 | 3.72E+00 | 7.48E+00 | NV | NV | NV | NV |
| 4-Chlorobenzenamine | 106-47-8 | 1.28E+02 | 7.25E+01 | 4.74E-05 | 1.16E-06 | 7.04E-02 | 1.03E-05 | NA | 1.13E+02 | 1.83E+00 | 3.90E+03 | NV | NV | NV | NV |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 2.28E+02 | 8.40E+01 | 4.90E-04 | 1.20E-05 | 2.61E-02 | 6.75E-06 | NA | 1.77E+05 | 5.76E+00 | 9.40E-03 | 2.10E-07 | 1.60E+04 | 7.11E+02 | 9.79E+02 |
| Benzo(a)pyrene | 50-32-8 | 2.52E+02 | 1.77E+02 | 1.87E-05 | 4.57E-07 | 4.76E-02 | 5.56E-06 | NA | 5.87E+05 | 6.13E+00 | 1.62E-03 | NV | NV | NV | NV |
| Benzo(b)fluoranthene | 205-99-2 | 2.52E+02 | 1.68E+02 | 2.68E-05 | 6.57E-07 | 4.76E-02 | 5.56E-06 | NA | 5.99E+05 | 5.78E+00 | 1.50E-03 | NV | NV | NV | NV |
| Benzo(k)fluoranthene | 207-08-9 | 2.52E+02 | 2.17E+02 | 2.39E-05 | 5.84E-07 | 4.76E-02 | 5.56E-06 | NA | 5.87E+05 | 6.11E+00 | 8.00E-04 | NV | NV | NV | NV |
| Dibenz(a,h)anthracene | 53-70-3 | 2.78E+02 | 2.70E+02 | 5.76E-06 | 1.41E-07 | 4.46E-02 | 5.21E-06 | NA | 1.91E+06 | 6.75E+00 | 2.49E-03 | NV | NV | NV | NV |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 2.76E+02 | 1.64E+02 | 1.42E-05 | 3.48E-07 | 4.48E-02 | 5.23E-06 | NA | 1.95E+06 | 6.70E+00 | 1.90E-04 | NV | NV | NV | NV |
| 1-Methylnaphthalene | 90-12-0 | 1.42E+02 | -3.04E+01 | 2.10E-02 | 5.14E-04 | 5.28E-02 | 7.85E-06 | NA | 2.53E+03 | 3.87E+00 | 2.58E+01 | 6.70E-02 | 1.37E+04 | 5.18E+02 | 7.71E+02 |
| 2-Methylnaphthalene | 91-57-6 | 1.42E+02 | 3.44E+01 | 2.12E-02 | 5.18E-04 | 5.24E-02 | 7.78E-06 | NA | 2.48E+03 | 3.86E+00 | 2.46E+01 | 5.50E-02 | 1.26E+04 | 5.14E+02 | 7.61E+02 |
| Naphthalene | 91-20-3 | 1.28E+02 | 8.02E+01 | 1.80E-02 | 4.40E-04 | 6.05E-02 | 8.38E-06 | NA | 1.54E+03 | 3.30E+00 | 3.10E+01 | 8.50E-02 | 1.04E+04 | 4.91E+02 | 7.48E+02 |

Table 8-13
Physical and Chemical Properties
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | Molecular Weight [a] (MW) (g/mol) | Melting Point [b] (Tm) (°C) | Henry's Law Constant at 25 °C (unitless) | Henry's Law Constant at 25 °C [a] (atm-m³/mol) | Diffusivity in Air [a] (cm²/sec) | Diffusivity in Water [a] (cm²/sec) | Kd [a] (L/kg) | Koc [a] (L/kg) | Log Kow [a] (L/kg) | Water Solubility (S) [a] (mg/L 25 °C) | For Volatile Constituents [c] | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Vapor Pressure (mm Hg 25 °C) | Enthalpy of Vaporization at Boiling Point (DHv,b) (cal/mol) | Normal Boiling point (Tb) (°K) | Critical Temperature (Tc) (°K) |
| **Pesticides** | | | | | | | | | | | | | | | |
| Aldrin | 309-00-2 | 3.65E+02 | 1.04E+02 | 1.80E-03 | 4.40E-05 | 2.28E-02 | 5.84E-06 | NA | 8.20E+04 | 6.50E+00 | 1.70E-02 | 1.20E-04 | 1.50E+04 | 6.03E+02 | 6.27E+02 |
| delta BHC | 319-86-8 | 2.91E+02 | - | 1.75E-05 | 4.29E-07 | 5.58E-02 | 5.20E-06 | NA | 1.17E+04 | 4.14E+00 | 3.14E+01 | NV | NV | NV | NV |
| alpha-Chlordane | 5103-71-9 | 4.10E+02 | - | 1.99E-03 | 4.86E-05 | 4.50E-02 | 4.27E-06 | NA | 6.90E+04 | 6.22E+00 | 4.39E-02 | NV | NV | NV | NV |
| gamma-Chlordane | 5566-34-7 | 4.10E+02 | 1.06E+02 | 1.99E-03 | 4.86E-05 | 4.50E-02 | 4.27E-06 | NA | 8.66E+04 | 6.22E+00 | 5.60E-02 | NV | NV | NV | NV |
| 4,4'-DDD | 72-54-8 | 3.20E+02 | 1.10E+02 | 2.70E-04 | 6.60E-06 | 4.06E-02 | 4.74E-06 | NA | 1.18E+05 | 6.02E+00 | 9.00E-02 | NV | NV | NV | NV |
| Dieldrin | 60-57-1 | 3.81E+02 | 1.76E+02 | 4.09E-04 | 1.00E-05 | 2.33E-02 | 6.01E-06 | NA | 2.01E+04 | 5.40E+00 | 1.95E-01 | NV | NV | NV | NV |
| Heptachlor epoxide | 1024-57-3 | 3.89E+02 | 1.60E+02 | 8.58E-04 | 2.10E-05 | 2.40E-02 | 6.25E-06 | NA | 1.01E+04 | 4.98E+00 | 2.00E-01 | 1.95E-05 | 1.60E+04 | 6.14E+02 | 9.21E+02 |
| alpha-Hexachlorocyclohexane | 319-84-6 | 2.91E+02 | 1.60E+02 | 2.74E-04 | 6.70E-06 | 4.33E-02 | 5.06E-06 | NA | 2.81E+03 | 3.80E+00 | 2.00E+00 | NV | NV | NV | NV |
| beta-Hexachlorocyclohexane | 319-85-7 | 2.91E+02 | 3.15E+02 | 1.80E-05 | 4.40E-07 | 2.77E-02 | 7.40E-06 | NA | 2.81E+03 | 3.78E+00 | 2.40E-01 | NV | NV | NV | NV |
| Lindane | 58-89-9 | 2.91E+02 | 1.13E+02 | 2.10E-04 | 5.14E-06 | 4.33E-02 | 5.06E-06 | NA | 2.81E+03 | 3.72E+00 | 7.30E+00 | NV | NV | NV | NV |
| **Inorganics** | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 7.49E+01 | 2.70E+02 | NA | NA | NA | NA | 2.90E+01 | NA | NA | NA | NV | NV | NV | NV |
| Cadmium | 7440-43-9 | 1.12E+02 | 3.21E+02 | NA | NA | NA | NA | 7.50E+01 | NA | NA | NA | NV | NV | NV | NV |
| Chromium | 7440-47-3 | 5.20E+01 | 1.90E+03 | NA | NA | NA | NA | 1.80E+06 | NA | NA | NA | NV | NV | NV | NV |
| Chromium, hexavalent | 18540-29-9 | 5.20E+01 | 5.20E+01 | NA | NA | NA | NA | 1.90E+01 | NA | NA | 1.69E+06 | NV | NV | NV | NV |
| Iron | 7439-89-6 | 5.58E+01 | 1.54E+03 | NA | NA | NA | NA | 2.50E+01 | NA | NA | NA | NV | NV | NV | NV |
| Lead | 7439-92-1 | 2.07E+02 | 3.28E+02 | NA | NA | NA | NA | 9.00E+02 | NA | NA | NA | NV | NV | NV | NV |
| Manganese | 7439-96-5 | 5.49E+01 | 1.24E+03 | NA | NA | NA | NA | 6.50E+01 | NA | NA | NA | NV | NV | NV | NV |
| Mercury | 7439-97-6 | 2.01E+02 | -3.88E+01 | 3.52E-01 | 8.62E-03 | 3.07E-02 | 6.30E-06 | 5.20E+01 | NA | 6.20E-01 | 6.00E-02 | 1.96E-03 | 1.41E+04 | 6.30E+02 | 1.76E+03 |

References [ref]:
[a] Parameter was obtained from United States Environmental Protection Agency (USEPA) Regional Screening Level (RSL) Table (USEPA 2018b).
[b] Melting point was from the Risk Assessment Information System (RAIS) Database (ORNL 2016).
[c] Vapor pressure, enthalpy of vaporization, boiling point, and critical temperature were obtained from the USEPA vapor intrusion screening levels (VISL) Tables (USEPA 2018c).

| | |
|---|---|
| - | not available |
| atm-m³/mol | Atmosphere per cubic meter per mole. |
| °C | Degrees Celsius. |
| cal/mol | Calorie per mole. |
| CASN | Chemical abstracts registry number. |
| cm²/sec | Centimer squared per second. |
| g/mol | Gram per mole. |
| K | Kelvin. |
| Kd | Soil-water distribution coefficient (inorganics). |
| Koc | Organic carbon partition coefficient (organics). |
| Kow | Octanol-water partition coefficient. |
| L/kg | Liter per kilogram. |
| mg/L | Milligram per liter. |
| mL/g | Milliliter per gram. |
| mm Hg | Millimeter of mercury. |
| NA | Not available. |

Table 8-14
Soil Volatilization Factors
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | Constituent Specific Physical Parameters [a] | | | | | | | | | | Enthalpy of vaporization at at soil temp. [b] (cal/mol) ($\Delta H_v$) | Henry's Law Constant at soil temp. [b] (unitless) (Ho) | Saturation Limit in Soil [b] (mg/kg) (Csat) | Apparent Diffusivity ($cm^2$/sec) ($D_A$) | Soil Volatilization Factor [c] ($m^3$/kg - VF-sl) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Molecular Weight (MW) (g/mol) | Melting Point (Tm) (°C) | Henry's Law Constant at ref. temp. (H) (atm-$m^3$/mol) | Diffusivity in Air ($D_{air}$) ($cm^2$/sec) | Diffusivity in Water ($D_{wat}$) ($cm^2$/sec) | Partition Coefficient (Koc) (mL/g) | Solubility in Water (S) (mg/L) | Enthalpy of vaporization at boiling point, ($\Delta H_v$) (cal/mol) | Normal Boiling Point (Tb) (°K) | Critical Temperature (Tc) (°K) | | | | | Passive (VF-sl) | Soil Invasive ($VF\text{-}sl_{cons}$) |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 7.81E+01 | 5.50E+00 | 5.55E-03 | 8.95E-02 | 1.03E-05 | 1.46E+02 | 1.79E+03 | 7.34E+03 | 3.53E+02 | 5.62E+02 | 8.02E+03 | 1.79E-01 | 1.80E+03 | 5.63E-04 | 4.47E+03 | 6.97E+02 |
| Chloroform | 67-66-3 | 1.19E+02 | -6.36E+01 | 3.67E-03 | 7.69E-02 | 1.09E-05 | 3.18E+01 | 7.95E+03 | 6.99E+03 | 3.34E+02 | 5.36E+02 | 7.46E+03 | 1.21E-01 | 2.40E+03 | 1.08E-03 | 3.23E+03 | 5.03E+02 |
| Chloromethane | 74-87-3 | 5.05E+01 | -9.77E+01 | 8.82E-03 | 1.24E-01 | 1.36E-05 | 1.32E+01 | 5.32E+03 | 5.11E+03 | 2.49E+02 | 4.16E+02 | 4.63E+03 | 3.17E-01 | 1.14E+03 | 6.35E-03 | 1.33E+03 | 2.08E+02 |
| Dibromochloromethane | 124-48-1 | 2.08E+02 | -2.00E+01 | 7.83E-04 | 3.66E-02 | 1.06E-05 | 3.18E+01 | 2.70E+03 | 5.90E+03 | 3.93E+02 | 6.78E+02 | 6.49E+03 | 2.65E-02 | 7.70E+02 | 1.19E-04 | 9.72E+03 | 1.52E+03 |
| cis-1,2-Dichloroethene | 156-59-2 | 9.69E+01 | -8.00E+01 | 4.08E-03 | 8.84E-02 | 1.13E-05 | 3.96E+01 | 6.41E+03 | 7.22E+03 | 3.33E+02 | 5.36E+02 | 7.69E+03 | 1.33E-01 | 2.20E+03 | 1.18E-03 | 3.09E+03 | 4.82E+02 |
| trans-1,2-Dichloroethene | 156-60-5 | 9.69E+01 | -4.98E+01 | 9.38E-03 | 8.76E-02 | 1.12E-05 | 3.96E+01 | 4.52E+03 | 6.91E+03 | 3.22E+02 | 5.16E+02 | 7.25E+03 | 3.10E-01 | 1.70E+03 | 2.54E-03 | 2.11E+03 | 3.28E+02 |
| 1,2-Dichloropropane | 78-87-5 | 1.13E+02 | -1.00E+02 | 2.82E-03 | 7.33E-02 | 9.73E-06 | 6.07E+01 | 2.80E+03 | 7.59E+03 | 3.69E+02 | 5.72E+02 | 8.51E+03 | 8.97E-02 | 1.30E+03 | 4.90E-04 | 4.80E+03 | 7.48E+02 |
| Ethylbenzene | 100-41-4 | 1.06E+02 | -9.49E+01 | 7.88E-03 | 6.85E-02 | 8.46E-06 | 4.46E+02 | 1.69E+02 | 8.50E+03 | 4.09E+02 | 6.17E+02 | 1.00E+04 | 2.39E-01 | 4.70E+02 | 2.03E-04 | 7.45E+03 | 1.16E+03 |
| 2-Hexanone | 591-78-6 | 1.00E+02 | -5.55E+01 | 9.32E-05 | 7.04E-02 | 8.44E-06 | 1.50E+01 | 1.72E+04 | 8.69E+03 | 4.01E+02 | 5.87E+02 | 1.04E+04 | 2.79E-03 | 3.10E+03 | 3.83E-05 | 1.72E+04 | 2.67E+03 |
| 1-Methylethyl benzene | 98-82-8 | 1.20E+02 | -9.60E+01 | 1.15E-02 | 6.03E-02 | 7.86E-06 | 6.98E+02 | 6.13E+01 | 1.03E+04 | 4.26E+02 | 6.31E+02 | 1.25E+04 | 3.22E-01 | 2.70E+02 | 1.56E-04 | 8.49E+03 | 1.32E+03 |
| Methylcyclohexane | 108-87-2 | 9.80E+01 | - | 1.03E-01 | 7.35E-02 | 8.52E-06 | 7.85E+01 | 1.40E+01 | 7.47E+03 | 3.74E+02 | 5.72E+02 | 8.48E+03 | 3.27E+00 | – | 8.05E-03 | 1.18E+03 | 1.84E+02 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1.68E+02 | -4.38E+01 | 3.67E-04 | 4.89E-02 | 9.29E-06 | 9.49E+01 | 2.83E+03 | 9.00E+03 | 4.20E+02 | 6.45E+02 | 1.06E+04 | 1.09E-02 | 1.90E+03 | 2.82E-05 | 2.00E+04 | 3.12E+03 |
| Toluene | 108-88-3 | 9.21E+01 | -9.49E+01 | 6.64E-03 | 7.78E-02 | 9.20E-06 | 2.34E+02 | 5.26E+02 | 7.93E+03 | 3.84E+02 | 5.92E+02 | 9.05E+03 | 2.08E-01 | 8.00E+02 | 3.68E-04 | 5.53E+03 | 8.62E+02 |
| 1,1,2-Trichloroethane | 79-00-5 | 1.33E+02 | -3.66E+01 | 8.24E-04 | 6.69E-02 | 1.00E-05 | 6.07E+01 | 4.59E+03 | 8.32E+03 | 3.87E+02 | 6.02E+02 | 9.48E+03 | 2.54E-02 | 2.10E+03 | 1.29E-04 | 9.33E+03 | 1.46E+03 |
| Trichloroethene | 79-01-6 | 1.31E+02 | -8.47E+01 | 9.85E-03 | 6.87E-02 | 1.02E-05 | 6.07E+01 | 1.28E+03 | 7.51E+03 | 3.60E+02 | 5.71E+02 | 8.28E+03 | 3.15E-01 | 6.40E+02 | 1.51E-03 | 2.73E+03 | 4.26E+02 |
| Vinyl chloride | 75-01-4 | 6.25E+01 | -1.54E+02 | 2.78E-02 | 1.07E-01 | 1.20E-05 | 2.17E+01 | 8.80E+03 | 4.97E+03 | 2.60E+02 | 4.25E+02 | 4.61E+03 | 1.00E+00 | 3.20E+03 | 1.02E-02 | 1.05E+03 | 1.64E+02 |
| Xylenes (total) | 1330-20-7 | 1.06E+02 | -2.52E+01 | 6.63E-03 | 6.85E-02 | 8.46E-06 | 3.83E+02 | 1.06E+02 | 8.52E+03 | 4.12E+02 | 6.20E+02 | 1.01E+04 | 2.00E-01 | 2.60E+02 | 1.98E-04 | 7.55E+03 | 1.18E+03 |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | | | | |
| Carbazole | 86-74-8 | 1.67E+02 | - | 1.53E-08 | 3.90E-02 | 7.03E-06 | 3.38E+03 | 7.48E+00 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| 4-Chlorobenzenamine | 106-47-8 | 1.28E+02 | 7.25E+01 | 1.16E-06 | 7.04E-02 | 1.03E-05 | 1.13E+02 | 3.90E+03 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 2.28E+02 | 8.40E+01 | 1.20E-05 | 2.61E-02 | 6.75E-06 | 1.77E+05 | 9.40E-03 | 1.60E+04 | 7.11E+02 | 9.79E+02 | 2.35E+04 | 2.37E-04 | – | 2.46E-10 | 6.77E+06 | 1.05E+06 |
| Benzo(a)pyrene | 50-32-8 | 2.52E+02 | 1.77E+02 | 4.57E-07 | 4.76E-02 | 5.56E-06 | 5.87E+05 | 1.62E-03 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Benzo(b)fluoranthene | 205-99-2 | 2.52E+02 | 1.68E+02 | 6.57E-07 | 4.76E-02 | 5.56E-06 | 5.99E+05 | 1.50E-03 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Benzo(k)fluoranthene | 207-08-9 | 2.52E+02 | 2.17E+02 | 5.84E-07 | 4.76E-02 | 5.56E-06 | 5.87E+05 | 8.00E-04 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Dibenz(a,h)anthracene | 53-70-3 | 2.78E+02 | 2.70E+02 | 1.41E-07 | 4.46E-02 | 5.21E-06 | 1.91E+06 | 2.49E-03 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 2.76E+02 | 1.64E+02 | 3.48E-07 | 4.48E-02 | 5.23E-06 | 1.95E+06 | 1.90E-04 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| 1-Methylnaphthalene | 90-12-0 | 1.42E+02 | -3.04E+01 | 5.14E-04 | 5.28E-02 | 7.85E-06 | 2.53E+03 | 2.58E+01 | 1.37E+04 | 5.18E+02 | 7.71E+02 | 1.75E+04 | 1.23E-02 | 3.90E+02 | 1.48E-06 | 8.72E+04 | 1.36E+04 |
| 2-Methylnaphthalene | 91-57-6 | 1.42E+02 | 3.44E+01 | 5.18E-04 | 5.24E-02 | 7.78E-06 | 2.48E+03 | 2.46E+01 | 1.26E+04 | 5.14E+02 | 7.61E+02 | 1.61E+04 | 1.29E-02 | – | 1.58E-06 | 8.44E+04 | 1.32E+04 |
| Naphthalene | 91-20-3 | 1.28E+02 | 8.02E+01 | 4.40E-04 | 6.05E-02 | 8.38E-06 | 1.54E+03 | 3.10E+01 | 1.04E+04 | 4.91E+02 | 7.48E+02 | 1.29E+04 | 1.22E-02 | – | 2.75E-06 | 6.40E+04 | 9.98E+03 |
| **Pesticides** | | | | | | | | | | | | | | | | | |
| Aldrin | 309-00-2 | 3.65E+02 | 1.04E+02 | 4.40E-05 | 2.28E-02 | 5.84E-06 | 8.20E+04 | 1.70E-02 | 1.50E+04 | 6.03E+02 | 6.27E+02 | 4.42E+04 | 4.51E-04 | – | 8.08E-10 | 3.73E+06 | 5.82E+05 |
| delta BHC | 319-86-8 | 2.91E+02 | - | 4.29E-07 | 5.58E-02 | 5.20E-06 | 1.17E+04 | 3.14E+01 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| alpha-Chlordane | 5103-71-9 | 4.10E+02 | - | 4.86E-05 | 4.50E-02 | 4.27E-06 | 6.90E+04 | 4.39E-02 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| gamma-Chlordane | 5566-34-7 | 4.10E+02 | 1.06E+02 | 4.86E-05 | 4.50E-02 | 4.27E-06 | 8.66E+04 | 5.60E-02 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| 4,4'-DDD | 72-54-8 | 3.20E+02 | 1.10E+02 | 6.60E-06 | 4.06E-02 | 4.74E-06 | 1.18E+05 | 9.00E-02 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Dieldrin | 60-57-1 | 3.81E+02 | 1.76E+02 | 1.00E-05 | 2.33E-02 | 6.01E-06 | 2.01E+04 | 1.95E-01 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Heptachlor epoxide | 1024-57-3 | 3.89E+02 | 1.60E+02 | 2.10E-05 | 2.40E-02 | 6.25E-06 | 1.01E+04 | 2.00E-01 | 1.60E+04 | 6.14E+02 | 9.21E+02 | 2.10E+04 | 4.50E-04 | – | 6.88E-09 | 1.28E+06 | 2.00E+05 |
| alpha-Hexachlorocyclohexane | 319-84-6 | 2.91E+02 | 1.60E+02 | 6.70E-06 | 4.33E-02 | 5.06E-06 | 2.81E+03 | 2.00E+00 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| beta-Hexachlorocyclohexane | 319-85-7 | 2.91E+02 | 3.15E+02 | 4.40E-07 | 2.77E-02 | 7.40E-06 | 2.81E+03 | 2.40E-01 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Lindane | 58-89-9 | 2.91E+02 | 1.13E+02 | 5.14E-06 | 4.33E-02 | 5.06E-06 | 2.81E+03 | 7.30E+00 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| **Inorganics** | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 7.49E+01 | 2.70E+02 | NA | NA | NA | NA | NA | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Cadmium | 7440-43-9 | 1.12E+02 | 3.21E+02 | NA | NA | NA | NA | NA | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Chromium | 7440-47-3 | 5.20E+01 | 1.90E+03 | NA | NA | NA | NA | NA | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Chromium, hexavalent | 18540-29-9 | 5.20E+01 | 5.20E+01 | NA | NA | NA | NA | 1.69E+06 | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Iron | 7439-89-6 | 5.58E+01 | 1.54E+03 | NA | NA | NA | NA | NA | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Lead | 7439-92-1 | 2.07E+02 | 3.28E+02 | NA | NA | NA | NA | NA | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Manganese | 7439-96-5 | 5.49E+01 | 1.24E+03 | NA | NA | NA | NA | NA | NV | NV | NV | NV | NV | NV | NV | NV | NV |
| Mercury | 7439-97-6 | 2.01E+02 | -3.88E+01 | 8.62E-03 | 3.07E-02 | 6.30E-06 | NA | 6.00E-02 | 1.41E+04 | 6.30E+02 | 1.76E+03 | 1.52E+04 | 2.21E-01 | – | NV | NV | NV |

**Table 8-14**
**Soil Volatilization Factors**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| **Model Input Parameters:** | | | |
|---|---|---|---|
| Soil = | SCL | sandy clay loam | Soil type (site-specific). |
| Ts = | 19.5 | °C | Average soil temperature (USEPA 2004a) (site-specific). |
| Ts = | 292.65 | °K | Temperature in Kelvin. |
| Foc = | 0.006 | unitless | Fraction organic carbon (USEPA 2002 default). |
| $\rho_b$ = | 1.63 | g/cm³ | Soil dry bulk density for sandy clay loam soil (USEPA 2004a). |
| $\theta_T$ = | 0.384 | unitless | Total soil porosity for sandy clay loam soil (USEPA 2004a). |
| $\theta_{as}$ = | 0.238 | unitless | Air-filled soil porosity [ = $\theta_T$ - $\theta_{ws}$ ]. |
| $\theta_{ws}$ = | 0.146 | unitless | Water-filled soil porosity for sandy clay loam soil (USEPA 2004a). |
| $Q/C_{vol}$ = | 68.18 | (g/m²/sec)/(kg/m³) | Volatilization flux per unit concentration under passive conditions (USEPA 2002 default). |
| $Q/C_{sa}$ = | 14.31 | (g/m²/sec)/(kg/m³) | Volatilization flux per unit concentration under soil invasive conditions (USEPA 2002 default). |
| Tres = | 8.2E+08 | second | Exposure interval for a residential scenario (based on 26 years). |
| Tcons = | 1.6E+07 | second | Exposure interval under soil invasive conditions (site-specific). |
| CD = | 182 | days | Construction duration in days (site-specific). |
| $t_c$ = | 4368 | hour | Construction time in hours (site-specific). |
| $F_D$= | 0.186 | unitless | Dispersion Correction Factor (site-specific). |

| | | | |
|---|---|---|---|
| – | Not applicable. | g/m$^2$/sec | Gram per meter squared per second. |
| °C | Degress Celsius. | °K | Degrees Kelvin. |
| atm-m$^3$/mol | Atmosphere per cubic meter per mole. | kg/m$^3$ | Kilogram per cubic meter. |
| cal/mol | Calorie per mol. | m³/kg | Cubic meter per kilogram. |
| CASN | Chemical abstracts registry number. | mg/kg | Milligram per kilogram. |
| cm²/sec | Centimer squared per second. | mg/L | Milligram per liter. |
| g/cm$^2$ | Gram per cubed centimeter. | mL/g | Milliliter per gram. |
| g/mol | Gram per mole. | | |

[a] See Table 8-13.
[b] Enthalpy of vaporization and Henry's Law Constant were adjusted for soil temperature based on USEPA recommended methods (USEPA 2001a).
[c] Csat and VF calculated per methods in USEPA 2002b. See Table 8-8 and Table 8-9.
Csat was calculated for constituents that might potentially be liquid at soil temperature of 30°C (i.e. for constituents whose melting point is less than 30°C).
VF was only calculated for constituents that have a volatilization potential (i.e., molecular weight less than 200 and Henry's Law Constant greater than 1 x 10$^{-5}$ atm-m$^3$/mol).

Table 8-15
Groundwater Volatilization Factors
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | Constituent Specific Physical Parameters [a] | | | | | | | | Enthalpy of Vaporization at Water Temp. [b] (cal/mol) ($\Delta H_v$) | Henry's Law Constant at water temp. [b] (H) (atm-m³/mol) | Henry's Law Constant at water temp. [b] (unitless) (Ho) | Gas-Phase Mass Transfer Coefficient (cm/sec) ($K_{iG}$) | Liquid-Phase Mass Transfer Coefficient (cm/sec) ($K_{iL}$) | Overall Mass Transfer Coefficient (cm/sec) ($K_i$) | Volatilization Factor [c] Exposed Water in a Trench (L/m³) ($VF\text{-}gw_{trench}$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Molecular Weight (MW) (g/mol) | Melting Point (Tm) (°C) | Diffusivity in Air ($D_{air}$) (cm²/sec) | Diffusivity in Water ($D_{wat}$) (cm²/sec) | Partition Coefficient (Koc) (mL/g) | Solubility in Water (S) (mg/L) | Normal Boiling Point (Tb) (°K) | Critical Temperature (Tc) (°K) | | | | | | | |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 7.81E+01 | 5.50E+00 | 8.95E-02 | 1.03E-05 | 1.46E+02 | 1.79E+03 | 3.53E+02 | 5.62E+02 | 8.02E+03 | 4.30E-03 | 1.79E-01 | 5.0E-01 | 1.26E-03 | 1.2E-03 | 7.32E+00 |
| Chloroform | 67-66-3 | 1.19E+02 | -6.36E+01 | 7.69E-02 | 1.09E-05 | 3.18E+01 | 7.95E+03 | 3.34E+02 | 5.36E+02 | 7.46E+03 | 2.90E-03 | 1.21E-01 | 4.3E-01 | 1.02E-03 | 1.0E-03 | 5.89E+00 |
| Chloromethane | 74-87-3 | 5.05E+01 | -9.77E+01 | 1.24E-01 | 1.36E-05 | 1.32E+01 | 5.32E+03 | 2.49E+02 | 4.16E+02 | 4.63E+03 | 7.61E-03 | 3.17E-01 | 5.8E-01 | 1.56E-03 | 1.5E-03 | 9.15E+00 |
| Dibromochloromethane | 124-48-1 | 2.08E+02 | -2.00E+01 | 3.66E-02 | 1.06E-05 | 3.18E+01 | 2.70E+03 | 3.93E+02 | 6.78E+02 | 6.49E+03 | 6.37E-04 | 2.65E-02 | 3.6E-01 | 7.69E-04 | 7.1E-04 | 4.21E+00 |
| cis-1,2-Dichloroethene | 156-59-2 | 9.69E+01 | -8.00E+01 | 8.84E-02 | 1.13E-05 | 3.96E+01 | 6.41E+03 | 3.33E+02 | 5.36E+02 | 7.69E+03 | 3.20E-03 | 1.33E-01 | 4.7E-01 | 1.13E-03 | 1.1E-03 | 6.54E+00 |
| trans-1,2-Dichloroethene | 156-60-5 | 9.69E+01 | -4.98E+01 | 8.76E-02 | 1.12E-05 | 3.96E+01 | 4.52E+03 | 3.22E+02 | 5.16E+02 | 7.25E+03 | 7.45E-03 | 3.10E-01 | 4.7E-01 | 1.13E-03 | 1.1E-03 | 6.61E+00 |
| 1,2-Dichloropropane | 78-87-5 | 1.13E+02 | -1.00E+02 | 7.33E-02 | 9.73E-06 | 6.07E+01 | 2.80E+03 | 3.69E+02 | 5.72E+02 | 8.51E+03 | 2.15E-03 | 8.97E-02 | 4.4E-01 | 1.04E-03 | 1.0E-03 | 6.01E+00 |
| Ethylbenzene | 100-41-4 | 1.06E+02 | -9.49E+01 | 6.85E-02 | 8.46E-06 | 4.46E+02 | 1.69E+02 | 4.09E+02 | 6.17E+02 | 1.00E+04 | 5.73E-03 | 2.39E-01 | 4.5E-01 | 1.08E-03 | 1.1E-03 | 6.30E+00 |
| 2-Hexanone | 591-78-6 | 1.00E+02 | -5.55E+01 | 7.04E-02 | 8.44E-06 | 1.50E+01 | 1.72E+04 | 4.01E+02 | 5.87E+02 | 1.04E+04 | 6.70E-05 | 2.79E-03 | 4.6E-01 | 1.11E-03 | 6.0E-04 | 3.52E+00 |
| 1-Methylethyl benzene | 98-82-8 | 1.20E+02 | -9.60E+01 | 6.03E-02 | 7.86E-06 | 6.98E+02 | 6.13E+01 | 4.26E+02 | 6.31E+02 | 1.25E+04 | 7.74E-03 | 3.22E-01 | 4.3E-01 | 1.01E-03 | 1.0E-03 | 5.94E+00 |
| Methylcyclohexane | 108-87-2 | 9.80E+01 | - | 7.35E-02 | 8.52E-06 | 7.85E+01 | 1.40E+01 | 3.74E+02 | 5.72E+02 | 8.48E+03 | 7.85E-02 | 3.27E+00 | 4.6E-01 | 1.12E-03 | 1.1E-03 | 6.62E+00 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 1.68E+02 | -4.38E+01 | 4.89E-02 | 9.29E-06 | 9.49E+01 | 2.83E+03 | 4.20E+02 | 6.45E+02 | 1.06E+04 | 2.62E-04 | 1.09E-02 | 3.9E-01 | 8.57E-04 | 7.1E-04 | 4.21E+00 |
| Toluene | 108-88-3 | 9.21E+01 | -9.49E+01 | 7.78E-02 | 9.20E-06 | 2.34E+02 | 5.26E+02 | 3.84E+02 | 5.92E+02 | 9.05E+03 | 4.98E-03 | 2.08E-01 | 4.7E-01 | 1.16E-03 | 1.1E-03 | 6.75E+00 |
| 1,1,2-Trichloroethane | 79-00-5 | 1.33E+02 | -3.66E+01 | 6.69E-02 | 1.00E-05 | 6.07E+01 | 4.59E+03 | 3.87E+02 | 6.02E+02 | 9.48E+03 | 6.10E-04 | 2.54E-02 | 4.2E-01 | 9.61E-04 | 8.8E-04 | 5.21E+00 |
| Trichloroethene | 79-01-6 | 1.31E+02 | -8.47E+01 | 6.87E-02 | 1.02E-05 | 6.07E+01 | 1.28E+03 | 3.60E+02 | 5.71E+02 | 8.28E+03 | 7.57E-03 | 3.15E-01 | 4.2E-01 | 9.69E-04 | 9.6E-04 | 5.68E+00 |
| Vinyl chloride | 75-01-4 | 6.25E+01 | -1.54E+02 | 1.07E-01 | 1.20E-05 | 2.17E+01 | 8.80E+03 | 2.60E+02 | 4.25E+02 | 4.61E+03 | 2.40E-02 | 1.00E+00 | 5.4E-01 | 1.40E-03 | 1.4E-03 | 8.27E+00 |
| Xylenes (total) | 1330-20-7 | 1.06E+02 | -2.52E+01 | 6.85E-02 | 8.46E-06 | 3.83E+02 | 1.06E+02 | 4.12E+02 | 6.20E+02 | 1.01E+04 | 4.81E-03 | 2.00E-01 | 4.5E-01 | 1.08E-03 | 1.1E-03 | 6.29E+00 |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | | | |
| Carbazole | 86-74-8 | 1.67E+02 | - | 3.90E-02 | 7.03E-06 | 3.38E+03 | 7.48E+00 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| 4-Chlorobenzenamine | 106-47-8 | 1.28E+02 | 7.25E+01 | 7.04E-02 | 1.03E-05 | 1.13E+02 | 3.90E+03 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 2.28E+02 | 8.40E+01 | 2.61E-02 | 6.75E-06 | 1.77E+05 | 9.40E-03 | 7.11E+02 | 9.79E+02 | 2.35E+04 | 5.69E-06 | 2.37E-04 | 3.5E-01 | 7.35E-04 | 7.4E-05 | 4.39E-01 |
| Benzo(a)pyrene | 50-32-8 | 2.52E+02 | 1.77E+02 | 4.76E-02 | 5.56E-06 | 5.87E+05 | 1.62E-03 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Benzo(b)fluoranthene | 205-99-2 | 2.52E+02 | 1.68E+02 | 4.76E-02 | 5.56E-06 | 5.99E+05 | 1.50E-03 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Benzo(k)fluoranthene | 207-08-9 | 2.52E+02 | 2.17E+02 | 4.76E-02 | 5.56E-06 | 5.87E+05 | 8.00E-04 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Dibenz(a,h)anthracene | 53-70-3 | 2.78E+02 | 2.70E+02 | 4.46E-02 | 5.21E-06 | 1.91E+06 | 2.49E-03 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 2.76E+02 | 1.64E+02 | 4.48E-02 | 5.23E-06 | 1.95E+06 | 1.90E-04 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| 1-Methylnaphthalene | 90-12-0 | 1.42E+02 | -3.04E+01 | 5.28E-02 | 7.85E-06 | 2.53E+03 | 2.58E+01 | 5.18E+02 | 7.71E+02 | 1.75E+04 | 2.95E-04 | 1.23E-02 | 4.1E-01 | 9.31E-04 | 7.9E-04 | 4.64E+00 |
| 2-Methylnaphthalene | 91-57-6 | 1.42E+02 | 3.44E+01 | 5.24E-02 | 7.78E-06 | 2.48E+03 | 2.46E+01 | 5.14E+02 | 7.61E+02 | 1.61E+04 | 3.10E-04 | 1.29E-02 | 4.1E-01 | 9.31E-04 | 7.9E-04 | 4.68E+00 |
| Naphthalene | 91-20-3 | 1.28E+02 | 8.02E+01 | 6.05E-02 | 8.38E-06 | 1.54E+03 | 3.10E+01 | 4.91E+02 | 7.48E+02 | 1.29E+04 | 2.93E-04 | 1.22E-02 | 4.2E-01 | 9.81E-04 | 8.2E-04 | 4.87E+00 |
| **Pesticides** | | | | | | | | | | | | | | | | |
| Aldrin | 309-00-2 | 3.65E+02 | 1.04E+02 | 2.28E-02 | 5.84E-06 | 8.20E+04 | 1.70E-02 | 6.03E+02 | 6.27E+02 | 4.42E+04 | 1.08E-05 | 4.51E-04 | 3.0E-01 | 5.81E-04 | 1.1E-04 | 6.46E-01 |
| delta BHC | 319-86-8 | 2.91E+02 | - | 5.58E-02 | 5.20E-06 | 1.17E+04 | 3.14E+01 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| alpha-Chlordane | 5103-71-9 | 4.10E+02 | - | 4.50E-02 | 4.27E-06 | 6.90E+04 | 4.39E-02 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| gamma-Chlordane | 5566-34-7 | 4.10E+02 | 1.06E+02 | 4.50E-02 | 4.27E-06 | 8.66E+04 | 5.60E-02 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| 4,4'-DDD | 72-54-8 | 3.20E+02 | 1.10E+02 | 4.06E-02 | 4.74E-06 | 1.18E+05 | 9.00E-02 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Dieldrin | 60-57-1 | 3.81E+02 | 1.76E+02 | 2.33E-02 | 6.01E-06 | 2.01E+04 | 1.95E-01 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Heptachlor epoxide | 1024-57-3 | 3.89E+02 | 1.60E+02 | 2.40E-02 | 6.25E-06 | 1.01E+04 | 2.00E-01 | 6.14E+02 | 9.21E+02 | 2.10E+04 | 1.08E-05 | 4.50E-04 | 2.9E-01 | 5.63E-04 | 1.1E-04 | 6.29E-01 |
| alpha-Hexachlorocyclohexane | 319-84-6 | 2.91E+02 | 1.60E+02 | 4.33E-02 | 5.06E-06 | 2.81E+03 | 2.00E+00 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| beta-Hexachlorocyclohexane | 319-85-7 | 2.91E+02 | 3.15E+02 | 2.77E-02 | 7.40E-06 | 2.81E+03 | 2.40E-01 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Lindane | 58-89-9 | 2.91E+02 | 1.13E+02 | 4.33E-02 | 5.06E-06 | 2.81E+03 | 7.30E+00 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| **Inorganics** | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 7.49E+01 | 2.70E+02 | NA | NA | NA | NA | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Cadmium | 7440-43-9 | 1.12E+02 | 3.21E+02 | NA | NA | NA | NA | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Chromium | 7440-47-3 | 5.20E+01 | 1.90E+03 | NA | NA | NA | NA | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Chromium, hexavalent | 18540-29-9 | 5.20E+01 | 5.20E+01 | NA | NA | NA | 1.69E+06 | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Iron | 7439-89-6 | 5.58E+01 | 1.54E+03 | NA | NA | NA | NA | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Lead | 7439-92-1 | 2.07E+02 | 3.28E+02 | NA | NA | NA | NA | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Manganese | 7439-96-5 | 5.49E+01 | 1.24E+03 | NA | NA | NA | NA | NV | NV | NV | NV | NV | NV | NV | NV | — |
| Mercury | 7439-97-6 | 2.01E+02 | -3.88E+01 | 3.07E-02 | 6.30E-06 | NA | 6.00E-02 | 6.30E+02 | 1.76E+03 | 1.52E+04 | 5.31E-03 | 2.21E-01 | 3.6E-01 | 7.84E-04 | 7.8E-04 | 4.59E+00 |

**Table 8-15**
**Groundwater Volatilization Factors**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

**Mass Transfer Coefficient Parameters**

Default input parameters, as presented in the table beneath, were used.

| Parameter | Unit | Value |
|---|---|---|
| $MWH_20$ | g/mol | 18.02 |
| $MWO_2$ | g/mol | 32.00 |
| $kL,O_2$ | cm/sec | 0.002 |
| $kG,H_2O$ | cm/sec | 0.833 |
| R | atm-$m^3$/mole-K | 0.000082 |
| Tgw | °C | 19.5 |
| T | K | 292.65 |

**Trench Model Input Parameters:**

Default input parameters, as presented in the table beneath, were used.

| Parameter | Unit | Value | |
|---|---|---|---|
| A | $m^2$ | 2.23 | Area of trench (length x width). Assumed to be 3 feet wide and 8 feet long (VDEQ 2018 default). |
| F | unitless | 1 | Fraction of trench floor through which contaminant can enter (VDEQ 2018 default). |
| V | $m^3$ | 6.80 | Volume of trench (area x depth) (VDEQ 2018 default). |
| ACH | $h^{-1}$ | 2 | Air changes per hour (VDEQ 2018 default). |
| $D_{Trench}$ | m | 3.048 | Depth of trench which is equal to the depth of groundwater (Site-specific). |

| | | | | | |
|---|---|---|---|---|---|
| atm-$m^3$/mol | Atmosphere per meter cubed per mole. | $cm^2$/sec | Centimeter squared per second. | m | Meter. |
| °C | Degrees Celsius. | g/mol | Gram per mole. | mg/L | Milligram per liter. |
| cal/mol | Calories per mol. | $h^{-1}$ | Inverse hour. | mL/g | Milliliter per gram. |
| CASN | Chemical abstracts registry number. | K | Degrees Kelvin. | NV | Not volatile |
| cm/sec | Centimeter per second. | L/$m^3$ | Liter per cubic meter. | | |

[a] Constituent-specific physical parameters were obtained from (USEPA 2018b).
[b] Enthalpy of vaporization and Henry's Law Constant were adjusted for soil temperature based on USEPA recommended methods (USEPA 2001a).
[c] Volatilization factors for water in a trench were calculated using VDEQ trench model (2018).

**Table 8-16**
**Soil Particulate Emission Factors**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

**Particulate Emission Factor:**

| | | | | |
|---|---|---|---|---|
| $PEF_{cons}$ | = | 8.18E+06 | m³/kg | Particulate emission factor (m³/kg) during construction road actvities; Site-specific using USEPA (2002b) equation. |
| $PEF_{wind}$ | = | 3.69E+10 | m³/kg | Particulate emission factor (m³/kg) due to wind under passive conditions; Site-specific using USEPA (2002b) equation. |

**Particulate Emission Factor for Wind-Blown Fugitive Dust for Commercial/Industrial and Residential Sceanrios**

$$PEF_{wind} = Q/C_{wind} \times \left[ \frac{3600}{0.036 \times (1-V) \times \left(\frac{U_m}{U_t}\right)^3 \times F(x)} \right]$$

| | | | | |
|---|---|---|---|---|
| x | = | 2.786 | unitless | Function of Ut/Um; x = 0.886 × (Ut/Um) (USEPA 2002b default). |
| F(x) | = | 0.0158 | unitless | Function of x; F(x) = 0.18 × ( 8x³ + 12x ) × exp(-x²) (USEPA 2002b default). |
| Q/Cwind | = | 93.77 | (g/m²/sec)/(kg/m³) | Wind-related particulate emission flux per unit concentration (USEPA 2002b default). |
| RPF | = | 0.036 | g/m²/hour | Respirable particle fraction (USEPA 2002b default). |
| $U_m$ | = | 3.6 | m/sec | Mean annual wind speed for Savannah, Georgia (NOAA 2016). |
| $U_t$ | = | 11.32 | m/sec | Equivalent threshold value of windspeed at 7 meters (USEPA 2002b default). |
| V | = | 0.5 | unitless | Fraction vegetative cover (USEPA 2002b default). |

**Table 8-16**
**Soil Particulate Emission Factors**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

**Particulate Emission Factor for Construction Soil Invasive Activities**

$$PEF_{sc} = Q/C_{sr} \times \frac{1}{F_D} \times \left[ \frac{T \times A_R}{556 \times \left(\frac{W}{3}\right)^{0.4} \times \frac{365 - p}{365} \times \sum VKT} \right]$$

| | | | | |
|---|---|---|---|---|
| $Q/C_{sr}$ | = | 23.02 | ($g/m^2$-sec per $kg/m^3$) | Inverse of 1-hr avg. air concentration at center of the square emission source (USEPA 2002b default).<br>$Q/C_{sr}$ = A x exp [(ln $A_c$ - B)$^2$/C].<br>Constants: A = 12.9351 (unitless); B = 5.7383 (unitless); C = 71.7711(unitless) (USEPA 2002b default). |
| $A_c$ | = | 0.5 | acres | Areal extent of site soil contamination (USEPA 2002bb default). |
| CD | = | 130 | days | Construction duration in days (site-specific). |
| $t_c$ | = | 3120 | hour | Construction time in hours (site-specific). |
| T | = | 1.12E+07 | seconds | Construction time in seconds (site-specific). |
| $F_D$ | = | 0.187 | unitless | Dispersion correction factor [FD = 0.1852+(5.3537/tc)+(-9.6318/tc2)] (USEPA 2002b default). |
| $A_R$ | = | 274.218 | $m^2$ | Surface area of contaminated road (AR = LR x WR) (USEPA 2002b default). |
| $L_R$ | | 45.0 | meters | Length of road segment (LR = Ac x 4047)0.5 (USEPA 2002b default). |
| $W_R$ | | 6.1 | meters | Width of the road segment (USEPA 2002b default). |
| W | = | 12.5 | tons | Mean vehicle weight (W=[(5 cars x 2 tons/car) + 7 trucks x 20 tons/truck)]/12 vehicles (site-specific). |
| p | = | 120 | days/year | Number of days with 0.01 inches of precipitation (region-specific; USEPA 2002b default). |
| V | = | 12 | unitless | Number of vehicles (site-specific). |
| ΣVKT | = | 70 | km | Sum of fleet vehicle kilometers traveled during construction (V x LR x Number of Construction Days per year) (site-specific). |

| | | | |
|---|---|---|---|
| g | Gram. | $m^2$ | Meter squared. |
| kg | Kilogram. | $m^3$ | Meter cubed. |
| km | Kilometer. | sec | Second. |

Table 8-17
Dermal Absorption Parameters
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | ABSd [a] | Within EPD [b] | Permeability Constant, Kp (cm/hour) [c] | Non-Steady State Dermal Absorption Parameters [d] | | | | DA_0.25hr [d] (L/cm²/event) | | DA_0.54hr [d] (L/cm²/event) | | DA_0.71hr [d] (L/cm²/event) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Value | FA (unitless) | τ (hour) | t* (hour) | B (unitless) | | | | | | |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 0 | Yes | 1.49E-02 | 1 | 2.88E-01 | 6.91E-01 | 5.07E-02 | 1.10E-05 | [1] | 1.62E-05 | [1] | 1.91E-05 | [2] |
| Chloroform | 67-66-3 | 0 | Yes | 6.83E-03 | 1 | 4.90E-01 | 1.18E+00 | 2.87E-02 | 6.61E-06 | [1] | 9.71E-06 | [1] | 1.11E-05 | [1] |
| Chloromethane | 74-87-3 | 0 | Yes | 3.28E-03 | 1 | 2.02E-01 | 4.84E-01 | 8.96E-03 | 2.04E-06 | [1] | 3.09E-06 | [2] | 3.64E-06 | [2] |
| Dibromochloromethane | 124-48-1 | 0 | Yes | 2.89E-03 | 1 | 1.54E+00 | 3.70E+00 | 1.60E-02 | 4.96E-06 | [1] | 7.29E-06 | [1] | 8.36E-06 | [1] |
| cis-1,2-Dichloroethene | 156-59-2 | 0 | Yes | 1.10E-02 | 1 | 3.67E-01 | 8.81E-01 | 4.17E-02 | 9.21E-06 | [1] | 1.35E-05 | [1] | 1.55E-05 | [1] |
| trans-1,2-Dichloroethene | 156-60-5 | 0 | Yes | 1.10E-02 | 1 | 3.67E-01 | 8.81E-01 | 4.17E-02 | 9.21E-06 | [1] | 1.35E-05 | [1] | 1.55E-05 | [1] |
| 1,2-Dichloropropane | 78-87-5 | 0 | Yes | 7.53E-03 | 1 | 4.51E-01 | 1.08E+00 | 3.08E-02 | 6.99E-06 | [1] | 1.03E-05 | [1] | 1.18E-05 | [1] |
| Ethylbenzene | 100-41-4 | 0 | Yes | 4.93E-02 | 1 | 4.13E-01 | 9.92E-01 | 1.95E-01 | 4.38E-05 | [1] | 6.44E-05 | [1] | 7.38E-05 | [1] |
| 2-Hexanone | 591-78-6 | 0 | Yes | 3.55E-03 | 1 | 3.83E-01 | 9.18E-01 | 1.37E-02 | 3.03E-06 | [1] | 4.46E-06 | [1] | 5.11E-06 | [1] |
| 1-Methylethyl benzene | 98-82-8 | 0 | Yes | 8.97E-02 | 1 | 4.95E-01 | 1.19E+00 | 3.78E-01 | 8.73E-05 | [1] | 1.28E-04 | [1] | 1.47E-04 | [1] |
| Methylcyclohexane | 108-87-2 | 0 | Yes | 1.02E-01 | 1 | 3.11E-01 | 7.47E-01 | 3.60E-01 | 7.86E-05 | [1] | 1.16E-04 | [1] | 1.33E-04 | [1] |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 0 | Yes | 6.94E-03 | 1 | 9.16E-01 | 2.20E+00 | 3.46E-02 | 9.18E-06 | [1] | 1.35E-05 | [1] | 1.55E-05 | [1] |
| Toluene | 108-88-3 | 0 | Yes | 3.11E-02 | 1 | 3.45E-01 | 8.28E-01 | 1.15E-01 | 2.52E-05 | [1] | 3.71E-05 | [1] | 4.25E-05 | [1] |
| 1,1,2-Trichloroethane | 79-00-5 | 0 | Yes | 5.04E-03 | 1 | 5.87E-01 | 1.41E+00 | 2.24E-02 | 5.34E-06 | [1] | 7.85E-06 | [1] | 9.00E-06 | [1] |
| Trichloroethene | 79-01-6 | 0 | Yes | 1.16E-02 | 1 | 5.72E-01 | 1.37E+00 | 5.11E-02 | 1.21E-05 | [1] | 1.78E-05 | [1] | 2.04E-05 | [1] |
| Vinyl chloride | 75-01-4 | 0 | Yes | 8.38E-03 | 1 | 2.35E-01 | 5.65E-01 | 2.55E-02 | 5.62E-06 | [1] | 8.26E-06 | [1] | 9.85E-06 | [2] |
| Xylenes (total) | 1330-20-7 | 0 | Yes | 5.00E-02 | 1 | 4.13E-01 | 9.92E-01 | 1.98E-01 | 4.44E-05 | [1] | 6.53E-05 | [1] | 7.49E-05 | [1] |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | |
| Carbazole | 86-74-8 | 0.1 | Yes | 7.97E-02 | 1 | 9.10E-01 | 2.18E+00 | 3.96E-01 | 1.05E-04 | [1] | 1.54E-04 | [1] | 1.77E-04 | [1] |
| 4-Chlorobenzenamine | 106-47-8 | 0.1 | Yes | 4.96E-03 | 1 | 5.45E-01 | 1.31E+00 | 2.15E-02 | 5.06E-06 | [1] | 7.44E-06 | [1] | 8.53E-06 | [1] |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 0.13 | No | 5.52E-01 | 1 | 2.00E+00 | 8.48E+00 | 3.21E+00 | NA | | NA | | NA | |
| Benzo(a)pyrene | 50-32-8 | 0.13 | No | 7.13E-01 | 1 | 2.72E+00 | 1.18E+01 | 4.36E+00 | NA | | NA | | NA | |
| Benzo(b)fluoranthene | 205-99-2 | 0.13 | No | 4.17E-01 | 1 | 2.72E+00 | 1.13E+01 | 2.55E+00 | NA | | NA | | NA | |
| Benzo(k)fluoranthene | 207-08-9 | 0.13 | No | 6.91E-01 | 0.9 | 2.72E+00 | 1.18E+01 | 4.22E+00 | NA | | NA | | NA | |
| Dibenz(a,h)anthracene | 53-70-3 | 0.13 | No | 9.53E-01 | 0.6 | 3.81E+00 | 1.69E+01 | 6.12E+00 | NA | | NA | | NA | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.13 | No | 1.24E+00 | 0.6 | 3.71E+00 | 1.67E+01 | 7.93E+00 | NA | | NA | | NA | |
| 1-Methylnaphthalene | 90-12-0 | 0.13 | Yes | 9.31E-02 | 1 | 6.58E-01 | 1.58E+00 | 4.27E-01 | 1.04E-04 | [1] | 1.53E-04 | [1] | 1.76E-04 | [1] |
| 2-Methylnaphthalene | 91-57-6 | 0.13 | Yes | 9.17E-02 | 1 | 6.58E-01 | 1.58E+00 | 4.21E-01 | 1.03E-04 | [1] | 1.51E-04 | [1] | 1.73E-04 | [1] |
| Naphthalene | 91-20-3 | 0.13 | Yes | 4.66E-02 | 1 | 5.49E-01 | 1.32E+00 | 2.03E-01 | 4.77E-05 | [1] | 7.01E-05 | [1] | 8.04E-05 | [1] |
| **Pesticides** | | | | | | | | | | | | | | |
| Aldrin | 309-00-2 | 0 | No | 2.93E-01 | 1 | 1.16E+01 | 4.77E+01 | 2.15E+00 | NA | | NA | | NA | |
| delta BHC | 319-86-8 | 0.1 | Yes | 2.79E-02 | 0.9 | 4.47E+00 | 1.07E+01 | 1.83E-01 | 7.34E-05 | [1] | 1.08E-04 | [1] | 1.24E-04 | [1] |
| alpha-Chlordane | 5103-71-9 | 0.04 | Yes | 3.40E-02 | 0.7 | 2.13E+01 | 5.11E+01 | 2.65E-01 | 1.52E-04 | [1] | 2.23E-04 | [1] | 2.56E-04 | [1] |
| gamma-Chlordane | 5566-34-7 | 0.04 | Yes | 3.40E-02 | 1 | 2.13E+01 | 5.11E+01 | 2.65E-01 | 2.17E-04 | [1] | 3.18E-04 | [1] | 3.65E-04 | [1] |
| 4,4'-DDD | 72-54-8 | 0.1 | Yes | 2.51E-01 | 0.8 | 6.52E+00 | 2.62E+01 | 1.73E+00 | 7.08E-04 | [1] | 1.04E-03 | [1] | 1.19E-03 | [1] |
| Dieldrin | 60-57-1 | 0.1 | Yes | 3.26E-02 | 0.8 | 1.43E+01 | 3.43E+01 | 2.45E-01 | 1.36E-04 | [1] | 2.00E-04 | [1] | 2.30E-04 | [1] |
| Heptachlor epoxide | 1024-57-3 | 0 | Yes | 2.09E-02 | 0.8 | 1.59E+01 | 3.82E+01 | 1.59E-01 | 9.22E-05 | [1] | 1.36E-04 | [1] | 1.55E-04 | [1] |
| alpha-Hexachlorocyclohexane | 319-84-6 | 0.1 | Yes | 2.06E-02 | 0.9 | 4.47E+00 | 1.07E+01 | 1.35E-01 | 5.42E-05 | [1] | 7.96E-05 | [1] | 9.13E-05 | [1] |
| beta-Hexachlorocyclohexane | 319-85-7 | 0.1 | Yes | 2.06E-02 | 0.9 | 4.47E+00 | 1.07E+01 | 1.35E-01 | 5.42E-05 | [1] | 7.96E-05 | [1] | 9.13E-05 | [1] |
| Lindane | 58-89-9 | 0.04 | Yes | 2.06E-02 | 0.9 | 4.47E+00 | 1.07E+01 | 1.35E-01 | 5.42E-05 | [1] | 7.96E-05 | [1] | 9.13E-05 | [1] |

**Table 8-17**
**Dermal Absorption Parameters**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent | CASRN | ABSd [a] | Within EPD [b] | Permeability Constant, Kp (cm/hour) [c] Value | Non-Steady State Dermal Absorption Parameters [d] FA (unitless) | τ (hour) | t* (hour) | B (unitless) | DA_0.25hr [d] (L/cm²/event) | | DA_0.54hr [d] (L/cm²/event) | | DA_0.71hr [d] (L/cm²/event) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Inorganics** | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 0.03 | Yes | 1.00E-03 | 1 | 2.76E-01 | 6.63E-01 | 3.33E-03 | 2.50E-07 | [0] | 5.40E-07 | [0] | 7.10E-07 | [0] |
| Cadmium | 7440-43-9 | 0.001 | Yes | 1.00E-03 | 1 | 4.48E-01 | 1.08E+00 | 4.08E-03 | 2.50E-07 | [0] | 5.40E-07 | [0] | 7.10E-07 | [0] |
| Chromium | 7440-47-3 | 0 | Yes | 1.00E-03 | 1 | 2.06E-01 | 4.93E-01 | 2.77E-03 | 2.50E-07 | [0] | 5.40E-07 | [0] | 7.10E-07 | [0] |
| Chromium, hexavalent | 18540-29-9 | 0 | Yes | 2.00E-03 | 1 | 2.06E-01 | 4.93E-01 | 5.55E-03 | 5.00E-07 | [0] | 1.08E-06 | [0] | 1.42E-06 | [0] |
| Iron | 7439-89-6 | 0 | Yes | 1.00E-03 | 1 | 2.16E-01 | 5.19E-01 | 2.87E-03 | 2.50E-07 | [0] | 5.40E-07 | [0] | 7.10E-07 | [0] |
| Lead | 7439-92-1 | 0 | Yes | 1.00E-04 | 1 | 1.52E+00 | 3.65E+00 | 5.54E-04 | 2.50E-08 | [0] | 5.40E-08 | [0] | 7.10E-08 | [0] |
| Manganese | 7439-96-5 | 0 | Yes | 1.00E-03 | 1 | 2.14E-01 | 5.13E-01 | 2.85E-03 | 2.50E-07 | [0] | 5.40E-07 | [0] | 7.10E-07 | [0] |
| Mercury | 7439-97-6 | 0 | Yes | 1.00E-03 | 1 | 1.40E+00 | 3.35E+00 | 5.45E-03 | 2.50E-07 | [0] | 5.40E-07 | [0] | 7.10E-07 | [0] |

CASN Chemical abstracts registry number.
cm Centimeter.
L/cm²/event Liter per centimeter squared per event.

[a] Dermal absorption efficiency (ABSd) for uptake of constituents from a soil matrix (unitless) from USEPA 2018b.
[b] As defined by USEPA 2004b, constituents with a molecular weight and Kow outside the EPD are not evaluated for dermal exposure in the water pathway.
[c] Permeability coefficient for dermal contact with constituents in water (centimeters per hour), from USEPA 2018b.
[d] Absorption parameters for use in the non-steady state model for dermal contact with constituents in water; from USEPA 2018b.
τ = Lag time for dermal absorption through the skin.
t* = Time required to reach steady state.
B = Ratio of the permeability coefficient through the stratus corneum relative to the permeability coefficient across the viable epidermis.
FA = Fraction of absorbed water.
[d] DA calculated according to equations presented in USEPA 2004b (using Equation [0], [1], or [2] as indicated in Table 8-10 and Table 8-11 based on exposure time (ET) = 1 hour.

Table 8-18
Noncarcinogenic Toxicity Values for Oral and Dermal Exposure
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | | CASRN | Oral RfD (mg/kg/day) [a] Subchronic | [ref] | Chronic | [ref] | Adjustment Factor [a] | Dermal RfD (mg/kg/day) [b] Subchronic | Chronic | Target Site/ Critical Effect | Confidence Level/ Uncertainty Factor |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | |
| Benzene | [c] | 71-43-2 | 1.00E-02 | P | 4.00E-03 | I | 1 | 1.0E-02 | 4.0E-03 | blood | medium/300 |
| Chloroform | | 67-66-3 | 1.00E-01 | A | 1.00E-02 | I | 1 | 1.0E-01 | 1.0E-02 | liver | medium/100 |
| Chloromethane | | 74-87-3 | NA | | NA | | 1 | NA | NA | NA | NA |
| Dibromochloromethane | | 124-48-1 | 7.00E-02 | P | 2.00E-02 | I | 1 | 7.0E-02 | 2.0E-02 | liver | medium/1000 |
| cis-1,2-Dichloroethene | | 156-59-2 | 2.00E-02 | P | 2.00E-03 | I | 1 | 2.0E-02 | 2.0E-03 | kidney | low/3000 |
| trans-1,2-Dichloroethene | | 156-60-5 | 2.00E-01 | H | 2.00E-02 | I | 1 | 2.0E-01 | 2.0E-02 | blood | low/3000 |
| 1,2-Dichloropropane | | 78-87-5 | 4.00E-02 | P | 4.00E-02 | P | 1 | 4.0E-02 | 4.0E-02 | Skeletal | High/30 |
| Ethylbenzene | | 100-41-4 | 5.00E-02 | P | 1.00E-01 | I | 1 | 5.0E-02 | 1.0E-01 | liver, kidney | low/1000 |
| 2-Hexanone | | 591-78-6 | 5.00E-03 | c | 5.00E-03 | I | 1 | 5.0E-03 | 5.0E-03 | CNS | medium/1000 |
| 1-Methylethyl benzene | | 98-82-8 | 4.00E-01 | H | 1.00E-01 | I | 1 | 4.0E-01 | 1.0E-01 | kidney | low/1000 |
| Methylcyclohexane | | 108-87-2 | NA | | NA | | 1 | NA | NA | NA | NA |
| 1,1,2,2-Tetrachloroethane | | 79-34-5 | 5.00E-02 | I | 2.00E-02 | I | 1 | 5.0E-02 | 2.0E-02 | liver | medium/1000 |
| Toluene | | 108-88-3 | 8.00E-01 | P | 8.00E-02 | I | 1 | 8.0E-01 | 8.0E-02 | kidney | medium/3000 |
| 1,1,2-Trichloroethane | | 79-00-5 | 4.00E-03 | P | 4.00E-03 | I | 1 | 4.0E-03 | 4.0E-03 | Immune; hematologic | medium/1000 |
| Trichloroethene | | 79-01-6 | 5.00E-04 | c | 5.00E-04 | I | 1 | 5.0E-04 | 5.0E-04 | heart, immune system | high/10 to100 |
| Vinyl chloride | | 75-01-4 | 3.00E-03 | c | 3.00E-03 | I | 1 | 3.0E-03 | 3.0E-03 | liver | medium/30 |
| Xylenes (total) | | 1330-20-7 | 4.00E-01 | P | 2.00E-01 | I | 1 | 4.0E-01 | 2.0E-01 | WB | medium/1000 |
| **Semi-Volatile Organic Compounds** | | | | | | | | 0.0E+00 | | | |
| Carbazole | | 86-74-8 | NA | | NA | | 1 | NA | NA | NA | NA |
| 4-Chlorobenzenamine | | 106-47-8 | 5.00E-04 | P | 4.00E-03 | I | 1 | 5.0E-04 | 4.0E-03 | spleen | low/3000 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | 0.0E+00 | | | |
| Benz(a)anthracene | | 56-55-3 | NA | | NA | | 1 | NA | NA | NA | NA |
| Benzo(a)pyrene | | 50-32-8 | NA | | 3.00E-04 | I | 1 | NA | 3.0E-04 | Developmental | Medium/300 |
| Benzo(b)fluoranthene | | 205-99-2 | NA | | NA | | 1 | NA | NA | NA | NA |
| Benzo(k)fluoranthene | | 207-08-9 | NA | | NA | | 1 | NA | NA | NA | NA |
| Dibenz(a,h)anthracene | | 53-70-3 | NA | | NA | | 1 | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | | 193-39-5 | NA | | NA | | 1 | NA | NA | NA | NA |
| 1-Methylnaphthalene | | 90-12-0 | 7.00E-02 | c | 7.00E-02 | A | 1 | 7.0E-02 | 7.0E-02 | lungs | NA/1000 |
| 2-Methylnaphthalene | | 91-57-6 | 4.00E-03 | c | 4.00E-03 | I | 1 | 4.0E-03 | 4.0E-03 | lungs | low/1000 |
| Naphthalene | | 91-20-3 | 6.00E-01 | A | 2.00E-02 | I | 1 | 6.0E-01 | 2.0E-02 | terminal body weight | low/3000 |
| **Pesticides** | | | | | | | | | | | |
| Aldrin | | 309-00-2 | 4.00E-05 | P | 3.00E-05 | I | 1 | 4.0E-05 | 3.0E-05 | liver | medium/1000 |
| delta BHC | [d] | 319-86-8 | 8.00E-03 | c | 8.00E-03 | A | 1 | 8.0E-03 | 8.0E-03 | liver | NA |
| alpha-Chlordane | | 5103-71-9 | NA | | NA | | 1 | NA | NA | NA | NA |
| gamma-Chlordane | | 5566-34-7 | NA | | NA | | 1 | NA | NA | NA | NA |
| 4,4'-DDD | | 72-54-8 | NA | | 3.00E-05 | X | 1 | NA | 3.0E-05 | NA | NA |
| Dieldrin | | 60-57-1 | 5.00E-05 | H | 5.00E-05 | I | 1 | 5.0E-05 | 5.0E-05 | liver | medium/100 |
| Heptachlor epoxide | | 1024-57-3 | 1.30E-05 | H | 1.30E-05 | I | 1 | 1.3E-05 | 1.3E-05 | liver | low/1000 |
| alpha-Hexachlorocyclohexane | | 319-84-6 | 8.00E-03 | c | 8.00E-03 | A | 1 | 8.0E-03 | 8.0E-03 | liver | NA |
| beta-Hexachlorocyclohexane | | 319-85-7 | NA | | NA | | 1 | NA | NA | NA | NA |
| Lindane | | 58-89-9 | 3.00E-03 | H | 3.00E-04 | I | 1 | 3.0E-03 | 3.0E-04 | liver, kidney | medium/1000 |
| **Inorganics** | | | | | | | | | | | |
| Arsenic | | 7440-38-2 | 3.00E-04 | c | 3.00E-04 | I | 1 | 3.0E-04 | 3.0E-04 | skin, vascular | medium/3 |
| Cadmium | [e] | 7440-43-9 | 0.001/0.0005 | c | 0.001/0.0005 | I | 0.025/.05 | 2.5E-05 | 2.5E-05 | kidney | high/10 |
| Chromium | [f] | 7440-47-3 | 2.00E-02 | H | 3.00E-03 | I | 0.025 | 5.0E-04 | 7.5E-05 | NR | low/300 |
| Chromium, hexavalent | | 18540-29-9 | 5.00E-03 | A | 3.00E-03 | I | 0.025 | 1.3E-04 | 7.5E-05 | NR | low/300 |
| Iron | | 7439-89-6 | 7.00E-01 | c | 7.00E-01 | P | 1 | 7.0E-01 | 7.0E-01 | GI | NA/1.5 |
| Lead | | 7439-92-1 | NA | | NA | | 1 | NA | NA | NA | NA |
| Manganese | [g] | 7439-96-5 | 1.40E-01 | H | 1.40E-01 | I | 1 | 1.4E-01 | 1.4E-01 | CNS | medium/1 |
| Mercury | | 7439-97-6 | NA | | NA | | 1 | NA | NA | NA | NA |

References [ref]:

| | |
|---|---|
| A | Agency for Toxic Substances Disease Registry (ATSDR 2017). |
| H | USEPA, Health Effects Summary Table (HEAST) (USEPA 2011b). |
| I | USEPA, Integrated Risk Information System (IRIS) (USEPA 2019a). |
| P | Provisional Peer Reviewed Toxicity Values (PPRTV) (USEPA 2019b). |
| c | The chronic value is used if available. |
| CASN | Chemical abstracts registry number. |
| CNS | Central nervous system. |
| GI | Gastrointestinal tract. |
| mg/kg/day | Milligram per kilogram per day. |
| NA | Not available or applicable. |
| NR | None reported. |
| RfD | Reference Dose. |
| RBCs | Red blood cells. |
| s | Value is based on use of a surrogate compound, as indicated. |
| WB | Whole body (includes increased mortality and changes to body weight). |
| x | The uncertainty factor for subchronic to chronic extrapolation was removed. |
| [a] | Toxicity values were obtained following USEPA recommended hierarchy (USEPA 2003a). |
| [b] | The oral-to-dermal adjustment factor (oral absorption efficiency) as used to calculate the dermal RfD values (USEPA 2004b). RfD (dermal) = RfD (oral) × Adjustment Factor (oral absorption efficiency). |
| [c] | Chronic to subchronic extrapolation factor of 3 was used to create the chronic RfD value. |
| [d] | Alpha-BHC used as a surrogate. |
| [e] | Values for diet / water. |
| [f] | Hexavalent chromium toxicity values are presented. |
| [g] | Value for diet. |

**Table 8-19**
**Noncarcinogenic Toxicity Values for Inhalation Exposure**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent | | CASRN | Inhalation RfC ($mg/m^3$) [a] Subchronic | [ref] | Chronic | [ref] | Target Site/ Critical Effect | Confidence Level/ Uncertainty Factor |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | |
| Benzene | [b] | 71-43-2 | 8.00E-02 | P | 3.00E-02 | I | blood | medium/300 |
| Chloroform | | 67-66-3 | 2.44E-01 | A | 9.80E-02 | A | liver, kidney, and CNS | low to medium/100 |
| Chloromethane | | 74-87-3 | 3.00E+00 | P | 9.00E-02 | I | brain | medium/1000 |
| Dibromochloromethane | | 124-48-1 | NA | | NA | | NA | NA |
| cis-1,2-Dichloroethene | | 156-59-2 | NA | | NA | | NA | NA |
| trans-1,2-Dichloroethene | | 156-60-5 | 7.93E-01 | A | NA | | liver, hepatic | low/1000 |
| 1,2-Dichloropropane | | 78-87-5 | 1.30E-02 | H | 4.00E-03 | I | nasal | high/300 |
| Ethylbenzene | | 100-41-4 | 9.00E+00 | P | 1.00E+00 | I | developmental | low/300 |
| 2-Hexanone | | 591-78-6 | 3.00E-01 | cx | 3.00E-02 | I | CNS | low/3000 |
| 1-Methylethyl benzene | | 98-82-8 | 9.00E-02 | H | 4.00E-01 | I | kidney and adrenal gland | medium/1000 |
| Methylcyclohexane | | 108-87-2 | NA | | NA | | NA | NA |
| 1,1,2,2-Tetrachloroethane | | 79-34-5 | NA | | NA | | NA | NA |
| Toluene | | 108-88-3 | 5.00E+00 | P | 5.00E+00 | I | CNS | high/10 |
| 1,1,2-Trichloroethane | | 79-00-5 | 2.00E-04 | c | 2.00E-04 | X | immune system | low/1000 |
| Trichloroethene | | 79-01-6 | 2.15E-03 | A | 2.00E-03 | I | heart, immune system | high/10 to100 |
| Vinyl chloride | | 75-01-4 | 7.67E-02 | A | 1.00E-01 | I | liver | medium/30 |
| Xylenes (total) | | 1330-20-7 | 4.00E-01 | P | 1.00E-01 | I | CNS | medium/300 |
| **Semi-Volatile Organic Compounds** | | | | | | | | |
| Carbazole | | 86-74-8 | NA | | NA | | NA | NA |
| 4-Chlorobenzenamine | | 106-47-8 | NA | | NA | | NA | NA |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | |
| Benz(a)anthracene | | 56-55-3 | NA | | NA | | NA | NA |
| Benzo(a)pyrene | | 50-32-8 | NA | | 2.00E-06 | I | Developmental | Low to Medium/3000 |
| Benzo(b)fluoranthene | | 205-99-2 | NA | | NA | | NA | NA |
| Benzo(k)fluoranthene | | 207-08-9 | NA | | NA | | NA | NA |
| Dibenz(a,h)anthracene | | 53-70-3 | NA | | NA | | NA | NA |
| Indeno(1,2,3-cd)pyrene | | 193-39-5 | NA | | NA | | NA | NA |
| 1-Methylnaphthalene | | 90-12-0 | NA | | NA | | NA | NA |
| 2-Methylnaphthalene | | 91-57-6 | NA | | NA | | NA | NA |
| Naphthalene | | 91-20-3 | 3.00E-03 | c | 3.00E-03 | I | nasal | medium/3000 |
| **Pesticides** | | | | | | | | |
| Aldrin | | 309-00-2 | NA | | NA | | NA | NA |
| delta BHC | | 319-86-8 | NA | | NA | | NA | NA |
| alpha-Chlordane | | 5103-71-9 | NA | | NA | | NA | NA |
| gamma-Chlordane | | 5566-34-7 | NA | | NA | | NA | NA |
| 4,4'-DDD | | 72-54-8 | NA | | NA | | NA | NA |
| Dieldrin | | 60-57-1 | NA | | NA | | NA | NA |
| Heptachlor epoxide | | 1024-57-3 | NA | | NA | | NA | NA |
| alpha-Hexachlorocyclohexane | | 319-84-6 | NA | | NA | | NA | NA |
| beta-Hexachlorocyclohexane | | 319-85-7 | NA | | NA | | NA | NA |
| Lindane | | 58-89-9 | NA | | NA | | NA | NA |
| **Inorganics** | | | | | | | | |
| Arsenic | | 7440-38-2 | 1.50E-05 | c | 1.50E-05 | C | developmental, cardiovascular, lung, skin, NS | NA |
| Cadmium | | 7440-43-9 | 1.00E-05 | c | 1.00E-05 | A | kidney | high/10 |
| Chromium | [c] | 7440-47-3 | 3.00E-04 | A | 1.00E-04 | I | lung | medium/300 |
| Chromium, hexavalent | | 18540-29-9 | 3.00E-04 | A | 1.00E-04 | I | lung | medium/300 |
| Iron | | 7439-89-6 | NA | | NA | | NA | NA |
| Lead | | 7439-92-1 | NA | | NA | | NA | NA |
| Manganese | | 7439-96-5 | 5.00E-05 | I | 5.00E-05 | I | CNS | medium/1000 |
| Mercury | | 7439-97-6 | 3.00E-04 | c | 3.00E-04 | I | NS | medium/30 |

References [ref]:

| | |
|---|---|
| A | Agency for Toxic Substances Disease Registry (ATSDR 2017). |
| C | CalEPA, Toxicity Criteria database (CalEPA 2019). |
| H | USEPA, Health Effects Summary Table (HEAST) (USEPA 2011b). |
| I | USEPA, Integrated Risk Information System (IRIS) (USEPA 2019a). |
| P | Provisional Peer Reviewed Toxicity Values (PPRTV) (USEPA 2019b). |
| X | Provisional Peer Reviewed Toxicity Values Appendix (PPRTV) (USEPA 2019b). |

| | |
|---|---|
| *c* | The chronic value is used if available. |
| CASN | Chemical abstracts registry number. |
| CNS | Central nervous system. |
| $mg/m^3$ | Milligram per cubic meter. |
| NA | Not available or applicable. |
| NR | None reported. |
| NS | Nervous system. |
| RfC | Reference Concentration. |
| WB | Whole body (includes increased mortality and changes to body weight). |
| *x* | The uncertainty factor for subchronic to chronic extrapolation was removed. |

| | |
|---|---|
| [a] | Toxicity values were obtained following USEPA recommended hierarchy (USEPA 2003a). |
| [b] | Chronic to subchronic extrapolation factor of 3 was used to create the chronic RfC value. |
| [c] | Hexavalent chromium toxicity values are presented. |

**Table 8-20**
**Carcinogenic Toxicity Values for Oral and Dermal Exposure**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent | | CASRN | Oral CSF [a] (mg/kg/day)$^{-1}$ | [ref] | TEF | Adjustment Factor [b] | Dermal CSF [b] (mg/kg/day)$^{-1}$ | Mutagen | Tumor Site | Weight of Evidence Classification [c] |
|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | |
| Benzene | [d] | 71-43-2 | 5.50E-02 | I | | 1 | 5.5E-02 | | leukemia | A |
| Chloroform | [e] | 67-66-3 | 3.10E-02 | C | | 1 | 3.1E-02 | | – | B2 |
| Chloromethane | | 74-87-3 | NA | | | 1 | NA | | – | D |
| Dibromochloromethane | | 124-48-1 | 8.40E-02 | I | | 1 | 8.4E-02 | | liver | C |
| cis-1,2-Dichloroethene | | 156-59-2 | NA | | | 1 | NA | | – | D |
| trans-1,2-Dichloroethene | | 156-60-5 | NA | | | 1 | NA | | – | NA |
| 1,2-Dichloropropane | | 78-87-5 | 3.70E-02 | P | | 1 | 3.7E-02 | | liver | B2 |
| Ethylbenzene | [f] | 100-41-4 | 1.10E-02 | C | | 1 | 1.1E-02 | | – | D |
| 2-Hexanone | | 591-78-6 | NA | | | 1 | NA | | – | NA |
| 1-Methylethyl benzene | | 98-82-8 | NA | | | 1 | NA | | – | D |
| Methylcyclohexane | | 108-87-2 | NA | | | 1 | NA | | – | NA |
| 1,1,2,2-Tetrachloroethane | | 79-34-5 | 2.00E-01 | I | | 1 | 2.0E-01 | | liver | C |
| Toluene | | 108-88-3 | NA | | | 1 | NA | | – | D |
| 1,1,2-Trichloroethane | | 79-00-5 | 5.70E-02 | I | | 1 | 5.7E-02 | | liver | C |
| Trichloroethene (adult exposure) | [g] | 79-01-6 | 4.60E-02 | I | | 1 | 4.6E-02 | M | liver, NHL, kidney | H |
| Trichloroethene (child, mutagen) | [g] | 79-01-6 | 9.30E-03 | I | | 1 | 9.3E-03 | M | kidney | H |
| Trichloroethene (child, non-mutagen) | [g] | 79-01-6 | 3.70E-02 | I | | 1 | 3.7E-02 | | liver, NHL | H |
| Vinyl chloride | [h] | 75-01-4 | 7.20E-01 | I | | 1 | 7.2E-01 | M | liver | A |
| Xylenes (total) | | 1330-20-7 | NA | | | 1 | NA | | – | D |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | |
| Carbazole | | 86-74-8 | NA | | | 1 | NA | | – | NA |
| 4-Chlorobenzenamine | [i] | 106-47-8 | 2.00E-01 | P | | 1 | 2.0E-01 | | adrenal glad | NA |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | |
| Benz(a)anthracene | | 56-55-3 | 1.00E-01 | E | 0.1 | 1 | 1.0E-01 | M | forestomach | B2 |
| Benzo(a)pyrene | | 50-32-8 | 1.00E+00 | I | 1 | 1 | 1.0E+00 | M | forestomach | B2 |
| Benzo(b)fluoranthene | | 205-99-2 | 1.00E-01 | E | 0.1 | 1 | 1.0E-01 | M | forestomach | B2 |
| Benzo(k)fluoranthene | | 207-08-9 | 1.00E-02 | E | 0.01 | 1 | 1.0E-02 | M | forestomach | B2 |
| Dibenz(a,h)anthracene | | 53-70-3 | 1.00E+00 | E | 1 | 1 | 1.0E+00 | M | forestomach | B2 |
| Indeno(1,2,3-cd)pyrene | | 193-39-5 | 1.00E-01 | E | 0.1 | 1 | 1.0E-01 | M | forestomach | B2 |
| 1-Methylnaphthalene | | 90-12-0 | 2.90E-02 | P | | 1 | 2.9E-02 | | lung | C |
| 2-Methylnaphthalene | | 91-57-6 | NA | | | 1 | NA | | – | D |
| Naphthalene | | 91-20-3 | NA | | | 1 | NA | | – | C |
| **Pesticides** | | | | | | | | | | |
| Aldrin | | 309-00-2 | 1.70E+01 | I | | 1 | 1.7E+01 | | liver | B2 |
| delta BHC | [j] | 319-86-8 | 6.30E+00 | I | | 1 | 6.3E+00 | | liver | B2 |
| alpha-Chlordane | [k] | 5103-71-9 | 3.50E-01 | | | 1 | 3.5E-01 | | liver | B2 |
| gamma-Chlordane | [k] | 5566-34-7 | 3.50E-01 | | | 1 | 3.5E-01 | | liver | B2 |
| 4,4'-DDD | | 72-54-8 | 2.40E-01 | I | | 1 | 2.4E-01 | | liver | B2 |
| Dieldrin | | 60-57-1 | 1.60E+01 | I | | 1 | 1.6E+01 | | liver | B2 |
| Heptachlor epoxide | | 1024-57-3 | 9.10E+00 | I | | 1 | 9.1E+00 | | liver | B2 |
| alpha-Hexachlorocyclohexane | | 319-84-6 | 6.30E+00 | I | | 1 | 6.3E+00 | | liver | B2 |
| beta-Hexachlorocyclohexane | | 319-85-7 | 1.80E+00 | I | | 1 | 1.8E+00 | | liver | C |
| Lindane | | 58-89-9 | 1.10E+00 | C | | 1 | 1.1E+00 | | liver | B2-C |
| **Inorganics** | | | | | | | | | | |
| Arsenic | | 7440-38-2 | 1.50E+00 | I | | 1 | 1.5E+00 | | skin | A |
| Cadmium | | 7440-43-9 | NA | | | 0.025/.05 | NA | | – | B1 |
| Chromium | [l,m] | 7440-47-3 | 5.00E-01 | C | | 0.025 | 2.0E+01 | M | – | A |
| Chromium, hexavalent | [m] | 18540-29-9 | 5.00E-01 | C | | 0.025 | 2.0E+01 | M | – | A |
| Iron | | 7439-89-6 | NA | | | 1 | NA | | – | NA |
| Lead | | 7439-92-1 | NA | | | 1 | NA | | – | NA |
| Manganese | | 7439-96-5 | NA | | | 1 | NA | | – | NA |
| Mercury | | 7439-97-6 | NA | | | 1 | NA | | – | C |

References [ref]:

| | |
|---|---|
| C | CalEPA, Toxicity Criteria database (CalEPA 2019). |
| I | USEPA, Integrated Risk Information System (IRIS) (USEPA 2019a). |
| P | Provisional Peer Reviewed Toxicity Values (PPRTV) (USEPA 2019b). |
| – | Not applicable. |
| CASN | Chemical abstracts registry number. |
| CSF | Cancer Slope Factor. |
| (mg/kg/day)$^{-1}$ | Inverse milligram per kilogram per day (risk per unit dose). |
| M | Carcinogen with a mutagenic mode of action. |
| NA | Not available or applicable. |
| NHL | Non-hodgkins lymphoma. |

[a] Toxicity values were obtained following USEPA recommended hierarchy (USEPA 2003a).

[b] The oral-to-dermal adjustment factor (oral absorption efficiency) as used to calculate the dermal CSFd values (USEPA 2004b).
CSF (dermal) = CSF (oral) / Adjustment Factor (oral absorption efficiency)

[c] The USEPA 1986 hierarchal cancer classification system and the more recent 2005 narrative system are desribed in text.
The most up to date classification is presented for each constituent.

1986
- A: Human Carcinogen (sufficient evidence of carcinogenicity in humans).
- 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.
- C: Possible Human Carcinogen (limited evidence of carcinogenicity in animals and inadequate or lack of human data).
- D: Not Classifiable as to Human Carcinogenicity (inadequate or no evidence).

2005
- H: Carcinogenic to humans.
- L: Likely to be carcinogenic to humans.

[d] Maximum (most conservative) value of the range of 1.5E-02 to 5.5E-02 (mg/kg/day)-1 presented in the IRIS database.

[e] The IRIS file for chloroform states that the reference dose value is considered protective.

[f] 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.

[g] Trichloroethene values are for mutagenic/non-mutagenic modes of action. For residential receptors and trespassers, the age dependent adjustment factors are used on only the

[h] Values are for adult/child exposure. Vinyl chloride is a carcinogen by mutagenic mode of action (MOA) but should be assessed using two different cancer toxicity values rather than by using the MOA method (USEPA 2005a,b).

[i] In order to linearly extrapolate cancer risks from the BMDL10 HED to the origin, a cancer OSF was calculated as the ratio 0.1/BMDL10 HED.

[j] alpha-Hexachlorocyclohexane toxicity values are presented.

[k] Chlordane (mixture) used as a surrogate.

[l] Hexavalent chromium toxicity values are presented.

[m] Carcinogenic only via inhalation (Class D for oral exposure; Class A for inhalation exposure).

**Table 8-21**
**Carcinogenic Toxicity Values for Inhalation Exposure**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent | | CASRN | Inhalation Unit Risk (IUR) [a] $(\mu g/m^3)^{-1}$ | [ref] | TEF | Mutagen | Tumor Site | Weight of Evidence Classification [b] |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | |
| Benzene | [c] | 71-43-2 | 7.80E-06 | I | | | leukemia | A |
| Chloroform | | 67-66-3 | 2.30E-05 | I | | | liver | B2 |
| Chloromethane | | 74-87-3 | NA | | | | – | D |
| Dibromochloromethane | | 124-48-1 | NA | | | | liver | C |
| cis-1,2-Dichloroethene | | 156-59-2 | NA | | | | – | D |
| trans-1,2-Dichloroethene | | 156-60-5 | NA | | | | – | NA |
| 1,2-Dichloropropane | | 78-87-5 | 3.70E-05 | P | | | Nasal | B2 |
| Ethylbenzene | | 100-41-4 | 2.50E-06 | C | | | – | D |
| 2-Hexanone | | 591-78-6 | NA | | | | – | NA |
| 1-Methylethyl benzene | | 98-82-8 | NA | | | | – | D |
| Methylcyclohexane | | 108-87-2 | NA | | | | – | NA |
| 1,1,2,2-Tetrachloroethane | | 79-34-5 | 5.80E-05 | C | | | liver | C |
| Toluene | | 108-88-3 | NA | | | | – | D |
| 1,1,2-Trichloroethane | | 79-00-5 | 1.60E-05 | I | | | liver | C |
| Trichloroethene (adult exposure) | [d] | 79-01-6 | 4.1E-06 | I | | M | liver, NHL, kidney | H |
| Trichloroethene (child, mutagen) | [d] | 79-01-6 | 1.0E-06 | I | | M | kidney | H |
| Trichloroethene (child, non-mutagen) | [d] | 79-01-6 | 3.0E-06 | I | | | liver, NHL | H |
| Vinyl chloride | [e] | 75-01-4 | 4.40E-06 | I | | M | liver | A |
| Xylenes (total) | | 1330-20-7 | NA | | | | – | D |
| **Semi-Volatile Organic Compounds** | | | | | | | | |
| Carbazole | | 86-74-8 | NA | | | | – | NA |
| 4-Chlorobenzenamine | | 106-47-8 | NA | | | | – | NA |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | |
| Benz(a)anthracene | | 56-55-3 | 6.00E-05 | E | 0.1 | M | respiratory | B2 |
| Benzo(a)pyrene | | 50-32-8 | 6.00E-04 | I | 1 | M | respiratory | B2 |
| Benzo(b)fluoranthene | | 205-99-2 | 6.00E-05 | E | 0.1 | M | respiratory | B2 |
| Benzo(k)fluoranthene | | 207-08-9 | 6.00E-06 | E | 0.01 | M | respiratory | B2 |
| Dibenz(a,h)anthracene | | 53-70-3 | 6.00E-04 | E | 1 | M | respiratory | B2 |
| Indeno(1,2,3-cd)pyrene | | 193-39-5 | 6.00E-05 | E | 0.1 | M | respiratory | B2 |
| 1-Methylnaphthalene | | 90-12-0 | NA | | | | – | C |
| 2-Methylnaphthalene | | 91-57-6 | NA | | | | – | D |
| Naphthalene | | 91-20-3 | NA | | | | respiratory | C |
| **Pesticides** | | | | | | | | |
| Aldrin | | 309-00-2 | 4.90E-03 | I | | | liver | B2 |
| delta BHC | [f] | 319-86-8 | 1.80E-03 | I | | | liver | B2 |
| alpha-Chlordane | [g] | 5103-71-9 | 1.00E-04 | | | | liver | B2 |
| gamma-Chlordane | [g] | 5566-34-7 | 1.00E-04 | | | | liver | B2 |
| 4,4'-DDD | | 72-54-8 | 6.90E-05 | C | | | – | B2 |
| Dieldrin | | 60-57-1 | 4.60E-03 | I | | | liver | B2 |
| Heptachlor epoxide | | 1024-57-3 | 2.60E-03 | I | | | liver | B2 |
| alpha-Hexachlorocyclohexane | | 319-84-6 | 1.80E-03 | I | | | liver | B2 |
| beta-Hexachlorocyclohexane | | 319-85-7 | 5.30E-04 | I | | | liver | C |
| Lindane | | 58-89-9 | 3.10E-04 | C | | | – | B2-C |
| **Inorganics** | | | | | | | | |
| Arsenic | | 7440-38-2 | 4.30E-03 | I | | | lung | A |
| Cadmium | | 7440-43-9 | 1.80E-03 | I | | | lung, trachea, and bronchus | B1 |
| Chromium | [h] | 7440-47-3 | 8.40E-02 | S | | M | lung | A |
| Chromium, hexavalent | | 18540-29-9 | 8.40E-02 | S | | M | lung | A |
| Iron | | 7439-89-6 | NA | | | | – | NA |
| Lead | | 7439-92-1 | NA | | | | – | NA |
| Manganese | | 7439-96-5 | NA | | | | – | NA |
| Mercury | | 7439-97-6 | NA | | | | – | C |

References [ref]:

| | |
|---|---|
| C | CalEPA, Toxicity Criteria database (CalEPA 2019). |
| I | USEPA, Integrated Risk Information System (IRIS; USEPA 2019a). |
| P | Provisional Peer Reviewed Toxicity Values (PPRTV) (USEPA 2019b). |
| S | USEPA RSLs user guide (Section 5; USEPA 2018b). |
| – | Not applicable. |
| CASN | Chemical abstracts registry number. |
| CNS | Central nervous system. |
| $(\mu g/m^3)^{-1}$ | Inverse microgram per cubic meter. |
| M | Carcinogen with a mutagenic mode of action. |
| NA | Not available or applicable. |
| NHL | Non-hodgkins lymphoma. |

[a] Toxicity values were obtained following USEPA recommended hierarchy (USEPA 2003a).

[b] The USEPA 1986 hierarchal cancer classification system and the more recent 2005 narrative system are desribed in text
The most up to date classification is presented for each constituent.

| | |
|---|---|
| 1986 | A: Human Carcinogen (sufficient evidence of carcinogenicity in humans). |
| | 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. |
| | C: Possible Human Carcinogen (limited evidence of carcinogenicity in animals and inadequate or lack of human data). |
| | D: Not Classifiable as to Human Carcinogenicity (inadequate or no evidence). |
| 2005 | H: Carcinogenic to humans. |
| | L: Likely to be carcinogenic to humans. |

[c] Maximum (most conservative) value of the range of 7.7E-03 to 2.7E-02 (mg/kg/day)-1 [2.2E-03 to 7.8E-03 $(mg/m^3)$-1 for IUR] presented in the IRIS database.

[d] Trichloroethene values are for mutagenic/non-mutagenic modes of action. For residential receptors and trespassers, the age dependent adjustment factors are used on only the mutagenic toxcity value.

[e] Values are for adult/child exposure. Vinyl chloride is a carcinogen by mutagenic mode of action (MOA) but should be assessed using two different cancer toxicity values rather than by using the MOA method (USEPA 2005a,b).

[f] alpha-Hexachlorocyclohexane toxicity values are presented.

[g] Chlordane (mixture) used as a surrogate.

[h] Hexavalent chromium toxicity values are presented.

**Table 8-22**
**Risk and Hazard Calculations for a Current or Hypothetical Future Site Worker for Exposure to Soil (0-2 Feet)**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent | CASRN | EPCs (mg/kg) | | VF-sl *or* $PEF_{wind}$ [a] ($m^3$/kg) | | CANCER RISK: Route-Specific Risk: Oral | Dermal | Inhalation | Calculated Risk | Percent Total ELCR | NON-CANCER HAZARD: Route-Specific Hazard: Oral | Dermal | Inhalation | Calculated Hazard | Percent Total HI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | ELCRo | ELCRd | ELCRi | ELCR | | HQo | HQd | HQi | HI | |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 6.47E+00 | UCL | 6.77E+06 | V | 2.0E-07 | 1.1E-07 | 4.7E-09 | 3.1E-07 | 7% | NA | NA | NA | – | |
| Benzo(a)pyrene | 50-32-8 | 5.28E+00 | UCL | 3.69E+10 | P | 1.6E-06 | 8.9E-07 | 7.0E-12 | 2.5E-06 | 56% | 1.5E-02 | 8.3E-03 | 1.6E-05 | 2.3E-02 | 91% |
| Benzo(b)fluoranthene | 205-99-2 | 4.50E+00 | UCL | 3.69E+10 | P | 1.4E-07 | 7.6E-08 | 6.0E-13 | 2.1E-07 | 5% | NA | NA | NA | – | |
| Benzo(k)fluoranthene | 207-08-9 | 3.06E+00 | UCL | 3.69E+10 | P | 9.4E-09 | 5.2E-09 | 4.1E-14 | 1.5E-08 | <1% | NA | NA | NA | – | |
| Dibenz(a,h)anthracene | 53-70-3 | 5.37E-01 | UCL | 3.69E+10 | P | 1.6E-07 | 9.0E-08 | 7.1E-13 | 2.5E-07 | 6% | NA | NA | NA | – | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 2.63E+00 | UCL | 3.69E+10 | P | 8.1E-08 | 4.4E-08 | 3.5E-13 | 1.2E-07 | 3% | NA | NA | NA | – | |
| **Pesticides** | | | | | | | | | | | | | | | |
| Dieldrin | 60-57-1 | 4.30E-02 | max | 3.69E+10 | P | 2.1E-07 | 8.9E-08 | 4.4E-13 | 3.0E-07 | 7% | 7.4E-04 | 3.1E-04 | NA | 1.0E-03 | 4% |
| **Inorganics** | | | | | | | | | | | | | | | |
| Chromium | 7440-47-3 | 4.75E+00 | UCL | 3.69E+10 | P | 7.3E-07 | – | 8.8E-10 | 7.3E-07 | 16% | 1.4E-03 | – | 2.9E-07 | 1.4E-03 | 5% |
| **Total Risk or Hazard** | | | | | | Total ELCR | | | 4E-06 | 100% | Total HI | | | 0.03 | 100% |

[a] Minimum of the volatilization factor ([VF] identified with [V]) and the particulate emission factor ([PEF] identified with [P]), derived on Table 8-14 and Table 8-16.

| | | | | | |
|---|---|---|---|---|---|
| – | Not applicable. | HQ | Hazard quotient. | NA | Toxicity value not available or not applicable. |
| CASN | Chemical abstracts registry number. | max | Exposure point concentration based on maximum. | PEF | Particulate emission factor. |
| ELCR | Excess lifetime cancer risk. | $m^3$/kg | Cubic meter per kilogram. | UCL | Upper confidence limit. |
| EPCs | Exposure point concentration in soil. | mg/kg | Milligram per kilogram. | VF | Volatilization factor. |
| HI | Hazard index (sum of the HQs). | | | | |

Equations are presented in Table 8-8.
Receptor-specific exposure parameters are presented in Table 8-7 while constituent specific dermal absorption parameters are presented in Table 8-17.
Constituent-specific toxicity values are presented in Table 8-18 through Table 8-21.

ELCRo = (EPCs × 1 × 100 × 250 × 25 × CSFo) / (1,000,000 × 80 × 25,550)
ELCRd = (EPCs × 3,527 × 0.12 × ABSd × 250 × 25 × CSFa) / (1,000,000 × 80 × 25,550)
ELCRi = (EPCs × 8 × 0.042 ×250 × 25 × IUR × 1,000) / ([VF or PEF] × 25,550)

HQo = (EPCs × 1 × 100 × 250 × 25) / (1,000,000 × 80 × 9,125 × RfDo)
HQd = (EPCs × 3,527 × 0.12 × ABSd × 250 × 25) / (1,000,000 × 80 × 9,125 × RfDa)
HQi = (EPCs × 8 × 0.042 × 250 × 25) / ([VF or PEF] × 9,125 × RfC)

| Variable | Acronym | Value | Unit | Source |
|---|---|---|---|---|
| Averaging time, cancer | ATc | 25,550 | days | See Table 8-7 |
| Averaging time, non -cancer | ATnc | 9,125 | days | See Table 8-7 |
| Body weight | BW | 80 | kg | See Table 8-7 |
| Exposure time | ET | 8 | hrs/day | See Table 8-7 |
| Exposure frequency | EF | 250 | days/ year or days/wk | See Table 8-7 |
| Exposure duration | ED | 25 | years or weeks | See Table 8-7 |
| Conversion factor (days/hr) | CF | 0.042 | days/hr | See Table 8-7 |
| Ingestion rate of soil | IRs | 100 | mg/day | See Table 8-7 |
| Soil-to-skin adherence rate | SAR | 0.12 | mg/cm²/day | See Table 8-7 |
| Skin surface area for soil contact | SSAs | 3,527 | cm² | See Table 8-7 |

**Table 8-23**
**Risk and Hazard Calculations for a Current or Hypothetical Future Site Worker for Exposure to Soil (0-10 Feet)**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent | CASRN | EPCs (mg/kg) | | VF-sl *or* $PEF_{wind}$ [a] ($m^3$/kg) | | CANCER RISK: Route-Specific Risk: Oral | Dermal | Inhalation | Calculated Risk | Percent Total ELCR | NON-CANCER HAZARD: Route-Specific Hazard: Oral | Dermal | Inhalation | Calculated Hazard | Percent Total HI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | ELCRo | ELCRd | ELCRi | ELCR | | HQo | HQd | HQi | HI | |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 1.04E+00 | UCL | 4.47E+03 | V | 1.7E-08 | – | 1.5E-07 | 1.6E-07 | 5% | 2.2E-04 | – | 1.8E-03 | 2.0E-03 | 2% |
| Chloromethane | 74-87-3 | 3.90E+01 | max | 1.33E+03 | V | NA | NA | NA | – | | NA | NA | 7.4E-02 | 7.4E-02 | 68% |
| Ethylbenzene | 100-41-4 | 7.10E+00 | UCL | 7.45E+03 | V | 2.4E-08 | – | 1.9E-07 | 2.2E-07 | 6% | 6.1E-05 | – | 2.2E-04 | 2.8E-04 | <1% |
| Xylenes (total) | 1330-20-7 | 2.07E+01 | UCL | 7.55E+03 | V | NA | NA | NA | – | | 8.9E-05 | – | 6.3E-03 | 6.3E-03 | 6% |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 1.06E+00 | UCL | 6.77E+06 | V | 3.2E-08 | 1.8E-08 | 7.7E-10 | 5.1E-08 | 2% | NA | NA | NA | – | |
| Benzo(a)pyrene | 50-32-8 | 2.27E+00 | UCL | 3.69E+10 | P | 6.9E-07 | 3.8E-07 | 3.0E-12 | 1.1E-06 | 32% | 6.5E-03 | 3.6E-03 | 7.0E-06 | 1.0E-02 | 9% |
| Benzo(b)fluoranthene | 205-99-2 | 2.35E+00 | UCL | 3.69E+10 | P | 7.2E-08 | 4.0E-08 | 3.1E-13 | 1.1E-07 | 3% | NA | NA | NA | – | |
| Benzo(k)fluoranthene | 207-08-9 | 1.66E+00 | UCL | 3.69E+10 | P | 5.1E-09 | 2.8E-09 | 2.2E-14 | 7.8E-09 | <1% | NA | NA | NA | – | |
| Dibenz(a,h)anthracene | 53-70-3 | 3.82E-01 | UCL | 3.69E+10 | P | 1.2E-07 | 6.4E-08 | 5.1E-13 | 1.8E-07 | 5% | NA | NA | NA | – | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1.37E+00 | UCL | 3.69E+10 | P | 4.2E-08 | 2.3E-08 | 1.8E-13 | 6.5E-08 | 2% | NA | NA | NA | – | |
| 1-Methylnaphthalene | 90-12-0 | 1.59E+01 | UCL | 8.72E+04 | V | 1.4E-07 | 7.8E-08 | NA | 2.2E-07 | 7% | 1.9E-04 | 1.1E-04 | NA | 3.0E-04 | <1% |
| 2-Methylnaphthalene | 91-57-6 | 1.68E+01 | UCL | 8.44E+04 | V | NA | NA | NA | – | | 3.6E-03 | 2.0E-03 | NA | 5.6E-03 | 5% |
| Naphthalene | 91-20-3 | 5.51E+00 | UCL | 6.40E+04 | V | NA | NA | NA | – | | 2.4E-04 | 1.3E-04 | 6.6E-03 | 6.9E-03 | 6% |
| **Pesticides** | | | | | | | | | | | | | | | |
| Dieldrin | 60-57-1 | 4.30E-02 | max | 3.69E+10 | P | 2.1E-07 | 8.9E-08 | 4.4E-13 | 3.0E-07 | 9% | 7.4E-04 | 3.1E-04 | NA | 1.0E-03 | <1% |
| **Inorganics** | | | | | | | | | | | | | | | |
| Chromium | 7440-47-3 | 6.32E+00 | UCL | 3.69E+10 | P | 9.7E-07 | – | 1.2E-09 | 9.7E-07 | 29% | 1.8E-03 | – | 3.9E-07 | 1.8E-03 | 2% |
| **Total Risk or Hazard** | | | | | | Total ELCR | | | 3E-06 | 100% | Total HI | | | 0.1 | 100% |

[a] Minimum of the volatilization factor ([VF] identified with [V]) and the particulate emission factor ([PEF] identified with [P]), derived on Table 8-14 and Table 8-16.

| | | | | | |
|---|---|---|---|---|---|
| – | Not applicable. | HQ | Hazard quotient. | NA | Toxicity value not available or not applicable. |
| CASN | Chemical abstracts registry number. | max | Exposure point concentration based on maximum. | PEF | Particulate emission factor. |
| ELCR | Excess lifetime cancer risk. | $m^3$/kg | Cubic meter per kilogram. | UCL | Upper confidence limit. |
| EPCs | Exposure point concentration in soil. | mg/kg | Milligram per kilogram. | VF | Volatilization factor. |
| HI | Hazard index (sum of the HQs). | | | | |

Equations are presented in Table 8-8.
Receptor-specific exposure parameters are presented in Table 8-7 while constituent specific dermal absorption parameters are presented in Table 8-17.
Constituent-specific toxicity values are presented in Table 8-18 through Table 8-21.

ELCRo = (EPCs × 1 × 100 × 250 × 25 × CSFo) / (1,000,000 × 80 × 25,550)
ELCRd = (EPCs × 3,527 × 0.12 × ABSd × 250 × 25 × CSFa) / (1,000,000 × 80 × 25,550)
ELCRi = (EPCs × 8 × 0.042 ×250 × 25 × IUR × 1,000) / ([VF or PEF] × 25,550)

HQo = (EPCs × 1 × 100 × 250 × 25) / (1,000,000 × 80 × 9,125 × RfDo)
HQd = (EPCs × 3,527 × 0.12 × ABSd × 250 × 25) / (1,000,000 × 80 × 9,125 × RfDa)
HQi = (EPCs × 8 × 0.042 × 250 × 25) / ([VF or PEF] × 9,125 × RfC)

| Variable | Acronym | Value | Unit | Source |
|---|---|---|---|---|
| Averaging time, cancer | ATc | 25,550 | days | See Table 8-7 |
| Averaging time, non -cancer | ATnc | 9,125 | days | See Table 8-7 |
| Body weight | BW | 80 | kg | See Table 8-7 |
| Exposure time | ET | 8 | hrs/day | See Table 8-7 |
| Exposure frequency | EF | 250 | days/ year or days/wk | See Table 8-7 |
| Exposure duration | ED | 25 | years or weeks | See Table 8-7 |
| Conversion factor (days/hr) | CF | 0.042 | days/hr | See Table 8-7 |
| Ingestion rate of soil | IRs | 100 | mg/day | See Table 8-7 |
| Soil-to-skin adherence rate | SAR | 0.12 | mg/$cm^2$/day | See Table 8-7 |
| Skin surface area for soil contact | SSAs | 3,527 | $cm^2$ | See Table 8-7 |

PIKA ARCADIS A JOINT VENTURE

## Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| | | | Aldrin | Benzene | Chloroform | Cyclohexane | Dibromochloromethane | Dichloroethylene, 1,2-cis- | Dichloroethylene, 1,2-trans- | Endosulfan | Ethylbenzene |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Source Characteristics:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Source medium** | | Source | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| **Groundwater concentration** | (ug/L) | Cmedium | 0.61 | 5.101 | 1.7 | 12.11 | 0.68 | 927 | 6.661 | 0.0719 | 5.052 |
| **Depth below grade to water table** | (m) | Ls | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 |
| **Average groundwater temperature** | ($^{o}$C) | Ts | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 |
| Calc: Source vapor concentration | (ug/m3) | Cs | 1 | 914 | 205 | 58948 | 18 | 123940 | 2075 | 0 | 1206 |
| Calc: % of pure component saturated vapor concentration | (%) | %Sat | 0.027% | 0.000% | 0.000% | 0.013% | 0.000% | 0.012% | 0.000% | 5.142% | 0.002% |
| **Chemical:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Chemical Name** | | Chem | Aldrin | Benzene | Chloroform | Cyclohexane | Dibromochloromethane | Dichloroethylene, 1,2-cis- | Dichloroethylene, 1,2-trans- | Endosulfan | Ethylbenzene |
| CAS No. | | CAS | 309-00-2 | 71-43-2 | 67-66-3 | 110-82-7 | 124-48-1 | 156-59-2 | 156-60-5 | 115-29-7 | 100-41-4 |
| **Toxicity Factors** | | | | | | | | | | | |
| Unit risk factor | $(ug/m^3)^{-1}$ | IUR | 4.90E-03 | 7.80E-06 | 2.30E-05 | Not Available | Not Available | Not Available | Not Available | Not Available | 2.50E-06 |
| Mutagenic compound | | Mut | No | No | No | No | No | No | No | No | No |
| Reference concentration | ($ug/m^3$) | RfC | Not Available | 3.00E-02 | 9.80E-02 | 6.00E+00 | Not Available | Not Available | Not Available | Not Available | 1.00E+00 |
| **Chemical Properties:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| Pure component water solubility | (mg/L) | S | 1.70E-02 | 1.79E+03 | 7.95E+03 | 5.50E+01 | 2.70E+03 | 6.41E+03 | 4.52E+03 | 3.25E-01 | 1.69E+02 |
| Henry's Law Constant @ 25$^{o}$C | ($atm-m^3/mol$) | Hc | 4.40E-05 | 5.55E-03 | 3.67E-03 | 1.50E-01 | 7.83E-04 | 4.08E-03 | 9.38E-03 | 6.50E-05 | 7.88E-03 |
| Calc: Henry's Law Constant @ 25$^{o}$C | (dimensionless) | Hr | 1.80E-03 | 2.27E-01 | 1.50E-01 | 6.13E+00 | 3.20E-02 | 1.67E-01 | 3.84E-01 | 2.66E-03 | 3.22E-01 |
| Calc: Henry's Law Constant @ system temperature | (dimensionless) | Hs | 1.04E-03 | 1.79E-01 | 1.21E-01 | 4.87E+00 | 2.66E-02 | 1.34E-01 | 3.12E-01 | 2.71E-03 | 2.39E-01 |
| Diffusivity in air | (cm2/s) | Dair | 2.28E-02 | 8.95E-02 | 7.69E-02 | 8.00E-02 | 3.66E-02 | 8.84E-02 | 8.76E-02 | 2.25E-02 | 6.85E-02 |
| Diffusivity in water | (cm2/s) | Dwater | 5.84E-06 | 1.03E-05 | 1.09E-05 | 9.11E-06 | 1.06E-05 | 1.13E-05 | 1.12E-05 | 5.76E-06 | 8.46E-06 |
| **Building Characteristics:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Building setting** | | Bldg_Setting | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial |
| **Foundation type** | | Found_Type | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade |
| Depth below grade to base of foundation | (m) | Lb | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Foundation thickness | (m) | Lf | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Fraction of foundation area with cracks | (-) | eta | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| Enclosed space floor area | (m2) | Ab | 1500.00 | 1500.00 | 1500.00 | 1500.00 | 1500.00 | 1500.00 | 1500.00 | 1500.00 | 1500.00 |
| Enclosed space mixing height | (m) | Hb | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| Indoor air exchange rate | (1/hr) | ach | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| Qsoil/Qbuilding | (-) | Qsoil_Qb | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 |
| Calc: Building ventilation rate | (m3/hr) | Qb | 6750.00 | 6750.00 | 6750.00 | 6750.00 | 6750.00 | 6750.00 | 6750.00 | 6750.00 | 6750.00 |
| Calc: Average vapor flow rate into building | (m3/hr) | Qsoil | 20.25 | 20.25 | 20.25 | 20.25 | 20.25 | 20.25 | 20.25 | 20.25 | 20.25 |

PIKA ARCADIS A JOINT VENTURE

## Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| | | | Aldrin | Benzene | Chloroform | Cyclohexane | Dibromochloromethane | Dichloroethylene, 1,2-cis- | Dichloroethylene, 1,2-trans- | Endosulfan | Ethylbenzene |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vadose zone characteristics:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Stratum A (Top of soil profile):** | | | | | | | | | | | |
| **Stratum A SCS soil type** | | SCS_A | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam |
| **Stratum A thickness (from surface)** | (m) | hSA | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 |
| Stratum A total porosity | (-) | nSA | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 |
| Stratum A water-filled porosity | (-) | nwSA | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 |
| Stratum A bulk density | ($g/cm^3$) | rhoSA | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 |
| **Stratum B (Soil layer below Stratum A):** | | | | | | | | | | | |
| **Stratum B SCS soil type** | | SCS_B | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present |
| **Stratum B thickness** | (m) | hSB | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stratum B total porosity | (-) | nSB | | | | | | | | | |
| Stratum B water-filled porosity | (-) | nwSB | | | | | | | | | |
| Stratum B bulk density | ($g/cm^3$) | rhoSB | | | | | | | | | |
| **Stratum C (Soil layer below Stratum B):** | | | | | | | | | | | |
| **Stratum C SCS soil type** | | SCS_C | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present |
| **Stratum C thickness** | (m) | hSC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stratum C total porosity | (-) | nSC | | | | | | | | | |
| Stratum C water-filled porosity | (-) | nwSC | | | | | | | | | |
| Stratum C bulk density | ($g/cm^3$) | rhoSC | | | | | | | | | |
| **Stratum directly above the water table** | | | | | | | | | | | |
| Stratum A, B, or C | | src_soil | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A |
| Height of capillary fringe | (m) | hcz | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 |
| Capillary zone total porosity | (-) | ncz | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 |
| Capillary zone water filled porosity | (-) | nwcz | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 |
| **Exposure Parameters:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Target risk for carcinogens** | (-) | Target_CR | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 |
| **Target hazard quotient for non-carcinogens** | (-) | Target_HQ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Exposure Scenario | | Scenario | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial |
| Averaging time for carcinogens | (yrs) | ATc | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| Averaging time for non-carcinogens | (yrs) | ATnc | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Exposure duration | (yrs) | ED | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Exposure frequency | (days/yr) | EF | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| Exposure time | (hrs/24 hrs) | ET | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Mutagenic mode-of-action factor | (yrs) | MMOAF | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| **Source to Indoor Air Attenuation Factor** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Groundwater to indoor air attenuation coefficient** | **(-)** | **alpha** | **3.7E-07** | **1.2E-06** | **1.1E-06** | **1.1E-06** | **5.5E-07** | **1.2E-06** | **1.2E-06** | **3.5E-07** | **9.4E-07** |
| | | **Range** | 3.7E-07 - 3.7E-07 | 1.2E-06 - 1.2E-06 | 1.1E-06 - 1.1E-06 | 1.1E-06 - 1.1E-06 | 5.5E-07 - 5.5E-07 | 1.2E-06 - 1.2E-06 | 1.2E-06 - 1.2E-06 | 3.5E-07 - 3.5E-07 | 9.4E-07 - 9.4E-07 |
| **Predicted Indoor Air Concentration** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Indoor air concentration due to vapor intrusion** | **(ug/m3)** | **Cia** | **2.3E-07** | **1.1E-03** | **2.2E-04** | **6.3E-02** | **1.0E-05** | **1.5E-01** | **2.5E-03** | **6.8E-08** | **1.1E-03** |
| | | **Range** | 2.3E-07 - 2.3E-07 | 1.1E-03 - 1.1E-03 | 2.2E-04 - 2.2E-04 | 6.3E-02 - 6.3E-02 | 9.9E-06 - 1.0E-05 | 1.5E-01 - 1.5E-01 | 2.5E-03 - 2.5E-03 | 6.8E-08 - 6.8E-08 | 1.1E-03 - 1.1E-03 |
| | **(ppbv)** | **Cia** | **1.6E-08** | **3.6E-04** | **4.6E-05** | **1.8E-02** | **1.2E-06** | **3.9E-02** | **6.3E-04** | **4.1E-09** | **2.6E-04** |
| | | **Range** | 1.6E-08 - 1.6E-08 | 3.5E-04 - 3.6E-04 | 4.5E-05 - 4.6E-05 | 1.8E-02 - 1.8E-02 | 1.2E-06 - 1.2E-06 | 3.8E-02 - 3.9E-02 | 6.2E-04 - 6.3E-04 | 4.1E-09 - 4.1E-09 | 2.6E-04 - 2.6E-04 |
| **Predicted Vapor Concentration Beneath the Foundation** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Subslab vapor concentration** | **(ug/m3)** | **Css** | **7.8E-05** | **3.8E-01** | **7.4E-02** | **2.1E+01** | **3.3E-03** | **5.1E+01** | **8.3E-01** | **2.3E-05** | **3.8E-01** |
| | | **Range** | 4.7E-06 - 2.3E-03 | 2.3E-02 - 1.1E+01 | 4.5E-03 - 2.2E+00 | 1.3E+00 - 6.3E+02 | 2.0E-04 - 9.9E-02 | 3.1E+00 - 1.5E+03 | 5.0E-02 - 2.5E+01 | 1.4E-06 - 6.8E-04 | 2.3E-02 - 1.1E+01 |
| | **(ppbv)** | **Css** | **5.2E-06** | **1.2E-01** | **1.5E-02** | **6.1E+00** | **3.9E-04** | **1.3E+01** | **2.1E-01** | **1.4E-06** | **8.7E-02** |
| | | **Range** | 3.1E-07 - 1.6E-04 | 7.1E-03 - 3.5E+00 | 9.1E-04 - 4.5E-01 | 3.7E-01 - 1.8E+02 | 2.3E-05 - 1.2E-02 | 7.8E-01 - 3.8E+02 | 1.3E-02 - 6.2E+00 | 8.2E-08 - 4.1E-05 | 5.2E-03 - 2.6E+00 |

## Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| | | | Aldrin | Benzene | Chloroform | Cyclohexane | Dibromochloromethane | Dichloroethylene, 1,2-cis- | Dichloroethylene, 1,2-trans- | Endosulfan | Ethylbenzene |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Diffusive Transport Upward Through Vadose Zone** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| Effective diffusion coefficient through Stratum A | (cm2/sec) | DeffA | 1.4E-03 | 5.1E-03 | 4.4E-03 | 4.6E-03 | 2.1E-03 | 5.0E-03 | 5.0E-03 | 1.3E-03 | 3.9E-03 |
| Effective diffusion coefficient through Stratum B | (cm2/sec) | DeffB | | | | | | | | | |
| Effective diffusion coefficient through Stratum C | (cm2/sec) | DeffC | | | | | | | | | |
| Effective diffusion coefficient through capillary zone | (cm2/sec) | DeffCZ | 9.9E-04 | 4.0E-05 | 4.1E-05 | 2.7E-05 | 8.2E-05 | 4.4E-05 | 3.5E-05 | 3.8E-04 | 2.9E-05 |
| Effective diffusion coefficient through unsaturated zone | (cm2/sec) | DeffT | 1.4E-03 | 4.6E-03 | 4.0E-03 | 4.0E-03 | 2.0E-03 | 4.6E-03 | 4.5E-03 | 1.3E-03 | 3.5E-03 |
| **Critical Parameters** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| α for diffusive transport from source to building with | (-) | A_Param | 3.7E-07 | 1.2E-06 | 1.1E-06 | 1.1E-06 | 5.5E-07 | 1.2E-06 | 1.2E-06 | 3.5E-07 | 9.4E-07 |
| Pe (Peclet Number) for transport through the foundation | (-) | B_Param | 5.4E+03 | 1.4E+03 | 1.7E+03 | 1.6E+03 | 3.5E+03 | 1.5E+03 | 1.5E+03 | 5.6E+03 | 1.9E+03 |
| α for convective transport from subslab to building | (-) | C_Param | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 |
| **Interpretation** | | | | | | | | | | | |
| | | | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. |
| **Critical Parameters** | | | | | | | | | | | |
| | | | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach |
| **Non-Critical Parameters** | | | | | | | | | | | |
| | | | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta |

| **Risk Calculations** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Risk-Based Target Screening Levels** | | | | | | | | | | | |
| Target risk for carcinogens | (-) | Target_CR | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 |
| Target hazard quotient for noncarcinogens | (-) | Target_HQ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Target indoor air concentration** | **(ug/m3)** | **Target_IA** | **2.50E-03** | **1.57E+00** | **5.33E-01** | **2.63E+04** | **No tox data available** | **No tox data available** | **No tox data available** | **No tox data available** | **4.91E+00** |
| | **(ppbv)** | **Target_IA** | **1.68E-04** | **4.92E-01** | **1.09E-01** | **7.64E+03** | **No tox data available** | **No tox data available** | **No tox data available** | **No tox data available** | **1.13E+00** |
| **Target groundwater concentration** | **(ug/L)** | **Target_GW** | **6.56E+03** | **7.07E+03** | **4.07E+03** | **5.03E+06** | **No tox data available** | **No tox data available** | **No tox data available** | **No tox data available** | **2.18E+04** |
| **Incremental Risk Estimates** | | | | | | | | | | | |
| **Incremental cancer risk from vapor intrusion** | **(-)** | **Cancer_Risk** | **9.30E-11** | **7.22E-10** | **4.18E-10** | **No IUR** | **No IUR** | **No IUR** | **No IUR** | **No IUR** | **2.32E-10** |
| | | Range | 9.3E-11 - 9.3E-11 | 7.1E-10 - 7.2E-10 | 4.1E-10 - 4.2E-10 | - | - | - | - | - | 2.3E-10 - 2.3E-10 |
| **Hazard quotient from vapor intrusion** | **(-)** | **HQ** | **No RfC Available** | **8.63708E-06** | **5.18709E-07** | **2.40975E-06** | **No RfC Available** | **No RfC Available** | **No RfC Available** | **No RfC Available** | **2.59999E-07** |
| | | Range | No RfC Available - No RfC Available | 8.5E-06 - 8.6E-06 | 5.1E-07 - 5.2E-07 | 2.4E-06 - 2.4E-06 | No RfC Available - No RfC Available | No RfC Available - No RfC Available | No RfC Available - No RfC Available | No RfC Available - No RfC Available | 2.6E-07 - 2.6E-07 |

**Total ELCR** **6E-08**
**Total HI** **0.0006**

## Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| | | | Heptachlor Epoxide | Mercury (elemental) | Methylnaphthalene, 2- | Naphthalene | Trichloroethane, 1,1,2- | Trichloroethylene | Vinyl Chloride | Xylenes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Source Characteristics:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Source medium** | | Source | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| **Groundwater concentration** | (ug/L) | Cmedium | 0.32 | 0.0532 | 5.478 | 28.66 | 8.5 | 0.388 | 105.9 | 5.921 |
| **Depth below grade to water table** | (m) | Ls | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 |
| **Average groundwater temperature** | ($^{o}$C) | Ts | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 |
| Calc: Source vapor concentration | (ug/m3) | Cs | 0 | 12 | 71 | 350 | 216 | 122 | 104993 | 1186 |
| Calc: % of pure component saturated vapor concentration | (%) | %Sat | 0.035% | 0.057% | 0.017% | 0.060% | 0.000% | 0.000% | 0.001% | 0.003% |
| **Chemical:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Chemical Name** | | Chem | Heptachlor Epoxide | Mercury (elemental) | Methylnaphthalene, 2- | Naphthalene | Trichloroethane, 1,1,2- | Trichloroethylene | Vinyl Chloride | Xylenes |
| CAS No. | | CAS | 1024-57-3 | 7439-97-6 | 91-57-6 | 91-20-3 | 79-00-5 | 79-01-6 | 75-01-4 | 1330-20-7 |
| **Toxicity Factors** | | | | | | | | | | |
| Unit risk factor | $(ug/m^3)^{-1}$ | IUR | 2.60E-03 | Not Available | Not Available | 3.40E-05 | 1.60E-05 | see note | 4.40E-06 | Not Available |
| Mutagenic compound | | Mut | No | No | No | No | No | Yes | VC | No |
| Reference concentration | ($ug/m^3$) | RfC | Not Available | 3.00E-04 | Not Available | 3.00E-03 | 2.00E-04 | 2.00E-03 | 1.00E-01 | 1.00E-01 |
| **Chemical Properties:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| Pure component water solubility | (mg/L) | S | 2.00E-01 | 6.00E-02 | 2.46E+01 | 3.10E+01 | 4.59E+03 | 1.28E+03 | 8.80E+03 | 1.06E+02 |
| Henry's Law Constant @ 25$^{o}$C | ($atm\text{-}m^3/mol$) | Hc | 2.10E-05 | 8.62E-03 | 5.18E-04 | 4.40E-04 | 8.24E-04 | 9.85E-03 | 2.78E-02 | 6.63E-03 |
| Calc: Henry's Law Constant @ 25$^{o}$C | (dimensionless) | Hr | 8.59E-04 | 3.53E-01 | 2.12E-02 | 1.80E-02 | 3.37E-02 | 4.03E-01 | 1.14E+00 | 2.71E-01 |
| Calc: Henry's Law Constant @ system temperature | (dimensionless) | Hs | 4.50E-04 | 2.28E-01 | 1.29E-02 | 1.22E-02 | 2.54E-02 | 3.14E-01 | 9.91E-01 | 2.00E-01 |
| Diffusivity in air | (cm2/s) | Dair | 2.40E-02 | 3.07E-02 | 5.24E-02 | 6.05E-02 | 6.69E-02 | 6.87E-02 | 1.07E-01 | 6.85E-02 |
| Diffusivity in water | (cm2/s) | Dwater | 6.25E-06 | 6.30E-06 | 7.78E-06 | 8.38E-06 | 1.00E-05 | 1.02E-05 | 1.20E-05 | 8.46E-06 |
| **Building Characteristics:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Building setting** | | Bldg_Setting | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial |
| **Foundation type** | | Found_Type | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade |
| Depth below grade to base of foundation | (m) | Lb | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Foundation thickness | (m) | Lf | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Fraction of foundation area with cracks | (-) | eta | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| Enclosed space floor area | (m2) | Ab | 1500.00 | 1500.00 | 1500.00 | 1500.00 | 1500.00 | 1500.00 | 1500.00 | 1500.00 |
| Enclosed space mixing height | (m) | Hb | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| Indoor air exchange rate | (1/hr) | ach | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| Qsoil/Qbuilding | (-) | Qsoil_Qb | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 |
| Calc: Building ventilation rate | (m3/hr) | Qb | 6750.00 | 6750.00 | 6750.00 | 6750.00 | 6750.00 | 6750.00 | 6750.00 | 6750.00 |
| Calc: Average vapor flow rate into building | (m3/hr) | Qsoil | 20.25 | 20.25 | 20.25 | 20.25 | 20.25 | 20.25 | 20.25 | 20.25 |

PIKA ARCADIS A JOINT VENTURE

## Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| | | | Heptachlor Epoxide | Mercury (elemental) | Methylnaphthalene, 2- | Naphthalene | Trichloroethane, 1,1,2- | Trichloroethylene | Vinyl Chloride | Xylenes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Vadose zone characteristics:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Stratum A (Top of soil profile):** | | | | | | | | | | |
| **Stratum A SCS soil type** | | SCS_A | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam |
| **Stratum A thickness (from surface)** | (m) | hSA | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 |
| Stratum A total porosity | (-) | nSA | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 |
| Stratum A water-filled porosity | (-) | nwSA | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 |
| Stratum A bulk density | ($g/cm^3$) | rhoSA | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 |
| **Stratum B (Soil layer below Stratum A):** | | | | | | | | | | |
| **Stratum B SCS soil type** | | SCS_B | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present |
| **Stratum B thickness** | (m) | hSB | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stratum B total porosity | (-) | nSB | | | | | | | | |
| Stratum B water-filled porosity | (-) | nwSB | | | | | | | | |
| Stratum B bulk density | ($g/cm^3$) | rhoSB | | | | | | | | |
| **Stratum C (Soil layer below Stratum B):** | | | | | | | | | | |
| **Stratum C SCS soil type** | | SCS_C | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present |
| **Stratum C thickness** | (m) | hSC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stratum C total porosity | (-) | nSC | | | | | | | | |
| Stratum C water-filled porosity | (-) | nwSC | | | | | | | | |
| Stratum C bulk density | ($g/cm^3$) | rhoSC | | | | | | | | |
| **Stratum directly above the water table** | | | | | | | | | | |
| Stratum A, B, or C | | src_soil | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A |
| Height of capillary fringe | (m) | hcz | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 |
| Capillary zone total porosity | (-) | ncz | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 |
| Capillary zone water filled porosity | (-) | nwcz | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 |
| **Exposure Parameters:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Target risk for carcinogens** | (-) | Target_CR | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 |
| **Target hazard quotient for non-carcinogens** | (-) | Target_HQ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Exposure Scenario | | Scenario | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial | Commercial |
| Averaging time for carcinogens | (yrs) | ATc | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| Averaging time for non-carcinogens | (yrs) | ATnc | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Exposure duration | (yrs) | ED | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Exposure frequency | (days/yr) | EF | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| Exposure time | (hrs/24 hrs) | ET | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Mutagenic mode-of-action factor | (yrs) | MMOAF | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| **Source to Indoor Air Attenuation Factor** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Groundwater to indoor air attenuation coefficient** | **(-)** | **alpha** | **4.1E-07** | **4.3E-07** | **7.9E-07** | **9.1E-07** | **9.9E-07** | **9.5E-07** | **1.4E-06** | **9.5E-07** |
| | | **Range** | 4.1E-07 - 4.1E-07 | 4.3E-07 - 4.3E-07 | 7.9E-07 - 7.9E-07 | 9.1E-07 - 9.1E-07 | 9.9E-07 - 1.0E-06 | 9.4E-07 - 9.5E-07 | 1.4E-06 - 1.4E-06 | 9.4E-07 - 9.5E-07 |
| **Predicted Indoor Air Concentration** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Indoor air concentration due to vapor intrusion** | **(ug/m3)** | **Cia** | **5.9E-08** | **5.2E-06** | **5.6E-05** | **3.2E-04** | **2.1E-04** | **1.2E-04** | **1.5E-01** | **1.1E-03** |
| | | **Range** | 5.9E-08 - 5.9E-08 | 5.2E-06 - 5.2E-06 | 5.6E-05 - 5.6E-05 | 3.2E-04 - 3.2E-04 | 2.1E-04 - 2.1E-04 | 1.1E-04 - 1.2E-04 | 1.5E-01 - 1.5E-01 | 1.1E-03 - 1.1E-03 |
| | **(ppbv)** | **Cia** | **3.7E-09** | **6.4E-07** | **9.7E-06** | **6.1E-05** | **3.9E-05** | **2.1E-05** | **5.9E-02** | **2.6E-04** |
| | | **Range** | 3.7E-09 - 3.7E-09 | 6.3E-07 - 6.4E-07 | 9.6E-06 - 9.7E-06 | 6.0E-05 - 6.1E-05 | 3.9E-05 - 3.9E-05 | 2.1E-05 - 2.1E-05 | 5.9E-02 - 5.9E-02 | 2.6E-04 - 2.6E-04 |
| **Predicted Vapor Concentration Beneath the Foundation** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Subslab vapor concentration** | **(ug/m3)** | **Css** | **2.0E-05** | **1.7E-03** | **1.9E-02** | **1.1E-01** | **7.2E-02** | **3.8E-02** | **5.1E+01** | **3.8E-01** |
| | | **Range** | 1.2E-06 - 5.9E-04 | 1.0E-04 - 5.2E-02 | 1.1E-03 - 5.6E-01 | 6.4E-03 - 3.2E+00 | 4.3E-03 - 2.1E+00 | 2.3E-03 - 1.1E+00 | 3.0E+00 - 1.5E+03 | 2.3E-02 - 1.1E+01 |
| | **(ppbv)** | **Css** | **1.2E-06** | **2.1E-04** | **3.2E-03** | **2.0E-02** | **1.3E-02** | **7.1E-03** | **2.0E+01** | **8.6E-02** |
| | | **Range** | 7.4E-08 - 3.7E-05 | 1.3E-05 - 6.3E-03 | 1.9E-04 - 9.6E-02 | 1.2E-03 - 6.0E-01 | 7.9E-04 - 3.9E-01 | 4.3E-04 - 2.1E-01 | 1.2E+00 - 5.9E+02 | 5.2E-03 - 2.6E+00 |

## Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| | | | Heptachlor Epoxide | Mercury (elemental) | Methylnaphthalene, 2- | Naphthalene | Trichloroethane, 1,1,2- | Trichloroethylene | Vinyl Chloride | Xylenes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Diffusive Transport Upward Through Vadose Zone** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| Effective diffusion coefficient through Stratum A | (cm2/sec) | DeffA | 1.5E-03 | 1.7E-03 | 3.0E-03 | 3.5E-03 | 3.8E-03 | 3.9E-03 | 6.1E-03 | 3.9E-03 |
| Effective diffusion coefficient through Stratum B | (cm2/sec) | DeffB | | | | | | | | |
| Effective diffusion coefficient through Stratum C | (cm2/sec) | DeffC | | | | | | | | |
| Effective diffusion coefficient through capillary zone | (cm2/sec) | DeffCZ | 2.4E-03 | 1.5E-05 | 1.2E-04 | 1.4E-04 | 9.1E-05 | 2.8E-05 | 3.8E-05 | 3.0E-05 |
| Effective diffusion coefficient through unsaturated zone | (cm2/sec) | DeffT | 1.5E-03 | 1.6E-03 | 2.9E-03 | 3.4E-03 | 3.7E-03 | 3.5E-03 | 5.4E-03 | 3.5E-03 |
| **Critical Parameters** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| α for diffusive transport from source to building with | (-) | A_Param | 4.1E-07 | 4.3E-07 | 7.9E-07 | 9.1E-07 | 1.0E-06 | 9.5E-07 | 1.4E-06 | 9.5E-07 |
| Pe (Peclet Number) for transport through the foundation | (-) | B_Param | 4.8E+03 | 4.2E+03 | 2.5E+03 | 2.1E+03 | 1.9E+03 | 1.9E+03 | 1.2E+03 | 1.9E+03 |
| α for convective transport from subslab to building | (-) | C_Param | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 |
| **Interpretation** | | | | | | | | | | |
| | | | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. |
| **Critical Parameters** | | | | | | | | | | |
| | | | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach |
| **Non-Critical Parameters** | | | | | | | | | | |
| | | | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta |

| **Risk Calculations** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
|---|---|---|---|---|---|---|---|---|---|---|
| **Risk-Based Target Screening Levels** | | | | | | | | | | |
| Target risk for carcinogens | (-) | Target_CR | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 |
| Target hazard quotient for noncarcinogens | (-) | Target_HQ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Target indoor air concentration** | **(ug/m3)** | **Target_IA** | **4.72E-03** | **1.31E+00** | **No tox data available** | **3.61E-01** | **7.67E-01** | **2.05E+00** | **2.10E-01** | **4.38E+02** |
| | **(ppbv)** | **Target_IA** | **2.96E-04** | **1.60E-01** | **No tox data available** | **6.88E-02** | **1.41E-01** | **3.82E-01** | **8.22E-02** | **1.01E+02** |
| **Target groundwater concentration** | **(ug/L)** | **Target_GW** | **2.55E+04** | **1.34E+04** | **No tox data available** | **3.23E+04** | **3.03E+04** | **6.91E+03** | **1.46E+02** | **2.30E+06** |
| **Incremental Risk Estimates** | | | | | | | | | | |
| **Incremental cancer risk from vapor intrusion** | **(-)** | **Cancer_Risk** | **1.25E-11** | **No IUR** | **No IUR** | **8.86E-10** | **2.80E-10** | **1.49E-10** | **5.45E-08** | **No IUR** |
| | | Range | 1.2E-11 - 1.3E-11 | - | - | 8.8E-10 - 8.9E-10 | 2.8E-10 - 2.8E-10 | 1.5E-10 - 1.5E-10 | 5.4E-08 - 5.5E-08 | - |
| **Hazard quotient from vapor intrusion** | **(-)** | **HQ** | **No RfC Available** | **3.96638E-06** | **No RfC Available** | **2.43295E-05** | **0.000245247** | **1.31446E-05** | **0.000346871** | **2.56907E-06** |
| | | Range | No RfC Available - No RfC Available | 3.9E-06 - 4.0E-06 | No RfC Available - No RfC Available | 2.4E-05 - 2.4E-05 | 2.4E-04 - 2.5E-04 | 1.3E-05 - 1.3E-05 | 3.4E-04 - 3.5E-04 | 2.5E-06 - 2.6E-06 |

**Total ELCR** **6E-08**
**Total HI** **0.0006**

Table 8-25
Risk and Hazard Calculations for a Hypothetical Future Site Worker for Exposure to Groundwater Used as Potable Water
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | EPCgw (mg/L) | | DA [a] (L/cm²/day) | | CANCER RISK: Route-Specific Risk Oral (ELCRo) | Dermal (ELCRd) | Inhalation (ELCRi) | Calculated Risk (ELCR) | Percent Total ELCR | NON-CANCER HAZARD: Route-Specific Hazard Oral (HQo) | Dermal (HQd) | Inhalation (HQi) | Calculated Hazard (HI) | Percent Total HI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 5.10E-03 | UCL | 1.10E-05 | [1] | 8.6E-07 | 9.3E-09 | 1.6E-06 | 2.5E-06 | <1% | 1.1E-02 | 1.2E-04 | 1.9E-02 | 3.0E-02 | <1% |
| Chloroform | 67-66-3 | 1.70E-03 | max | 6.61E-06 | [1] | 1.6E-07 | 1.0E-09 | 1.6E-06 | 1.8E-06 | <1% | 1.5E-03 | 9.4E-06 | 2.0E-03 | 3.4E-03 | <1% |
| cis-1,2-Dichloroethene | 156-59-2 | 9.27E-01 | UCL | 9.21E-06 | [1] | NA | NA | NA | NA | | 4.0E+00 | 3.6E-02 | NA | 4.0E+00 | 34% |
| trans-1,2-Dichloroethene | 156-60-5 | 6.66E-03 | UCL | 9.21E-06 | [1] | NA | NA | NA | NA | | 2.9E-03 | 2.6E-05 | NA | 2.9E-03 | <1% |
| 1,2-Dichloropropane | 78-87-5 | 1.10E-03 | max | 6.99E-06 | [1] | 1.2E-07 | 8.5E-10 | 1.7E-06 | 1.8E-06 | <1% | 2.4E-04 | 1.6E-06 | 3.1E-02 | 3.2E-02 | <1% |
| Ethylbenzene | 100-41-4 | 5.05E-03 | UCL | 4.38E-05 | [1] | 1.7E-07 | 7.3E-09 | 5.1E-07 | 6.9E-07 | <1% | 4.3E-04 | 1.9E-05 | 5.8E-04 | 1.0E-03 | <1% |
| 2-Hexanone | 591-78-6 | 3.75E-03 | UCL | 3.03E-06 | [1] | NA | NA | NA | NA | | 6.4E-03 | 1.9E-05 | 1.4E-02 | 2.1E-02 | <1% |
| Benzene, 1-methylethyl | 98-82-8 | 9.10E-03 | UCL | 8.73E-05 | [1] | NA | NA | NA | NA | | 7.8E-04 | 6.7E-05 | 2.6E-03 | 3.4E-03 | <1% |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 8.40E-04 | max | 9.18E-06 | [1] | 5.1E-07 | 4.6E-09 | 2.0E-06 | 2.5E-06 | <1% | 3.6E-04 | 3.2E-06 | NA | 3.6E-04 | <1% |
| Toluene | 108-88-3 | 1.61E-02 | UCL | 2.52E-05 | [1] | NA | NA | NA | NA | | 1.7E-03 | 4.3E-05 | 3.7E-04 | 2.1E-03 | <1% |
| 1,1,2-Trichloroethane | 79-00-5 | 8.50E-03 | max | 5.34E-06 | [1] | 1.5E-06 | 7.8E-09 | 5.5E-06 | 7.0E-06 | 1% | 1.8E-02 | 9.5E-05 | 4.9E+00 | 4.9E+00 | 42% |
| Trichloroethene | 79-01-6 | 3.88E-04 | UCL | 1.21E-05 | [1] | 5.5E-08 | 6.5E-10 | 6.5E-08 | 1.2E-07 | <1% | 6.6E-03 | 7.9E-05 | 2.2E-02 | 2.9E-02 | <1% |
| Vinyl chloride | 75-01-4 | 1.06E-01 | UCL | 5.62E-06 | [1] | 2.3E-04 | 1.3E-06 | 1.9E-05 | 2.5E-04 | 45% | 3.0E-01 | 1.7E-03 | 1.2E-01 | 4.2E-01 | 4% |
| Xylenes (total) | 1330-20-7 | 5.92E-03 | UCL | 4.44E-05 | [1] | NA | NA | NA | NA | | 2.5E-04 | 1.1E-05 | 6.8E-03 | 7.0E-03 | <1% |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| 4-Chlorobenzenamine | 106-47-8 | 2.50E-02 | max | 5.06E-06 | [1] | 1.5E-05 | 7.6E-08 | – | 1.5E-05 | 3% | 5.4E-02 | 2.7E-04 | – | 5.4E-02 | <1% |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 4.30E-04 | max | NA | | 1.3E-07 | – | – | 1.3E-07 | <1% | NA | – | – | NA | |
| 2-Methylnaphthalene | 91-57-6 | 5.48E-03 | UCL | 1.03E-04 | [1] | NA | NA | NA | NA | | 1.2E-02 | 1.2E-03 | NA | 1.3E-02 | <1% |
| Naphthalene | 91-20-3 | 2.87E-02 | UCL | 4.77E-05 | [1] | NA | NA | NA | NA | | 1.2E-02 | 5.7E-04 | 1.1E+00 | 1.1E+00 | 9% |
| **Pesticides** | | | | | | | | | | | | | | | |
| Aldrin | 309-00-2 | 6.10E-04 | UCL | NA | | 3.2E-05 | – | 1.2E-04 | 1.5E-04 | 27% | 1.7E-01 | – | NA | 1.7E-01 | 1% |
| delta BHC | 319-86-8 | 1.24E-05 | UCL | 7.34E-05 | [1] | 2.4E-07 | 1.7E-08 | – | 2.6E-07 | <1% | 1.3E-05 | 9.5E-07 | – | 1.4E-05 | <1% |
| alpha-Chlordane | 5103-71-9 | 7.70E-05 | max | 1.52E-04 | [1] | 8.2E-08 | 1.2E-08 | – | 9.5E-08 | <1% | NA | NA | – | NA | |
| gamma-Chlordane | 5566-34-7 | 6.25E-04 | UCL | 2.17E-04 | [1] | 6.7E-07 | 1.4E-07 | – | 8.1E-07 | <1% | NA | NA | – | NA | |
| DDD | 72-54-8 | 5.60E-05 | max | 7.08E-04 | [1] | 4.1E-08 | 2.9E-08 | – | 7.0E-08 | <1% | 1.6E-02 | 1.1E-02 | – | 2.7E-02 | <1% |
| Dieldrin | 60-57-1 | 2.80E-05 | max | 1.36E-04 | [1] | 1.4E-06 | 1.8E-07 | – | 1.6E-06 | <1% | 4.8E-03 | 6.4E-04 | – | 5.4E-03 | <1% |
| Heptachlor epoxide | 1024-57-3 | 3.20E-04 | UCL | 9.22E-05 | [1] | 8.9E-06 | 8.0E-07 | 3.4E-05 | 4.4E-05 | 8% | 2.1E-01 | 1.9E-02 | NA | 2.3E-01 | 2% |
| Hexachlorocyclohexane, Alpha- | 319-84-6 | 5.20E-05 | max | 5.42E-05 | [1] | 1.0E-06 | 5.3E-08 | – | 1.1E-06 | <1% | 5.6E-05 | 3.0E-06 | – | 5.9E-05 | <1% |
| Hexachlorocyclohexane, Beta- | 319-85-7 | 1.46E-04 | UCL | 5.42E-05 | [1] | 8.0E-07 | 4.3E-08 | – | 8.5E-07 | <1% | NA | NA | – | NA | |
| Lindane | 58-89-9 | 2.24E-05 | UCL | 5.42E-05 | [1] | 7.5E-08 | 4.0E-09 | – | 7.9E-08 | <1% | 6.4E-04 | 3.4E-05 | – | 6.7E-04 | <1% |
| **Inorganics** | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 6.06E-03 | UCL | 2.50E-07 | [0] | 2.8E-05 | 6.8E-09 | – | 2.8E-05 | 5% | 1.7E-01 | 4.2E-05 | – | 1.7E-01 | 1% |
| Cadmium | 7440-43-9 | 9.50E-04 | max | 2.50E-07 | [0] | NA | NA | – | NA | | 1.6E-02 | 8.0E-05 | – | 1.6E-02 | <1% |
| Chromium | 7440-47-3 | 2.98E-02 | UCL | 2.50E-07 | [0] | 4.6E-05 | 4.5E-07 | – | 4.6E-05 | 8% | 8.5E-02 | 8.3E-04 | – | 8.6E-02 | <1% |
| Iron | 7439-89-6 | 1.88E+01 | UCL | 2.50E-07 | [0] | NA | NA | – | NA | | 2.3E-01 | 5.6E-05 | – | 2.3E-01 | 2% |
| Lead | 7439-92-1 | 5.07E-03 | UCL | 2.50E-08 | [0] | NA | NA | – | NA | | NA | NA | – | NA | |
| Manganese | 7439-96-5 | 1.16E+00 | UCL | 2.50E-07 | [0] | NA | NA | – | NA | | 7.1E-02 | 1.7E-05 | – | 7.1E-02 | <1% |
| Mercury | 7439-97-6 | 5.32E-05 | UCL | 2.50E-07 | [0] | NA | NA | NA | NA | | NA | NA | 2.0E-02 | 2.0E-02 | <1% |
| **Total Risk or Hazard** | | | | | | | | Total ELCR | 6E-04 | 100% | | | Total HI | 12 | 100% |

**Table 8-25**
**Risk and Hazard Calculations for a Hypothetical Future Site Worker for Exposure to Groundwater Used as Potable Water**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

[a] The dermal absorption factor was calculated using Equation [0], [1], or [2], as indicated, from Table 8-17.

| | | | | | |
|---|---|---|---|---|---|
| — | Not applicable. | HQ | Hazard quotient. | mg/L | Milligram per liter. |
| CASN | Chemical abstracts registry number. | $L/cm^2/day$ | Liter per square centimeter per day. | NA | Toxicity value not available or not applicable. |
| ELCR | Excess lifetime cancer risk. | $L/m^3$ | Liter per cubic meter. | UCL | Upper confidence limit. |
| EPCgw | Exposure point concentration in groundwater. | max | EPC based on maximum. | | |
| HI | Hazard index (sum of the HQs). | | | | |

Equations are presented in Table 8-11.
Receptor-specific exposure parameters are presented in Table 8-7 while constituent specific dermal absorption parameters are presented in Table 8-17.
Constituent-specific toxicity values are presented in Table 8-18 through Table 8-21.

ELCRo = (EPCgw × 1 × 250 × 25 × CSFo) / (80 × 25,550)
ELCRd = (EPCgw × DA × 980 × 250 × 25 × CSFa) / (80 × 25,550)
ELCRi = (EPCgw × VFres × 8.00 × 0.042 x 250 × 25 × IUR × 1,000) / (25,550)

HQo = (EPCgw × 1 × 250 × 25) / (80 × 9,125 × RfDo)
HQd = (EPCgw × DA × 980 × 250 × 25) / (80 × 9,125 × RfDa)
HQi = (EPCgw × VFres × 8.00 × 0.042 × 250 × 25) / (9,125 × RfC)

| Variable | Acronym | Value | Unit | Source |
|---|---|---|---|---|
| Averaging time, cancer | ATc | 25,550 | days | See Table 8-7 |
| Averaging time, non -cancer | ATnc | 9,125 | days | See Table 8-7 |
| Body weight | BW | 80 | kg | See Table 8-7 |
| Exposure time | ET | 8 | hours/day | See Table 8-7 |
| Exposure frequency | EF | 250 | days/year | See Table 8-7 |
| Exposure duration | ED | 25 | years | See Table 8-7 |
| Conversion factor (days/hr) | CF | 0.042 | days/hr | See Table 8-7 |
| Ingestion rate of GW | IRgw | 1 | L/day | See Table 8-7 |
| Skin surface area for GW contact | SSAgw | 980 | $cm^2$ | See Table 8-7 |
| Volatiization factor | VFres | 0.50 | $L/m^3$ | See Table 8-7 |

Table 8-26
Risk and Hazard Calculations for a Hypothetical Future Construction Worker for Exposure to Soil (0-10 feet)
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | EPCs (mg/kg) | | VF-$sl_{cons}$ *or* $PEF_{cons}$ [a] ($m^3$/kg) | | CANCER RISK | | | | Percent Total ELCR | NON-CANCER HAZARD | | | | Percent Total HI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Route-Specific Risk | | | Calculated Risk | | Route-Specific Hazard | | | Calculated Hazard | |
| | | | | | | Oral | Dermal | Inhalation | | | Oral | Dermal | Inhalation | | |
| | | | | | | ELCRo | ELCRd | ELCRi | ELCR | | HQo | HQd | HQi | HI | |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 1.04E+00 | UCL | 6.97E+02 | V | 1.2E-09 | – | 2.0E-08 | 2.1E-08 | 6% | 3.1E-04 | – | 4.4E-03 | 4.7E-03 | 5% |
| Chloromethane | 74-87-3 | 3.90E+01 | max | 2.08E+02 | V | NA | NA | NA | – | | NA | NA | 1.5E-02 | 1.5E-02 | 15% |
| Ethylbenzene | 100-41-4 | 7.10E+00 | UCL | 1.16E+03 | V | 1.6E-09 | – | 2.6E-08 | 2.8E-08 | 8% | 4.2E-04 | – | 1.6E-04 | 5.8E-04 | <1% |
| Xylenes (total) | 1330-20-7 | 2.07E+01 | UCL | 1.18E+03 | V | NA | NA | NA | – | | 1.5E-04 | – | 1.0E-02 | 1.1E-02 | 11% |
| **Polycyclic Aromatic Hydroc** | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 1.06E+00 | UCL | 1.05E+06 | V | 2.2E-09 | 9.3E-10 | 1.0E-10 | 3.2E-09 | <1% | NA | NA | NA | – | |
| Benzo(a)pyrene | 50-32-8 | 2.27E+00 | UCL | 8.18E+06 | P | 4.8E-08 | 2.0E-08 | 2.8E-10 | 6.8E-08 | 19% | NA | NA | NA | – | |
| Benzo(b)fluoranthene | 205-99-2 | 2.35E+00 | UCL | 8.18E+06 | P | 4.9E-09 | 2.1E-09 | 2.9E-11 | 7.0E-09 | 2% | NA | NA | NA | – | |
| Benzo(k)fluoranthene | 207-08-9 | 1.66E+00 | UCL | 8.18E+06 | P | 3.5E-10 | 1.4E-10 | 2.1E-12 | 4.9E-10 | <1% | NA | NA | NA | – | |
| Dibenz(a,h)anthracene | 53-70-3 | 3.82E-01 | UCL | 8.18E+06 | P | 8.0E-09 | 3.3E-09 | 4.8E-11 | 1.1E-08 | 3% | NA | NA | NA | – | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1.37E+00 | UCL | 8.18E+06 | P | 2.9E-09 | 1.2E-09 | 1.7E-11 | 4.1E-09 | 1% | NA | NA | NA | – | |
| 1-Methylnaphthalene | 90-12-0 | 1.59E+01 | UCL | 1.36E+04 | V | 9.7E-09 | 4.0E-09 | NA | 1.4E-08 | 4% | 6.7E-04 | 2.8E-04 | NA | 9.5E-04 | <1% |
| 2-Methylnaphthalene | 91-57-6 | 1.68E+01 | UCL | 1.32E+04 | V | NA | NA | NA | – | | 1.2E-02 | 5.2E-03 | NA | 1.8E-02 | 18% |
| Naphthalene | 91-20-3 | 5.51E+00 | UCL | 9.98E+03 | V | NA | NA | NA | – | | 2.7E-05 | 1.1E-05 | 4.4E-02 | 4.4E-02 | 45% |
| **Pesticides** | | | | | | | | | | | | | | | |
| Dieldrin | 60-57-1 | 4.30E-02 | max | 8.18E+06 | P | 1.4E-08 | 4.6E-09 | 4.1E-11 | 1.9E-08 | 5% | 2.5E-03 | 8.1E-04 | NA | 3.3E-03 | 3% |
| **Inorganics** | | | | | | | | | | | | | | | |
| Chromium | 7440-47-3 | 6.32E+00 | UCL | 8.18E+06 | P | 6.6E-08 | – | 1.1E-07 | 1.8E-07 | 50% | 9.3E-04 | – | 6.1E-04 | 1.5E-03 | 2% |
| **Total Risk or Hazard** | | | | | | Total ELCR | | | 4E-07 | 100% | Total HI | | | 0.1 | 100% |

**Table 8-26**
**Risk and Hazard Calculations for a Hypothetical Future Construction Worker for Exposure to Soil (0-10 feet)**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

[a] Minimum of the volatilization factor ([VF] identified with [V]) and the particulate emission factor ([PEF] identified with [P]), derived on Table 8-14 and Table 8-16.

| | | | | | |
|---|---|---|---|---|---|
| – | Not applicable. | HQ | Hazard quotient. | NA | Toxicity value not available or not applicable. |
| CASN | Chemical abstracts registry number. | max | Exposure point concentration based on maximum. | PEF | Particulate emission factor. |
| ELCR | Excess lifetime cancer risk. | $m^3/kg$ | Cubic meter per kilogram. | UCL | Upper confidence limit. |
| EPCs | Exposure point concentration in soil. | mg/kg | Milligram per kilogram. | VF | Volatilization factor. |
| HI | Hazard index (sum of the HQs). | | | | |

Equations are presented in Table 8-9.
Receptor-specific exposure parameters are presented in Table 8-7 while constituent specific dermal absorption parameters are presented in Table 8-17.
Constituent-specific toxicity values are presented in Table 8-18 through Table 8-21.

ELCRo = (EPCs × 1 × 330 × 5 × 26 × CSFo) / (1,000,000 × 80 × 25,550)
ELCRd = (EPCs × 3,527 × 0.3 × ABSd × 5 × 26 × CSFa) / (1,000,000 × 80 × 25,550)
ELCRi = (EPCs × 8 × 0.042 ×5 × 26 × IUR × 1,000) / ([VF or PEF] × 25,550)

HQo = (EPCs × 1 × 330 × 5 × 26) / (1,000,000 × 80 × 182 × RfDo)
HQd = (EPCs × 3,527 × 0.3 × ABSd × 5 × 26) / (1,000,000 × 80 × 182 × RfDa)
HQi = (EPCs × 8 × 0.042 × 5 × 26) / ([VF or PEF] × 182 × RfC)

| Variable | Acronym | Value | Unit | Source |
|---|---|---|---|---|
| Averaging time, cancer | ATc | 25,550 | days | See Table 8-7 |
| Averaging time, non -cancer | ATnc | 182 | days | See Table 8-7 |
| Body weight | BW | 80 | kg | See Table 8-7 |
| Exposure time | ET | 8 | hrs/day | See Table 8-7 |
| Exposure frequency | EFsc | 5 | days/ year or days/wk | See Table 8-7 |
| Exposure duration | EDsc | 26 | years or weeks | See Table 8-7 |
| Conversion factor (days/hr) | CF | 0.041666667 | days/hr | See Table 8-7 |
| Ingestion rate of soil | IRs | 330 | mg/day | See Table 8-7 |
| Soil-to-skin adherence rate | SAR | 0.3 | $mg/cm^2/day$ | See Table 8-7 |
| Skin surface area for soil contact | SSAs | 3,527 | $cm^2$ | See Table 8-7 |

Table 8-27
Risk and Hazard Calculations for a Hypothetical Future Trench Worker for Exposure to Soil (0-10 feet)
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | EPCs (mg/kg) | | VF-sl$_{cons}$ *or* PEF$_{cons}$ [a] (m$^3$/kg) | | CANCER RISK | | | | Percent Total ELCR | NON-CANCER HAZARD | | | | Percent Total HI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Route-Specific Risk | | | Calculated Risk | | Route-Specific Hazard | | | Calculated Hazard | |
| | | | | | | Oral | Dermal | Inhalation | | | Oral | Dermal | Inhalation | | |
| | | | | | | ELCRo | ELCRd | ELCRi | ELCR | | HQo | HQd | HQi | HI | |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 1.04E+00 | UCL | 6.97E+02 | V | 9.2E-11 | – | 1.5E-09 | 1.6E-09 | 6% | 3.1E-04 | – | 4.4E-03 | 4.7E-03 | 5% |
| Chloromethane | 74-87-3 | 3.90E+01 | max | 2.08E+02 | V | NA | NA | NA | – | | NA | NA | 1.5E-02 | 1.5E-02 | 15% |
| Ethylbenzene | 100-41-4 | 7.10E+00 | UCL | 1.16E+03 | V | 1.3E-10 | – | 2.0E-09 | 2.1E-09 | 8% | 4.2E-04 | – | 1.6E-04 | 5.8E-04 | <1% |
| Xylenes (total) | 1330-20-7 | 2.07E+01 | UCL | 1.18E+03 | V | NA | NA | NA | – | | 1.5E-04 | – | 1.0E-02 | 1.1E-02 | 11% |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 1.06E+00 | UCL | 1.05E+06 | V | 1.7E-10 | 7.1E-11 | 7.9E-12 | 2.5E-10 | <1% | NA | NA | NA | – | |
| Benzo(a)pyrene | 50-32-8 | 2.27E+00 | UCL | 8.18E+06 | P | 3.7E-09 | 1.5E-09 | 2.2E-11 | 5.2E-09 | 19% | NA | NA | NA | – | |
| Benzo(b)fluoranthene | 205-99-2 | 2.35E+00 | UCL | 8.18E+06 | P | 3.8E-10 | 1.6E-10 | 2.2E-12 | 5.4E-10 | 2% | NA | NA | NA | – | |
| Benzo(k)fluoranthene | 207-08-9 | 1.66E+00 | UCL | 8.18E+06 | P | 2.7E-11 | 1.1E-11 | 1.6E-13 | 3.8E-11 | <1% | NA | NA | NA | – | |
| Dibenz(a,h)anthracene | 53-70-3 | 3.82E-01 | UCL | 8.18E+06 | P | 6.2E-10 | 2.6E-10 | 3.7E-12 | 8.8E-10 | 3% | NA | NA | NA | – | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1.37E+00 | UCL | 8.18E+06 | P | 2.2E-10 | 9.2E-11 | 1.3E-12 | 3.1E-10 | 1% | NA | NA | NA | – | |
| 1-Methylnaphthalene | 90-12-0 | 1.59E+01 | UCL | 1.36E+04 | V | 7.5E-10 | 3.1E-10 | NA | 1.1E-09 | 4% | 6.7E-04 | 2.8E-04 | NA | 9.5E-04 | <1% |
| 2-Methylnaphthalene | 91-57-6 | 1.68E+01 | UCL | 1.32E+04 | V | NA | NA | NA | – | | 1.2E-02 | 5.2E-03 | NA | 1.8E-02 | 18% |
| Naphthalene | 91-20-3 | 5.51E+00 | UCL | 9.98E+03 | V | NA | NA | NA | – | | 2.7E-05 | 1.1E-05 | 4.4E-02 | 4.4E-02 | 45% |
| **Pesticides** | | | | | | | | | | | | | | | |
| Dieldrin | 60-57-1 | 4.30E-02 | max | 8.18E+06 | P | 1.1E-09 | 3.6E-10 | 3.2E-12 | 1.5E-09 | 5% | 2.5E-03 | 8.1E-04 | NA | 3.3E-03 | 3% |
| **Inorganics** | | | | | | | | | | | | | | | |
| Chromium | 7440-47-3 | 6.32E+00 | UCL | 8.18E+06 | P | 5.1E-09 | – | 8.5E-09 | 1.4E-08 | 50% | 9.3E-04 | – | 6.1E-04 | 1.5E-03 | 2% |
| **Total Risk or Hazard** | | | | | | Total ELCR | | | 3E-08 | 100% | Total HI | | | 0.1 | 100% |

**Table 8-27**
**Risk and Hazard Calculations for a Hypothetical Future Trench Worker for Exposure to Soil (0-10 feet)**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

[a] Minimum of the volatilization factor ([VF] identified with [V]) and the particulate emission factor ([PEF] identified with [P]), derived on Table 8-14 and Table 8-16.

| | | | | | |
|---|---|---|---|---|---|
| – | Not applicable. | HQ | Hazard quotient. | NA | Toxicity value not available or not applicable. |
| CASN | Chemical abstracts registry number. | max | Exposure point concentration based on maximum. | PEF | Particulate emission factor. |
| ELCR | Excess lifetime cancer risk. | $m^3/kg$ | Cubic meter per kilogram. | UCL | Upper confidence limit. |
| EPCs | Exposure point concentration in soil. | mg/kg | Milligram per kilogram. | VF | Volatilization factor. |
| HI | Hazard index (sum of the HQs). | | | | |

Equations are presented in Table 8-9.
Receptor-specific exposure parameters are presented in Table 8-7 while constituent specific dermal absorption parameters are presented in Table 8-17.
Constituent-specific toxicity values are presented in Table 8-18 through Table 8-21.

ELCRo = (EPCs × 1 × 330 × 5 × 2 × CSFo) / (1,000,000 × 80 × 25,550)
ELCRd = (EPCs × 3,527 × 0.3 × ABSd × 5 × 2 × CSFa) / (1,000,000 × 80 × 25,550)
ELCRi = (EPCs × 8 × 0.042 ×5 × 2 × IUR × 1,000) / ([VF or PEF] × 25,550)

HQo = (EPCs × 1 × 330 × 5 × 2) / (1,000,000 × 80 × 14 × RfDo)
HQd = (EPCs × 3,527 × 0.3 × ABSd × 5 × 2) / (1,000,000 × 80 × 14 × RfDa)
HQi = (EPCs × 8 × 0.042 × 5 × 2) / ([VF or PEF] × 14 × RfC)

| Variable | Acronym | Value | Unit | Source |
|---|---|---|---|---|
| Averaging time, cancer | ATc | 25,550 | days | See Table 8-7 |
| Averaging time, non -cancer | ATnc | 14 | days | See Table 8-7 |
| Body weight | BW | 80 | kg | See Table 8-7 |
| Exposure time | ET | 8 | hrs/day | See Table 8-7 |
| Exposure frequency | EFsc | 5 | days/ year or days/wk | See Table 8-7 |
| Exposure duration | EDsc | 2 | years or weeks | See Table 8-7 |
| Conversion factor (days/hr) | CF | 0.041666667 | days/hr | See Table 8-7 |
| Ingestion rate of soil | IRs | 330 | mg/day | See Table 8-7 |
| Soil-to-skin adherence rate | SAR | 0.3 | $mg/cm^2/day$ | See Table 8-7 |
| Skin surface area for soil contact | SSAs | 3,527 | $cm^2$ | See Table 8-7 |

**Table 8-28**
**Risk and Hazard Calculations for a Hypothetical Future Trench Worker for Exposure to Vapors in a Trench**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent | CASRN | EPCgw (mg/L) | | $VFw_{trench}$ [a] ($L/m^3$) | CANCER RISK Inhalation ELCRi | Percent Total ELCR | NON-CANCER RISK Inhalation HQi | Percent Total HI |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | |
| Benzene | 71-43-2 | 5.10E-03 | UCL | 7.32E+00 | 3.8E-08 | 4% | 1.1E-01 | <1% |
| Chloroform | 67-66-3 | 1.70E-03 | max | 5.89E+00 | 3.0E-08 | 3% | 9.8E-03 | <1% |
| cis-1,2-Dichloroethene | 156-59-2 | 9.27E-01 | UCL | 6.54E+00 | NA | | NA | |
| trans-1,2-Dichloroethene | 156-60-5 | 6.66E-03 | UCL | 6.61E+00 | NA | | 1.3E-02 | <1% |
| 1,2-Dichloropropane | 78-87-5 | 1.10E-03 | max | 6.01E+00 | 3.2E-08 | 3% | 1.2E-01 | <1% |
| Ethylbenzene | 100-41-4 | 5.05E-03 | UCL | 6.30E+00 | 1.0E-08 | <1% | 8.4E-04 | <1% |
| 2-Hexanone | 591-78-6 | 3.75E-03 | UCL | 3.52E+00 | NA | | 1.0E-02 | <1% |
| 1-Methylethyl benzene | 98-82-8 | 9.10E-03 | UCL | 5.94E+00 | NA | | 1.4E-01 | <1% |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 8.40E-04 | max | 4.21E+00 | 2.7E-08 | 3% | NA | |
| Toluene | 108-88-3 | 1.61E-02 | UCL | 6.75E+00 | NA | | 5.2E-03 | <1% |
| 1,1,2-Trichloroethane | 79-00-5 | 8.50E-03 | max | 5.21E+00 | 9.2E-08 | 9% | 5.3E+01 | 78% |
| Trichloroethene | 79-01-6 | 3.88E-04 | UCL | 5.68E+00 | 1.2E-09 | <1% | 2.4E-01 | <1% |
| Vinyl chloride | 75-01-4 | 1.06E-01 | UCL | 8.27E+00 | 5.0E-07 | 48% | 2.7E+00 | 4% |
| Xylenes (total) | 1330-20-7 | 5.92E-03 | UCL | 6.29E+00 | NA | | 2.2E-02 | <1% |
| **Semi-Volatile Organic Compounds** | | | | | | | | |
| 4-Chlorobenzenamine | 106-47-8 | 2.50E-02 | max | — | NA | | NA | |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 4.30E-04 | max | — | — | | NA | |
| 2-Methylnaphthalene | 91-57-6 | 5.48E-03 | UCL | 4.68E+00 | NA | | NA | |
| Naphthalene | 91-20-3 | 2.87E-02 | UCL | 4.87E+00 | NA | | 1.1E+01 | 16% |
| **Pesticides** | | | | | | | | |
| Aldrin | 309-00-2 | 6.10E-04 | UCL | 6.46E-01 | 2.5E-07 | 24% | NA | |
| delta BHC | 319-86-8 | 1.24E-05 | UCL | — | — | | NA | |
| alpha-Chlordane | 5103-71-9 | 7.70E-05 | max | — | — | | NA | |
| gamma-Chlordane | 5566-34-7 | 6.25E-04 | UCL | — | — | | NA | |
| 4,4'-DDD | 72-54-8 | 5.60E-05 | max | — | — | | NA | |
| Dieldrin | 60-57-1 | 2.80E-05 | max | — | — | | NA | |
| Heptachlor epoxide | 1024-57-3 | 3.20E-04 | UCL | 6.29E-01 | 6.8E-08 | 6% | NA | |
| alpha-Hexachlorocyclohexane | 319-84-6 | 5.20E-05 | max | — | — | | NA | |
| beta-Hexachlorocyclohexane | 319-85-7 | 1.46E-04 | UCL | — | — | | NA | |
| Lindane | 58-89-9 | 2.24E-05 | UCL | — | — | | NA | |
| **Inorganics** | | | | | | | | |
| Arsenic | 7440-38-2 | 6.06E-03 | UCL | — | — | | — | |
| Cadmium | 7440-43-9 | 9.50E-04 | max | — | 1.80E-03 | | — | |
| Chromium | 7440-47-3 | 2.98E-02 | UCL | — | — | | — | |
| Iron | 7439-89-6 | 1.88E+01 | UCL | — | NA | | NA | |
| Lead | 7439-92-1 | 5.07E-03 | UCL | — | NA | | NA | |
| Manganese | 7439-96-5 | 1.16E+00 | UCL | — | NA | | — | |
| Mercury | 7439-97-6 | 5.32E-05 | UCL | 4.59E+00 | NA | | 1.9E-01 | <1% |
| **Total Risk or Hazard** | | | | Total ELCR | 1E-06 | 100% | Total HI 67 | 100% |

[a] The volatilization factor for water in a trench (VFwtrench) is calculated in Table 8-15.

| | | | |
|---|---|---|---|
| – | Not applicable. | $L/m^3$ | Liter per cubic meter. |
| CASN | Chemical abstracts registry number. | max | Exposure point concentration based on maximum. |
| ELCR | Excess lifetime cancer risk. | mg/L | Milligram per liter. |
| EPCgw | Exposure point concentration in groundwater. | NA | Toxicity value not available or not applicable. |
| HI | Hazard index (sum of the HQs). | UCL | Upper confidence limit. |
| HQ | Hazard quotient. | $VFw_{trench}$ | Volatilization factor for vapors migrating into a trench |
| $L/cm^2/day$ | Liter per square centimeter per day. | | |

Equations are presented in Table 8-10.
Receptor-specific exposure parameters are presented in Table 8-7.
Constituent-specific toxicity values are presented in Table 8-18 through Table 8-21.

ELCRi = (EPCgw × VFwtrench × 8 × 0.042 x 5 × 2 × IUR × 1,000) / (25,550)
HQi = (EPCgw × VFwtrench × 8 × 0.042 × 5 × 2) / (14 × RfC)

| Variable | Acronym | Value | Unit | Source |
|---|---|---|---|---|
| Averaging time, cancer | ATc | 25,550 | days | See Table 8-7 |
| Averaging time, non -cancer | ATnc | 14 | days | See Table 8-7 |
| Body weight | BW | 80 | kg | See Table 8-7 |
| Exposure time | ET | 8 | hours/day | See Table 8-7 |
| Exposure frequency | EFsc | 5 | days/wk | See Table 8-7 |
| Exposure duration | EDsc | 2 | weeks | See Table 8-7 |
| Conversion factor (days/hr) | CF | 0.042 | days/hr | See Table 8-7 |

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**Table 8-29**
**Risk and Hazard Calculations for a Hypothetical Future Adolescent Trespasser for Exposure to Soil (0-2 feet)**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent | CASRN | EPCs (mg/kg) | | VF-sl *or* $PEF_{wind}$ [a] ($m^3$/kg) | | CANCER RISK: Route-Specific Risk Oral | Dermal | Inhalation | Calculated Risk | Percent Total ELCR | NON-CANCER HAZARD: Route-Specific Hazard Oral | Dermal | Inhalation | Calculated Hazard | Percent Total HI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | ELCRo | ELCRd | ELCRi | ELCR | | HQo | HQd | HQi | HI | |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 6.47E+00 | UCL | 6.77E+06 | V | 4.4E-08 | 2.4E-08 | 1.5E-10 | 6.8E-08 | 7% | NA | NA | NA | – | |
| Benzo(a)pyrene | 50-32-8 | 5.28E+00 | UCL | 3.69E+10 | P | 3.6E-07 | 2.0E-07 | 2.2E-13 | 5.6E-07 | 59% | 2.8E-03 | 1.5E-03 | 4.2E-07 | 4.3E-03 | 91% |
| Benzo(b)fluoranthene | 205-99-2 | 4.50E+00 | UCL | 3.69E+10 | P | 3.1E-08 | 1.7E-08 | 1.9E-14 | 4.7E-08 | 5% | NA | NA | NA | – | |
| Benzo(k)fluoranthene | 207-08-9 | 3.06E+00 | UCL | 3.69E+10 | P | 2.1E-09 | 1.2E-09 | 1.3E-15 | 3.2E-09 | <1% | NA | NA | NA | – | |
| Dibenz(a,h)anthracene | 53-70-3 | 5.37E-01 | UCL | 3.69E+10 | P | 3.6E-08 | 2.0E-08 | 2.2E-14 | 5.7E-08 | 6% | NA | NA | NA | – | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 2.63E+00 | UCL | 3.69E+10 | P | 1.8E-08 | 9.9E-09 | 1.1E-14 | 2.8E-08 | 3% | NA | NA | NA | – | |
| **Pesticides** | | | | | | | | | | | | | | | |
| Dieldrin | 60-57-1 | 4.30E-02 | max | 3.69E+10 | P | 1.6E-08 | 6.7E-09 | 4.5E-15 | 2.2E-08 | 2% | 1.4E-04 | 5.8E-05 | NA | 1.9E-04 | 4% |
| **Inorganics** | | | | | | | | | | | | | | | |
| Chromium | 7440-47-3 | 4.75E+00 | UCL | 3.69E+10 | P | 1.6E-07 | – | 2.7E-11 | 1.6E-07 | 17% | 2.5E-04 | – | 7.6E-09 | 2.5E-04 | 5% |
| **Total Risk or Hazard** | | | | | | Total ELCR | | | 9E-07 | 100% | Total HI | | | 0.005 | 100% |

[a] Minimum of the volatilization factor ([VF] identified with [V]) and the particulate emission factor ([PEF] identified with [P]), derived on Table 8-14 and Table 8-16.

| | | | | | |
|---|---|---|---|---|---|
| – | Not applicable. | HQ | Hazard quotient. | NA | Toxicity value not available or not applicable. |
| CASN | Chemical abstracts registry nu | max | Exposure point concentration based on maximum. | PEF | Particulate emission factor. |
| ELCR | Excess lifetime cancer risk. | $m^3$/kg | Cubic meter per kilogram. | UCL | Upper confidence limit. |
| EPCs | Exposure point concentration i | mg/kg | Milligram per kilogram. | VF | Volatilization factor. |
| HI | Hazard index (sum of the HQs). | | | | |

Equations are presented in Table 8-8.
Receptor-specific exposure parameters are presented in Table 8-7 while constituent specific dermal absorption parameters are presented in Table 8-17.
Constituent-specific toxicity values are presented in Table 8-18 through Table 8-21.

ELCRo = (EPCs × [ADAF] × 1 × 50 × 52 × 10 × CSFo) / (1,000,000 × 45 × 25,550)
ELCRd = (EPCs × [ADAF] × 3,054 × 0.07 × ABSd × 52 × 10 × CSFa) / (1,000,000 × 45 × 25,550)
ELCRi = (EPCs × [ADAF] × 1 × 0.042 × 52 × 10 × IUR × 1,000) / ([VF or PEF] × 25,550)

HQo = (EPCs × 1 × 50 × 52 × 10) / (1,000,000 × 45 × 3,650 × RfDo)
HQd = (EPCs × 3,054 × 0.07 × ABSd × 52 × 10) / (1,000,000 × 45 × 3,650 × RfDa)
HQi = (EPCs × 1 × 0.042 × 52 × 10) / ([VF or PEF] × 3,650 × RfC)

| Variable | Acronym | Value | Unit | Source |
|---|---|---|---|---|
| Averaging time, cancer | ATc | 25,550 | days | See Table 8-7 |
| Averaging time, non -cancer | ATnc | 3,650 | days | See Table 8-7 |
| Age-Dependent Adjustment Factor | ADAF | 3 | days | See Table 8-7 |
| Body weight | BW | 45 | kg | See Table 8-7 |
| Exposure time | ET | 1 | hrs/day | See Table 8-7 |
| Exposure frequency | EF | 52 | days/ year or days/wk | See Table 8-7 |
| Exposure duration | ED | 10 | years or weeks | See Table 8-7 |
| Conversion factor (days/hr) | CF | 0.041666667 | days/hr | See Table 8-7 |
| Ingestion rate of soil | IRs | 50 | mg/day | See Table 8-7 |
| Soil-to-skin adherence rate | SAR | 0.07 | mg/cm²/day | See Table 8-7 |
| Skin surface area for soil contact | SSAs | 3,054 | cm² | See Table 8-7 |

Table 8-30
Risk and Hazard Calculations for a Hypothetical Future Adolescent Trespasser for Exposure to Soil (0-10 feet)
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | EPCs (mg/kg) | | VF-sl *or* $PEF_{wind}$ [a] ($m^3$/kg) | | CANCER RISK: Route-Specific Risk: Oral | CANCER RISK: Route-Specific Risk: Dermal | CANCER RISK: Route-Specific Risk: Inhalation | CANCER RISK: Calculated Risk | Percent Total ELCR | NON-CANCER HAZARD: Route-Specific Hazard: Oral | NON-CANCER HAZARD: Route-Specific Hazard: Dermal | NON-CANCER HAZARD: Route-Specific Hazard: Inhalation | NON-CANCER HAZARD: Calculated Hazard | Percent Total HI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | ELCRo | ELCRd | ELCRi | ELCR | | HQo | HQd | HQi | HI | |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 1.04E+00 | UCL | 4.47E+03 | V | 1.3E-09 | – | 1.5E-09 | 2.8E-09 | <1% | 4.1E-05 | – | 4.6E-05 | 8.7E-05 | 1% |
| Chloromethane | 74-87-3 | 3.90E+01 | max | 1.33E+03 | V | NA | NA | NA | – | | NA | NA | 1.9E-03 | 1.9E-03 | 33% |
| Ethylbenzene | 100-41-4 | 7.10E+00 | UCL | 7.45E+03 | V | 1.8E-09 | – | 2.0E-09 | 3.8E-09 | <1% | 1.1E-05 | – | 5.7E-06 | 1.7E-05 | <1% |
| Xylenes (total) | 1330-20-7 | 2.07E+01 | UCL | 7.55E+03 | V | NA | NA | NA | – | | 1.6E-05 | – | 1.6E-04 | 1.8E-04 | 3% |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 1.06E+00 | UCL | 6.77E+06 | V | 7.2E-09 | 4.0E-09 | 2.4E-11 | 1.1E-08 | 2% | NA | NA | NA | – | |
| Benzo(a)pyrene | 50-32-8 | 2.27E+00 | UCL | 3.69E+10 | P | 1.5E-07 | 8.5E-08 | 9.4E-14 | 2.4E-07 | 40% | 1.2E-03 | 6.6E-04 | 1.8E-07 | 1.9E-03 | 31% |
| Benzo(b)fluoranthene | 205-99-2 | 2.35E+00 | UCL | 3.69E+10 | P | 1.6E-08 | 8.9E-09 | 9.7E-15 | 2.5E-08 | 4% | NA | NA | NA | – | |
| Benzo(k)fluoranthene | 207-08-9 | 1.66E+00 | UCL | 3.69E+10 | P | 1.1E-09 | 6.2E-10 | 6.8E-16 | 1.7E-09 | <1% | NA | NA | NA | – | |
| Dibenz(a,h)anthracene | 53-70-3 | 3.82E-01 | UCL | 3.69E+10 | P | 2.6E-08 | 1.4E-08 | 1.6E-14 | 4.0E-08 | 7% | NA | NA | NA | – | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1.37E+00 | UCL | 3.69E+10 | P | 9.3E-09 | 5.1E-09 | 5.6E-15 | 1.4E-08 | 2% | NA | NA | NA | – | |
| 1-Methylnaphthalene | 90-12-0 | 1.59E+01 | UCL | 8.72E+04 | V | 1.0E-08 | 5.8E-09 | NA | 1.6E-08 | 3% | 3.6E-05 | 2.0E-05 | NA | 5.6E-05 | <1% |
| 2-Methylnaphthalene | 91-57-6 | 1.68E+01 | UCL | 8.44E+04 | V | NA | NA | NA | – | | 6.7E-04 | 3.7E-04 | NA | 1.0E-03 | 17% |
| Naphthalene | 91-20-3 | 5.51E+00 | UCL | 6.40E+04 | V | NA | NA | NA | – | | 4.4E-05 | 2.4E-05 | 1.7E-04 | 2.4E-04 | 4% |
| **Pesticides** | | | | | | | | | | | | | | | |
| Dieldrin | 60-57-1 | 4.30E-02 | max | 3.69E+10 | P | 1.6E-08 | 6.7E-09 | 4.5E-15 | 2.2E-08 | 4% | 1.4E-04 | 5.8E-05 | NA | 1.9E-04 | 3% |
| **Inorganics** | | | | | | | | | | | | | | | |
| Chromium | 7440-47-3 | 6.32E+00 | UCL | 3.69E+10 | P | 2.1E-07 | – | 3.7E-11 | 2.1E-07 | 36% | 3.3E-04 | – | 1.0E-08 | 3.3E-04 | 6% |
| **Total Risk or Hazard** | | | | | | Total ELCR | | | 6E-07 | 100% | Total HI | | | 0.006 | 100% |

**Table 8-30**
**Risk and Hazard Calculations for a Hypothetical Future Adolescent Trespasser for Exposure to Soil (0-10 feet)**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

[a] Minimum of the volatilization factor ([VF] identified with [V]) and the particulate emission factor ([PEF] identified with [P]), derived on Table 8-14 and Table 8-16.

| | | | | | |
|---|---|---|---|---|---|
| – | Not applicable. | HQ | Hazard quotient. | mg/kg | Milligram per kilogram. |
| CASN | Chemical abstracts registry number. | max | Exposure point concentration based on maximum. | PEF | Particulate emission factor. |
| ELCR | Excess lifetime cancer risk. | $m^3/kg$ | Cubic meter per kilogram. | UCL | Upper confidence limit. |
| EPCs | Exposure point concentration in soil. | NA | Toxicity value not available or not applicable. | VF | Volatilization factor. |
| HI | Hazard index (sum of the HQs). | | | | |

Equations are presented in Table 8-8.
Receptor-specific exposure parameters are presented in Table 8-7 while constituent specific dermal absorption parameters are presented in Table 8-17.
Constituent-specific toxicity values are presented in Table 8-18 through Table 8-21.

ELCRo = (EPCs × [ADAF] × RBF × 1 × 50 × 52 × 10 × CSFo) / (1,000,000 × 45 × 25,550)
ELCRd = (EPCs × [ADAF] × 3,054 × 0.1 × ABSd × 52 × 10 × CSFa) / (1,000,000 × 45 × 25,550)
ELCRi = (EPCs × [ADAF] × 1 × 0.042 ×52 × 10 × IUR × 1000) / ([VF or PEF] × 25,550)

HQo = (EPCs × RBF × 1 × 50 × 52 × 10) / (1,000,000 × 45 × 3,650 × RfDo)
HQd = (EPCs × 3,054 × 0.1 × ABSd × 52 × 10) / (1,000,000 × 45 × 3,650 × RfDa)
HQi = (EPCs × 1 × 0.042 × 52 × 10) / ([VF or PEF] × 3,650 × RfC)

| Variable | Acronym | Value | Unit | Source |
|---|---|---|---|---|
| Averaging time, cancer | ATc | 25,550 | days | See Table 8-7 |
| Averaging time, non -cancer | ATnc | 3,650 | days | See Table 8-7 |
| Age-Dependent Adjustment Factor | ADAF | 3 | days | See Table 8-7 |
| Body weight | BW | 45 | kg | See Table 8-7 |
| Exposure time | ET | 1 | hrs/day | See Table 8-7 |
| Exposure frequency | EF | 52 | days/ year or days/wk | See Table 8-7 |
| Exposure duration | ED | 10 | years or weeks | See Table 8-7 |
| Conversion factor (days/hr) | CF | 0.041666667 | days/hr | See Table 8-7 |
| Ingestion rate of soil | IRs | 50 | mg/day | See Table 8-7 |
| Relative Bioavailability Factor | RBF | 30% for arsenic - 100% for all others | | See Table 8-7 |
| Soil-to-skin adherence rate | SAR | 0.07 | $mg/cm^2/day$ | See Table 8-7 |
| Skin surface area for soil contact | SSAs | 3,054 | $cm^2$ | See Table 8-7 |

**Table 8-31**
**Risk and Hazard Calculations for a Hypothetical Future Adolescent Trespasser for Exposure to Sediment while Wading**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent | CASRN | EPCs (mg/kg) | | CANCER RISK | | | Percent Total ELCR | NON-CANCER HAZARD | | | Percent Total HI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Route-Specific Risk | | Calculated Risk | | Route-Specific Hazard | | Calculated Hazard | |
| | | | | Oral | Dermal | | | Oral | Dermal | | |
| | | | | ELCRo | ELCRd | ELCR | | HQo | HQd | HI | |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | |
| Carbazole | 86-74-8 | 3.80E+00 | max | NA | NA | – | | NA | NA | – | |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 3.90E+01 | max | 1.2E-07 | 1.9E-07 | 3.2E-07 | 8% | NA | NA | – | |
| Benzo(a)pyrene | 50-32-8 | 3.50E+01 | max | 1.1E-06 | 1.7E-06 | 2.8E-06 | 76% | 8.5E-03 | 1.4E-02 | 2.2E-02 | 97% |
| Benzo(b)fluoranthene | 205-99-2 | 5.10E+01 | max | 1.6E-07 | 2.5E-07 | 4.1E-07 | 11% | NA | NA | – | |
| Benzo(k)fluoranthene | 207-08-9 | 2.30E+01 | max | 7.2E-09 | 1.1E-08 | 1.9E-08 | <1% | NA | NA | – | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 9.60E+00 | max | 3.0E-08 | 4.8E-08 | 7.8E-08 | 2% | NA | NA | – | |
| **Inorganics** | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 2.90E+00 | max | 4.5E-08 | 1.7E-08 | 6.2E-08 | 2% | 4.2E-04 | 2.6E-04 | 6.8E-04 | 3% |
| Chromium, hexavalent | 18540-29-9 | 8.20E-01 | max | 1.3E-08 | – | 1.3E-08 | <1% | 2.0E-05 | – | 2.0E-05 | <1% |
| **Total Risk or Hazard** | | | | Total ELCR | | 4E-06 | 100% | Total HI | | 0.02 | 100% |

**Table 8-31**
**Risk and Hazard Calculations for a Hypothetical Future Adolescent Trespasser for Exposure to Sediment while Wading**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| | | | |
|---|---|---|---|
| – | Not applicable. | HQ | Hazard quotient. |
| CASN | Chemical abstracts registry number. | max | Exposure point concentration based on maximum. |
| ELCR | Excess lifetime cancer risk. | $m^3/kg$ | Cubic meter per kilogram. |
| EPCs | Exposure point concentration in soil. | mg/kg | Milligram per kilogram. |
| HI | Hazard index (sum of the HQs). | | |

Equations are presented in Table 8-8.
Receptor-specific exposure parameters are presented in Table 8-7 while constituent specific dermal absorption parameters are presented in Table 8-17.
Constituent-specific toxicity values are presented in Table 8-18 through Table 8-21.

ELCRo = (EPCs × [ADAF] × RBF × 1 × 50 × 24 × 10 × CSFo) / (1,000,000 × 45 × 25,550)
ELCRd = (EPCs × [ADAF] × 3,054 × 0.2 × ABSd × 24 × 10 × CSFa) / (1,000,000 × 45 × 25,550)
HQo = (EPCs × RBF × 1 × 50 × 24 × 10) / (1,000,000 × 45 × 3,650 × RfDo)
HQd = (EPCs × 3,054 × 0.2 × ABSd × 24 × 10) / (1,000,000 × 45 × 3,650 × RfDa)

| Variable | Acronym | Value | Unit | Source |
|---|---|---|---|---|
| Averaging time, cancer | ATc | 25,550 | days | See Table 8-7 |
| Averaging time, non -cancer | ATnc | 3,650 | days | See Table 8-7 |
| Age-Dependent Adjustment Factor | ADAF | 3 | days | See Table 8-7 |
| Body weight | BW | 45 | kg | See Table 8-7 |
| Exposure duration | ED | 10 | years or weeks | See Table 8-7 |
| Exposure time | ET | 1 | hrs/day | See Table 8-7 |
| Exposure frequency | EFsed | 24 | days/ year or days/wk | See Table 8-7 |
| Ingestion rate of soil | IRs | 50 | mg/day | See Table 8-7 |
| Relative Bioavailability Factor | RBF | 60% for arsenic - 100% for all others | | See Table 8-7 |
| Sediment-to-skin adherence rate | SARsed | 0.2 | $mg/cm^2/day$ | See Table 8-7 |
| Skin surface area for sediment contact | SSAsed | 3,054 | $cm^2$ | See Table 8-7 |

Table 8-32
Risk Calculations for a Hypothetical Future Resident for Exposure to Surface Soil (0-2 Feet)
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | EPCs (mg/kg) | | VF-sl *or* $PEF_{wind}$ [a] ($m^3$/kg) | | CANCER RISK: Age-Specific Risk for Constituents with a Mutagenic Mode of Action (MOA) | | | | | | | | | | | | CANCER RISK: Age-Specific Risk for non-MOA Carcinogenic Constituents | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 - 2 years | | | 2 - 6 years | | | 6 - 16 years | | | 16 - 26 years | | | 0 - 6 years | | | 6 - 26 years | | |
| | | | | | | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation |
| | | | | | | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 6.47E+00 | UCL | 6.77E+06 | V | 2.4E-06 | 7.3E-07 | 1.6E-08 | 1.4E-06 | 4.4E-07 | 9.4E-09 | 3.3E-07 | 1.8E-07 | 2.4E-08 | 1.1E-07 | 6.1E-08 | 7.9E-09 | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 5.28E+00 | UCL | 3.69E+10 | P | 1.9E-05 | 5.9E-06 | 2.4E-11 | 1.2E-05 | 3.6E-06 | 1.4E-11 | 2.7E-06 | 1.5E-06 | 3.5E-11 | 9.0E-07 | 5.0E-07 | 1.2E-11 | NA | NA | NA | NA | NA | NA |
| Benzo(b)fluoranthene | 205-99-2 | 4.50E+00 | UCL | 3.69E+10 | P | 1.6E-06 | 5.1E-07 | 2.0E-12 | 9.9E-07 | 3.0E-07 | 1.2E-12 | 2.3E-07 | 1.3E-07 | 3.0E-12 | 7.7E-08 | 4.2E-08 | 1.0E-12 | NA | NA | NA | NA | NA | NA |
| Benzo(k)fluoranthene | 207-08-9 | 3.06E+00 | UCL | 3.69E+10 | P | 1.1E-07 | 3.5E-08 | 1.4E-13 | 6.7E-08 | 2.1E-08 | 8.2E-14 | 1.6E-08 | 8.6E-09 | 2.0E-13 | 5.2E-09 | 2.9E-09 | 6.8E-14 | NA | NA | NA | NA | NA | NA |
| Dibenz(a,h)anthracene | 53-70-3 | 5.37E-01 | UCL | 3.69E+10 | P | 2.0E-06 | 6.0E-07 | 2.4E-12 | 1.2E-06 | 3.6E-07 | 1.4E-12 | 2.8E-07 | 1.5E-07 | 3.6E-12 | 9.2E-08 | 5.0E-08 | 1.2E-12 | NA | NA | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 2.63E+00 | UCL | 3.69E+10 | P | 9.6E-07 | 3.0E-07 | 1.2E-12 | 5.8E-07 | 1.8E-07 | 7.0E-13 | 1.4E-07 | 7.4E-08 | 1.8E-12 | 4.5E-08 | 2.5E-08 | 5.9E-13 | NA | NA | NA | NA | NA | NA |
| **Pesticides** | | | | | | | | | | | | | | | | | | | | | | | |
| Dieldrin | 60-57-1 | 4.30E-02 | max | 3.69E+10 | P | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 7.5E-07 | 1.8E-07 | 4.4E-13 | 2.4E-07 | 9.9E-08 | 1.5E-12 |
| **Inorganics** | | | | | | | | | | | | | | | | | | | | | | | |
| Chromium | 7440-47-3 | 4.75E+00 | UCL | 3.69E+10 | P | 8.7E-06 | NA | 3.0E-09 | 5.2E-06 | NA | 1.8E-09 | 1.2E-06 | NA | 4.4E-09 | 4.1E-07 | NA | 1.5E-09 | NA | NA | NA | NA | NA | NA |
| | | | | | | 3E-05 | 8E-06 | 2E-08 | 2E-05 | 5E-06 | 1E-08 | 5E-06 | 2E-06 | 3E-08 | 2E-06 | 7E-07 | 9E-09 | 8E-07 | 2E-07 | 4E-13 | 2E-07 | 1E-07 | 1E-12 |
| **Total** | | | | | | | 4E-05 | | | 3E-05 | | | 7E-06 | | | 2E-06 | | | | | | | |

| Variable | Unit | Value per Age Range | | | | | |
|---|---|---|---|---|---|---|---|
| | | 0 - 2 years | 2 - 6 years | 6 - 16 years | 16 - 26 years | 0 - 6 years | 6 - 26 years |
| Averaging time, cancer | days | 25,550 | 25,550 | 25,550 | 25,550 | 25,550 | 25,550 |
| Averaging time, non-cancer | days | 730 | 1,460 | 3,650 | 3,650 | 2,190 | 7,300 |
| Body weight | kg | 15 | 15 | 80 | 80 | 15 | 80 |
| Exposure time | hrs/day | 24 | 24 | 24 | 24 | 24 | 24 |
| Exposure frequency | days/year | 350 | 350 | 350 | 350 | 350 | 350 |
| Exposure duration | years | 2 | 4 | 10 | 10 | 6 | 20 |
| Age-Dependent Adjustment Factor | unitless | 10 | 3 | 3 | 1 | | |
| Conversion factor (days/hr) | days/hr | 0.042 | 0.042 | 0.042 | 0.042 | 0.042 | 0.042 |
| Age-Adjusted Intake Factor, Soil Oral | mg-yr/kg/day | – | – | – | – | – | – |
| Age-Adjusted Intake Factor, Soil Dermal | mg-yr/kg/day | – | – | – | – | – | – |
| Ingestion rate of soil | mg/day | 200 | 200 | 100 | 100 | 200 | 100 |
| Soil-to-skin adherence rate | mg/cm²/day | 0.2 | 0.2 | 0.07 | 0.07 | 0.2 | 0.07 |
| Skin surface area for soil contact | cm² | 2,373 | 2,373 | 6,032 | 6,032 | 2,373 | 6,032 |

Footnotes on next page.

Table 8-32
Risk Calculations for a Hypothetical Future Resident for Exposure to Surface Soil (0-2 Feet)
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | EPCs (mg/kg) | | VF-sl *or* $PEF_{wind}$ [a] ($m^3$/kg) | | TOTAL CANCER RISK: Route-Specific Risk 0 - 26 years: Oral (ELCRo) | Dermal (ELCRd) | Inhalation (ELCRi) | Total ELCR | Percent Total ELCR | NON-CANCER HAZARD: Route-Specific Hazard 0 - 6 years: Oral (HQo) | Dermal (HQd) | Inhalation (HQi) | Total Hazard | Percent Total HI | NON-CANCER HAZARD: Route-Specific Hazard 6 - 26 years: Oral (HQo) | Dermal (HQd) | Inhalation (HQi) | Total Hazard | Percent Total HI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 6.47E+00 | UCL | 6.77E+06 | V | 4.2E-06 | 1.4E-06 | 5.7E-08 | 5.7E-06 | 7% | NA | NA | NA | – | | NA | NA | NA | – | |
| Benzo(a)pyrene | 50-32-8 | 5.28E+00 | UCL | 3.69E+10 | P | 3.4E-05 | 1.2E-05 | 8.5E-11 | 4.6E-05 | 58% | 2.2E-01 | 6.9E-02 | 6.9E-05 | 2.9E-01 | 90% | 2.1E-02 | 1.2E-02 | 6.9E-05 | 3.3E-02 | 91% |
| Benzo(b)fluoranthene | 205-99-2 | 4.50E+00 | UCL | 3.69E+10 | P | 2.9E-06 | 9.8E-07 | 7.2E-12 | 3.9E-06 | 5% | NA | NA | NA | – | | NA | NA | NA | – | |
| Benzo(k)fluoranthene | 207-08-9 | 3.06E+00 | UCL | 3.69E+10 | P | 2.0E-07 | 6.7E-08 | 4.9E-13 | 2.7E-07 | <1% | NA | NA | NA | – | | NA | NA | NA | – | |
| Dibenz(a,h)anthracene | 53-70-3 | 5.37E-01 | UCL | 3.69E+10 | P | 3.5E-06 | 1.2E-06 | 8.6E-12 | 4.7E-06 | 6% | NA | NA | NA | – | | NA | NA | NA | – | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 2.63E+00 | UCL | 3.69E+10 | P | 1.7E-06 | 5.7E-07 | 4.2E-12 | 2.3E-06 | 3% | NA | NA | NA | – | | NA | NA | NA | – | |
| **Pesticides** | | | | | | | | | | | | | | | | | | | | |
| Dieldrin | 60-57-1 | 4.30E-02 | max | 3.69E+10 | P | 9.9E-07 | 2.8E-07 | 1.9E-12 | 1.3E-06 | 2% | 1.1E-02 | 2.6E-03 | NA | 1.4E-02 | 4% | 1.0E-03 | 4.4E-04 | NA | 1.5E-03 | 4% |
| **Inorganics** | | | | | | | | | | | | | | | | | | | | |
| Chromium | 7440-47-3 | 4.75E+00 | UCL | 3.69E+10 | P | 1.5E-05 | – | 1.1E-08 | 1.6E-05 | 19% | 2.0E-02 | – | 1.2E-06 | 2.0E-02 | 6% | 1.9E-03 | – | 1.2E-06 | 1.9E-03 | 5% |
| | | | | | | 6E-05 | 2E-05 | 7E-08 | | | 0.3 | 0.07 | 0.00007 | | | 0.02 | 0.01 | 0.00007 | | |
| **Total** | | | | | | **Total ELCR** | | | 8E-05 | | | | **Total HI** | 0.3 | | | | **Total HI** | 0.04 | |
| | | | | | | **Total Resident Risk** | | | **8E-05** | | | | | | | **Total Resident Hazard** | | | **0.3** | |

| Variable | Unit | Value per Age Range: 0-6 years | 6-26 years |
|---|---|---|---|
| Averaging time, cancer | days | 25,550 | 25,550 |
| Averaging time, non-cancer | days | 2,190 | 7,300 |
| Body weight | kg | 15 | 80 |
| Exposure time | hrs/day | 24 | 24 |
| Exposure frequency | days/year | 350 | 350 |
| Exposure duration | years | 6 | 20 |
| Age-Dependent Adjustment Factor | unitless | | |
| Conversion factor (days/hr) | days/hr | 0.042 | 0.042 |
| Age-Adjusted Intake Factor, Soil Oral | mg-yr/kg/day | – | – |
| Age-Adjusted Intake Factor, Soil Dermal | mg-yr/kg/day | – | – |
| Ingestion rate of soil | mg/day | 200 | 100 |
| Soil-to-skin adherence rate | mg/cm²/day | 0.2 | 0.07 |
| Skin surface area for soil contact | cm² | 2,373 | 6,032 |

[a] Minimum of the volatilization factor ([VF] identified with [V]) and the particulate emission factor ([PEF] identified with [P]), derived on Table 8-14 and Table 8-16.

| | | | |
|---|---|---|---|
| – | Not applicable. | HQ | Hazard Quotient. |
| CASN | Chemical abstracts registry number. | max | Exposure point concentration based on maximum. |
| ELCR | Excess lifetime cancer risk. | $m^3$/kg | Cubic meter per kilogram. |
| EPCs | Exposure point concentration in soil. | mg/kg | Milligram per kilogram. |
| HI | Hazard Index. | UCL | Upper confidence limit. |

Equations are presented in Table 8-8.
Receptor-specific exposure parameters are presented in Table 8-7 while constituent specific dermal absorption parameters are presented in Table 8-17.
Constituent-specific toxicity values are presented in Table 8-18 through Table 8-21.

Table 8-33
Risk Calculations for a Hypothetical Future Resident for Exposure to Soil (0-10 Feet)

HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | EPCs (mg/kg) | | VF-si *or* $PEF_{wind}$ [a] ($m^3$/kg) | | CANCER RISK: Age-Specific Risk for Constituents with a Mutagenic Mode of Action (MOA) | | | | | | | | | | | | CANCER RISK: Age-Specific Risk for non-MOA Carcinogenic Constituents | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 0 - 2 years | | | 2 - 6 years | | | 6 - 16 years | | | 16 - 26 years | | | 0 - 6 years | | | 6 - 26 years | | |
| | | | | | | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation |
| | | | | | | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 1.04E+00 | UCL | 4.47E+03 | V | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6.2E-08 | NA | 1.5E-07 | 2.0E-08 | NA | 5.0E-07 |
| Chloromethane | 74-87-3 | 3.90E+01 | max | 1.33E+03 | V | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Ethylbenzene | 100-41-4 | 7.10E+00 | UCL | 7.45E+03 | V | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 8.6E-08 | NA | 2.0E-07 | 2.7E-08 | NA | 6.5E-07 |
| Xylenes (total) | 1330-20-7 | 2.07E+01 | UCL | 7.55E+03 | V | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 1.06E+00 | UCL | 6.77E+06 | V | 3.9E-07 | 1.2E-07 | 2.6E-09 | 2.3E-07 | 7.2E-08 | 1.5E-09 | 5.4E-08 | 3.0E-08 | 3.9E-09 | 1.8E-08 | 9.9E-09 | 1.3E-09 | NA | NA | NA | NA | NA | NA |
| Benzo(a)pyrene | 50-32-8 | 2.27E+00 | UCL | 3.69E+10 | P | 8.3E-06 | 2.6E-06 | 1.0E-11 | 5.0E-06 | 1.5E-06 | 6.1E-12 | 1.2E-06 | 6.4E-07 | 1.5E-11 | 3.9E-07 | 2.1E-07 | 5.0E-12 | NA | NA | NA | NA | NA | NA |
| Benzo(b)fluoranthene | 205-99-2 | 2.35E+00 | UCL | 3.69E+10 | P | 8.6E-07 | 2.6E-07 | 1.0E-12 | 5.2E-07 | 1.6E-07 | 6.3E-13 | 1.2E-07 | 6.6E-08 | 1.6E-12 | 4.0E-08 | 2.2E-08 | 5.2E-13 | NA | NA | NA | NA | NA | NA |
| Benzo(k)fluoranthene | 207-08-9 | 1.66E+00 | UCL | 3.69E+10 | P | 6.0E-08 | 1.9E-08 | 7.4E-14 | 3.6E-08 | 1.1E-08 | 4.4E-14 | 8.5E-09 | 4.7E-09 | 1.1E-13 | 2.8E-09 | 1.6E-09 | 3.7E-14 | NA | NA | NA | NA | NA | NA |
| Dibenz(a,h)anthracene | 53-70-3 | 3.82E-01 | UCL | 3.69E+10 | P | 1.4E-06 | 4.3E-07 | 1.7E-12 | 8.4E-07 | 2.6E-07 | 1.0E-12 | 2.0E-07 | 1.1E-07 | 2.6E-12 | 6.5E-08 | 3.6E-08 | 8.5E-13 | NA | NA | NA | NA | NA | NA |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1.37E+00 | UCL | 3.69E+10 | P | 5.0E-07 | 1.5E-07 | 6.1E-13 | 3.0E-07 | 9.2E-08 | 3.6E-13 | 7.0E-08 | 3.8E-08 | 9.1E-13 | 2.3E-08 | 1.3E-08 | 3.0E-13 | NA | NA | NA | NA | NA | NA |
| 1-Methylnaphthalene | 90-12-0 | 1.59E+01 | UCL | 8.72E+04 | V | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5.1E-07 | 1.6E-07 | NA | 1.6E-07 | 8.7E-08 | NA |
| 2-Methylnaphthalene | 91-57-6 | 1.68E+01 | UCL | 8.44E+04 | V | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | 91-20-3 | 5.51E+00 | UCL | 6.40E+04 | V | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| **Pesticides** | | | | | | | | | | | | | | | | | | | | | | | |
| Dieldrin | 60-57-1 | 4.30E-02 | max | 3.69E+10 | P | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 7.5E-07 | 1.8E-07 | 4.4E-13 | 2.4E-07 | 9.9E-08 | 1.5E-12 |
| **Inorganics** | | | | | | | | | | | | | | | | | | | | | | | |
| Chromium | 7440-47-3 | 6.32E+00 | UCL | 3.69E+10 | P | 1.2E-05 | NA | 3.9E-09 | 6.9E-06 | NA | 2.4E-09 | 1.6E-06 | NA | 5.9E-09 | 5.4E-07 | NA | 2.0E-09 | NA | NA | NA | NA | NA | NA |
| | | | | | | 2E-05 | 4E-06 | 7E-09 | 1E-05 | 2E-06 | 4E-09 | 3E-06 | 9E-07 | 1E-08 | 1E-06 | 3E-07 | 3E-09 | 1E-06 | 3E-07 | 3E-07 | 4E-07 | 2E-07 | 1E-06 |
| **Total** | | | | | | 3E-05 | | | 2E-05 | | | 4E-06 | | | 1E-06 | | | | | | | | |

| Variable | Unit | Value per Age Range | | | | | |
|---|---|---|---|---|---|---|---|
| | | 0 - 2 years | 2 - 6 years | 6 - 16 years | 16 - 26 years | 0 - 6 years | 6 - 26 years |
| Averaging time, cancer | days | 25,550 | 25,550 | 25,550 | 25,550 | 25,550 | 25,550 |
| Averaging time, non-cancer | days | 730 | 1,460 | 3,650 | 3,650 | 2,190 | 7,300 |
| Body weight | kg | 15 | 15 | 80 | 80 | 15 | 80 |
| Exposure time | hrs/day | 24 | 24 | 24 | 24 | 24 | 24 |
| Exposure frequency | days/year | 350 | 350 | 350 | 350 | 350 | 350 |
| Exposure duration | years | 2 | 4 | 10 | 10 | 6 | 20 |
| Age-Dependent Adjustment Factor | unitless | 10 | 3 | 3 | 1 | | |
| Conversion factor (days/hr) | days/hr | 0.042 | 0.042 | 0.042 | 0.042 | 0.042 | 0.042 |
| Ingestion rate of soil | mg/day | 200 | 200 | 100 | 100 | 200 | 100 |
| Soil-to-skin adherence rate | mg/cm²/day | 0.2 | 0.2 | 0.07 | 0.07 | 0.2 | 0.07 |
| Skin surface area for soil contact | cm² | 2,373 | 2,373 | 6,032 | 6,032 | 2,373 | 6,032 |

Footnotes on next page.

Table 8-33
Risk Calculations for a Hypothetical Future Resident for Exposure to Soil (0-10 Feet)

HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | EPCs (mg/kg) | | VF-sl *or* $PEF_{wind}$ [a] ($m^3$/kg) | | TOTAL CANCER RISK: Route-Specific Risk 0 - 26 years Oral (ELCRo) | Dermal (ELCRd) | Inhalation (ELCRi) | Total ELCR | Percent Total ELCR | NON-CANCER HAZARD: Route-Specific Hazard 0 - 6 years Oral (HQo) | Dermal (HQd) | Inhalation (HQi) | Total Hazard | Percent Total HI | NON-CANCER HAZARD: Route-Specific Hazard 6 - 26 years Oral (HQo) | Dermal (HQd) | Inhalation (HQi) | Total Hazard | Percent Total HI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 1.04E+00 | UCL | 4.47E+03 | V | 8.2E-08 | – | 6.4E-07 | 7.3E-07 | 1% | 3.3E-03 | – | 7.4E-03 | 1.1E-02 | 2% | 3.1E-04 | – | 7.4E-03 | 7.7E-03 | 2% |
| Chloromethane | 74-87-3 | 3.90E+01 | max | 1.33E+03 | V | – | – | – | – | | NA | NA | 3.1E-01 | 3.1E-01 | 50% | NA | NA | 3.1E-01 | 3.1E-01 | 78% |
| Ethylbenzene | 100-41-4 | 7.10E+00 | UCL | 7.45E+03 | V | 1.1E-07 | – | 8.5E-07 | 9.6E-07 | 2% | 9.1E-04 | – | 9.1E-04 | 1.8E-03 | <1% | 8.5E-05 | – | 9.1E-04 | 1.0E-03 | <1% |
| Xylenes (total) | 1330-20-7 | 2.07E+01 | UCL | 7.55E+03 | V | – | – | – | – | | 1.3E-03 | – | 2.6E-02 | 2.8E-02 | 4% | 1.2E-04 | – | 2.6E-02 | 2.6E-02 | 7% |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 1.06E+00 | UCL | 6.77E+06 | V | 6.9E-07 | 2.3E-07 | 9.3E-09 | 9.3E-07 | 2% | NA | NA | NA | – | | NA | NA | NA | – | |
| Benzo(a)pyrene | 50-32-8 | 2.27E+00 | UCL | 3.69E+10 | P | 1.5E-05 | 4.9E-06 | 3.6E-11 | 2.0E-05 | 38% | 9.7E-02 | 3.0E-02 | 2.9E-05 | 1.3E-01 | 20% | 9.0E-03 | 5.0E-03 | 2.9E-05 | 1.4E-02 | 3% |
| Benzo(b)fluoranthene | 205-99-2 | 2.35E+00 | UCL | 3.69E+10 | P | 1.5E-06 | 5.1E-07 | 3.8E-12 | 2.0E-06 | 4% | NA | NA | NA | – | | NA | NA | NA | – | |
| Benzo(k)fluoranthene | 207-08-9 | 1.66E+00 | UCL | 3.69E+10 | P | 1.1E-07 | 3.6E-08 | 2.7E-13 | 1.4E-07 | <1% | NA | NA | NA | – | | NA | NA | NA | – | |
| Dibenz(a,h)anthracene | 53-70-3 | 3.82E-01 | UCL | 3.69E+10 | P | 2.5E-06 | 8.3E-07 | 6.1E-12 | 3.3E-06 | 6% | NA | NA | NA | – | | NA | NA | NA | – | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1.37E+00 | UCL | 3.69E+10 | P | 8.9E-07 | 3.0E-07 | 2.2E-12 | 1.2E-06 | 2% | NA | NA | NA | – | | NA | NA | NA | – | |
| 1-Methylnaphthalene | 90-12-0 | 1.59E+01 | UCL | 8.72E+04 | V | 6.6E-07 | 2.4E-07 | – | 9.1E-07 | 2% | 2.9E-03 | 9.0E-04 | NA | 3.8E-03 | <1% | 2.7E-04 | 1.5E-04 | NA | 4.2E-04 | <1% |
| 2-Methylnaphthalene | 91-57-6 | 1.68E+01 | UCL | 8.44E+04 | V | – | – | – | – | | 5.4E-02 | 1.7E-02 | NA | 7.0E-02 | 11% | 5.0E-03 | 2.8E-03 | NA | 7.8E-03 | 2% |
| Naphthalene | 91-20-3 | 5.51E+00 | UCL | 6.40E+04 | V | – | – | – | – | | 3.5E-03 | 1.1E-03 | 2.8E-02 | 3.2E-02 | 5% | 3.3E-04 | 1.8E-04 | 2.8E-02 | 2.8E-02 | 7% |
| **Pesticides** | | | | | | | | | | | | | | | | | | | | |
| Dieldrin | 60-57-1 | 4.30E-02 | max | 3.69E+10 | P | 9.9E-07 | 2.8E-07 | 1.9E-12 | 1.3E-06 | 2% | 1.1E-02 | 2.6E-03 | NA | 1.4E-02 | 2% | 1.0E-03 | 4.4E-04 | NA | 1.5E-03 | <1% |
| **Inorganics** | | | | | | | | | | | | | | | | | | | | |
| Chromium | 7440-47-3 | 6.32E+00 | UCL | 3.69E+10 | P | 2.1E-05 | – | 1.4E-08 | 2.1E-05 | 40% | 2.7E-02 | – | 1.6E-06 | 2.7E-02 | 4% | 2.5E-03 | – | 1.6E-06 | 2.5E-03 | <1% |
| | | | | | | 4E-05 | 7E-06 | 2E-06 | | | 0.2 | 0.05 | 0.4 | | | 0.02 | 0.009 | 0.4 | | |
| **Total** | | | | | | **Total ELCR** | 5E-05 | | | | **Total HI** | 0.6 | | | | **Total HI** | 0.4 | | | |
| | | | | | | **Total Resident Risk** | **5E-05** | | | | | | | | | **Total Resident Hazard** | **1** | | | |

| Variable | Unit | Value per Age Range: 0-6 years | 6-26 years |
|---|---|---|---|
| Averaging time, cancer | days | 25,550 | 25,550 |
| Averaging time, non-cancer | days | 2,190 | 7,300 |
| Body weight | kg | 15 | 80 |
| Exposure time | hrs/day | 24 | 24 |
| Exposure frequency | days/year | 350 | 350 |
| Exposure duration | years | 6 | 20 |
| Age-Dependent Adjustment Factor | unitless | | |
| Conversion factor (days/hr) | days/hr | 0.042 | 0.042 |
| Ingestion rate of soil | mg/day | 200 | 100 |
| Soil-to-skin adherence rate | mg/cm²/day | 0.2 | 0.07 |
| Skin surface area for soil contact | cm² | 2,373 | 6,032 |

[a] Minimum of the volatilization factor ([VF] identified with [V]) and the particulate emission factor ([PEF] identified with [P]), derived on Table 8-14 and Table 8-16.

| | | | |
|---|---|---|---|
| – | Not applicable. | HQ | Hazard Quotient. |
| CASN | Chemical abstracts registry number. | max | Exposure point concentration based on maximum. |
| ELCR | Excess lifetime cancer risk. | $m^3$/kg | Cubic meter per kilogram. |
| EPCs | Exposure point concentration in soil. | mg/kg | Milligram per kilogram. |
| HI | Hazard Index. | UCL | Upper confidence limit. |

Equations are presented in Table 8-8.
Receptor-specific exposure parameters are presented in Table 8-7 while constituent specific dermal absorption parameters are presented in Table 8-17.
Constituent-specific toxicity values are presented in Table 8-18 through Table 8-21.

**Table 8-34**
**Risk and Hazard Calculations for a Hypothetical Future Resident for Exposure to Groundwater Used As Potable Water**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent | CASRN | EPCgw (mg/L) | | Child DA [a] (L/cm²/day) | | Adult DA [a] (L/cm²/day) | | CANCER RISK: Age-Specific Risk for Constituents with a Mutagenic Mode of Action (MOA) | | | | | | | | | | | | | CANCER RISK: Age-Specific Risk for non-MOA Carcinogenic Constituents | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 0 - 2 years | | | 2 - 6 years | | | 6 - 16 years | | | 16 - 26 years | | | 0 - 6 years | | | 6 - 26 years | | |
| | | | | | | | | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation | Oral | Dermal | Inhalation |
| | | | | | | | | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi | ELCRo | ELCRd | ELCRi |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 5.10E-03 | UCL | 1.62E-05 | [1] | 1.91E-05 | [2] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.2E-06 | 1.6E-07 | 1.6E-06 | 2.4E-06 | 3.6E-07 | 5.5E-06 |
| Chloroform | 67-66-3 | 1.70E-03 | max | 9.71E-06 | [1] | 1.11E-05 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2.3E-07 | 1.8E-08 | 1.6E-06 | 4.5E-07 | 4.0E-08 | 5.4E-06 |
| cis-1,2-Dichloroethene | 156-59-2 | 9.27E-01 | UCL | 1.35E-05 | [1] | 1.55E-05 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| trans-1,2-Dichloroethene | 156-60-5 | 6.66E-03 | UCL | 1.35E-05 | [1] | 1.55E-05 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloropropane | 78-87-5 | 1.10E-03 | max | 1.03E-05 | [1] | 1.18E-05 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.7E-07 | 1.5E-08 | 1.7E-06 | 3.5E-07 | 3.2E-08 | 5.6E-06 |
| Ethylbenzene | 100-41-4 | 5.05E-03 | UCL | 6.44E-05 | [1] | 7.38E-05 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2.4E-07 | 1.2E-07 | 5.2E-07 | 4.8E-07 | 2.8E-07 | 1.7E-06 |
| 2-Hexanone | 591-78-6 | 3.75E-03 | UCL | 4.46E-06 | [1] | 5.11E-06 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1-Methylethyl benzene | 98-82-8 | 9.10E-03 | UCL | 1.28E-04 | [1] | 1.47E-04 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 8.40E-04 | max | 1.35E-05 | [1] | 1.55E-05 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 7.2E-07 | 7.9E-08 | 2.0E-06 | 1.4E-06 | 1.7E-07 | 6.7E-06 |
| Toluene | 108-88-3 | 1.61E-02 | UCL | 3.71E-05 | [1] | 4.25E-05 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,1,2-Trichloroethane | 79-00-5 | 8.50E-03 | max | 7.85E-06 | [1] | 9.00E-06 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2.1E-06 | 1.3E-07 | 5.6E-06 | 4.1E-06 | 2.9E-07 | 1.9E-05 |
| Trichloroethene | 79-01-6 | 3.88E-04 | UCL | 1.78E-05 | [1] | 2.04E-05 | [1] | 5.1E-08 | 7.5E-09 | 5.3E-08 | 3.1E-08 | 4.5E-09 | 3.2E-08 | 4.6E-08 | 7.4E-09 | 8.0E-08 | 1.5E-08 | 2.5E-09 | 2.7E-08 | 6.1E-08 | 8.9E-09 | 4.9E-08 | 1.2E-07 | 2.0E-08 | 1.6E-07 |
| Vinyl chloride | 75-01-4 | 1.06E-01 | UCL | 8.26E-06 | [1] | 9.85E-06 | [2] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (total) | 1330-20-7 | 5.92E-03 | UCL | 6.53E-05 | [1] | 7.49E-05 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4-Chlorobenzenamine | 106-47-8 | 2.50E-02 | max | 7.44E-06 | [1] | 8.53E-06 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2.1E-05 | 1.3E-06 | NA | 4.3E-05 | 2.9E-06 | NA |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 4.30E-04 | max | NA | | NA | | 6.1E-07 | NA | NA | 3.7E-07 | NA | NA | 5.5E-07 | NA | NA | 1.8E-07 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Methylnaphthalene | 91-57-6 | 5.48E-03 | UCL | 1.51E-04 | [1] | 1.73E-04 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | 91-20-3 | 2.87E-02 | UCL | 7.01E-05 | [1] | 8.04E-05 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| **Pesticides** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aldrin | 309-00-2 | 6.10E-04 | UCL | NA | | NA | | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4.4E-05 | NA | 1.2E-04 | 8.9E-05 | NA | 4.1E-04 |
| delta BHC | 319-86-8 | 1.24E-05 | UCL | 1.08E-04 | [1] | 1.24E-04 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3.3E-07 | 2.9E-07 | NA | 6.7E-07 | 6.5E-07 | NA |
| alpha-Chlordane | 5103-71-9 | 7.70E-05 | max | 2.23E-04 | [1] | 2.56E-04 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.2E-07 | 2.1E-07 | NA | 2.3E-07 | 4.6E-07 | NA |
| gamma-Chlordane | 5566-34-7 | 6.25E-04 | UCL | 3.18E-04 | [1] | 3.65E-04 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 9.3E-07 | 2.4E-06 | NA | 1.9E-06 | 5.4E-06 | NA |
| 4,4'-DDD | 72-54-8 | 5.60E-05 | max | 1.04E-03 | [1] | 1.19E-03 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5.7E-08 | 4.9E-07 | NA | 1.2E-07 | 1.1E-06 | NA |
| Dieldrin | 60-57-1 | 2.80E-05 | max | 2.00E-04 | [1] | 2.30E-04 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.9E-06 | 3.1E-06 | NA | 3.8E-06 | 6.9E-06 | NA |
| Heptachlor epoxide | 1024-57-3 | 3.20E-04 | UCL | 1.36E-04 | [1] | 1.55E-04 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.2E-05 | 1.4E-05 | 3.4E-05 | 2.5E-05 | 3.0E-05 | 1.1E-04 |
| alpha-Hexachlorocyclohexane | 319-84-6 | 5.20E-05 | max | 7.96E-05 | [1] | 9.13E-05 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.4E-06 | 9.1E-07 | NA | 2.8E-06 | 2.0E-06 | NA |
| beta-Hexachlorocyclohexane | 319-85-7 | 1.46E-04 | UCL | 7.96E-05 | [1] | 9.13E-05 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.1E-06 | 7.3E-07 | NA | 2.3E-06 | 1.6E-06 | NA |
| Lindane | 58-89-9 | 2.24E-05 | UCL | 7.96E-05 | [1] | 9.13E-05 | [1] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.1E-07 | 6.8E-08 | NA | 2.1E-07 | 1.5E-07 | NA |
| **Inorganics** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 6.06E-03 | UCL | 5.40E-07 | [0] | 7.10E-07 | [0] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3.9E-05 | 1.7E-07 | NA | 7.8E-05 | 4.3E-07 | NA |
| Cadmium | 7440-43-9 | 9.50E-04 | max | 5.40E-07 | [0] | 7.10E-07 | [0] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Chromium | 7440-47-3 | 2.98E-02 | UCL | 5.40E-07 | [0] | 7.10E-07 | [0] | 2.1E-04 | 3.7E-05 | NA | 1.3E-04 | 2.2E-05 | NA | 1.9E-04 | 4.3E-05 | NA | 6.4E-05 | 1.4E-05 | NA | NA | NA | NA | NA | NA | NA |
| Iron | 7439-89-6 | 1.88E+01 | UCL | 5.40E-07 | [0] | 7.10E-07 | [0] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 5.07E-03 | UCL | 5.40E-08 | [0] | 7.10E-08 | [0] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Manganese | 7439-96-5 | 1.16E+00 | UCL | 5.40E-07 | [0] | 7.10E-07 | [0] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Mercury | 7439-97-6 | 5.32E-05 | UCL | 5.40E-07 | [0] | 7.10E-07 | [0] | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| **Total by pathway** | | | | | | | | 2E-04 | 4E-05 | 5E-08 | 1E-04 | 2E-05 | 3E-08 | 2E-04 | 4E-05 | 8E-08 | 6E-05 | 1E-05 | 3E-08 | 1E-04 | 2E-05 | 2E-04 | 3E-04 | 5E-05 | 6E-04 |
| **Total by age** | | | | | | | | | 3E-04 | | | 2E-04 | | | 2E-04 | | | 8E-05 | | | | | | | |

| Variable | Unit | Value per Age Range | | | | | |
|---|---|---|---|---|---|---|---|
| | | 0 - 2 years | 2 - 6 years | 6 - 16 years | 16 - 26 years | 0 - 6 years | 6 - 26 years |
| Averaging time, cancer | days | 25,550 | 25,550 | 25,550 | 25,550 | 25,550 | 25,550 |
| Averaging time, non-cancer | days | 730 | 1,460 | 3,650 | 3,650 | 2,190 | 7,300 |
| Body weight | kg | 15 | 15 | 80 | 80 | 15 | 80 |
| Exposure time | hrs/day | 24 | 24 | 24 | 24 | 24 | 24 |
| Exposure frequency | days/year | 350 | 350 | 350 | 350 | 350 | 350 |
| Exposure duration | years | 2 | 4 | 10 | 10 | 6 | 20 |
| Age-Dependent Adjustment Factor | unitless | 10 | 3 | 3 | 1 | – | – |
| Conversion factor (days/hr) | days/hr | 0.0416667 | 0.04166667 | 0.04167 | 0.041667 | 0.04167 | 0.041667 |
| Ingestion rate of GW | L/day | 0.78 | 0.78 | 2.5 | 2.5 | 0.78 | 2.5 |
| Skin surface area for GW contact | $cm^2$ | 6,365 | 6,365 | 19,652 | 19,652 | 6,365 | 19,652 |

Footnotes on next page.

**Table 8-34**
**Risk and Hazard Calculations for a Hypothetical Future Resident for Exposure to Groundwater Used As Potable Water**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent | CASRN | EPCgw (mg/L) | | Child DA [a] (L/cm²/day) | | Adult DA [a] (L/cm²/day) | | TOTAL CANCER RISK: Route-Specific Risk 0 - 26 years Oral (ELCRo) | Dermal (ELCRd) | Inhalation (ELCRi) | Total ELCR | Percent Total ELCR | NON-CANCER HAZARD: Route-Specific Hazard 0 - 6 years Oral (HQo) | Dermal (HQd) | Inhalation (HQi) | Total Hazard | Percent Total HI | NON-CANCER HAZARD: Route-Specific Hazard 6 - 26 years Oral (HQo) | Dermal (HQd) | Inhalation (HQi) | Total Hazard | Percent Total HI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | 5.10E-03 | UCL | 1.62E-05 | [1] | 1.91E-05 | [2] | 3.6E-06 | 5.2E-07 | 7.1E-06 | 1.1E-05 | <1% | 6.4E-02 | 8.4E-03 | 8.2E-02 | 1.5E-01 | <1% | 5.0E-02 | 7.5E-03 | 1.1E-01 | 1.6E-01 | <1% |
| Chloroform | 67-66-3 | 1.70E-03 | max | 9.71E-06 | [1] | 1.11E-05 | [1] | 6.8E-07 | 5.7E-08 | 7.0E-06 | 7.7E-06 | <1% | 8.5E-03 | 6.7E-04 | 8.3E-03 | 1.7E-02 | <1% | 6.6E-03 | 5.8E-04 | 1.1E-02 | 1.8E-02 | <1% |
| cis-1,2-Dichloroethene | 156-59-2 | 9.27E-01 | UCL | 1.35E-05 | [1] | 1.55E-05 | [1] | NA | NA | NA | – | | 2.3E+01 | 2.6E+00 | NA | 2.6E+01 | 41% | 1.8E+01 | 2.2E+00 | NA | 2.0E+01 | 32% |
| trans-1,2-Dichloroethene | 156-60-5 | 6.66E-03 | UCL | 1.35E-05 | [1] | 1.55E-05 | [1] | NA | NA | NA | – | | 1.7E-02 | 1.8E-03 | NA | 1.8E-02 | <1% | 1.3E-02 | 1.6E-03 | NA | 1.5E-02 | <1% |
| 1,2-Dichloropropane | 78-87-5 | 1.10E-03 | max | 1.03E-05 | [1] | 1.18E-05 | [1] | 5.2E-07 | 4.7E-08 | 7.2E-06 | 7.8E-06 | <1% | 1.4E-03 | 1.1E-04 | 1.3E-01 | 1.3E-01 | <1% | 1.1E-03 | 9.9E-05 | 1.7E-01 | 1.7E-01 | <1% |
| Ethylbenzene | 100-41-4 | 5.05E-03 | UCL | 6.44E-05 | [1] | 7.38E-05 | [1] | 7.1E-07 | 4.0E-07 | 2.2E-06 | 3.4E-06 | <1% | 2.5E-03 | 1.3E-03 | 2.4E-03 | 6.3E-03 | <1% | 2.0E-03 | 1.1E-03 | 3.1E-03 | 6.3E-03 | <1% |
| 2-Hexanone | 591-78-6 | 3.75E-03 | UCL | 4.46E-06 | [1] | 5.11E-06 | [1] | NA | NA | NA | – | | 3.7E-02 | 1.4E-03 | 6.0E-02 | 9.9E-02 | <1% | 2.9E-02 | 1.2E-03 | 7.8E-02 | 1.1E-01 | <1% |
| 1-Methylethyl benzene | 98-82-8 | 9.10E-03 | UCL | 1.28E-04 | [1] | 1.47E-04 | [1] | NA | NA | NA | – | | 4.5E-03 | 4.7E-03 | 1.1E-02 | 2.0E-02 | <1% | 3.5E-03 | 4.1E-03 | 1.4E-02 | 2.2E-02 | <1% |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | 8.40E-04 | max | 1.35E-05 | [1] | 1.55E-05 | [1] | 2.2E-06 | 2.5E-07 | 8.7E-06 | 1.1E-05 | <1% | 2.1E-03 | 2.3E-04 | NA | 2.3E-03 | <1% | 1.6E-03 | 2.0E-04 | NA | 1.8E-03 | <1% |
| Toluene | 108-88-3 | 1.61E-02 | UCL | 3.71E-05 | [1] | 4.25E-05 | [1] | NA | NA | NA | – | | 1.0E-02 | 3.0E-03 | 1.5E-03 | 1.5E-02 | <1% | 7.9E-03 | 2.6E-03 | 2.0E-03 | 1.2E-02 | <1% |
| 1,1,2-Trichloroethane | 79-00-5 | 8.50E-03 | max | 7.85E-06 | [1] | 9.00E-06 | [1] | 6.2E-06 | 4.3E-07 | 2.4E-05 | 3.1E-05 | <1% | 1.1E-01 | 6.8E-03 | 2.0E+01 | 2.0E+01 | 33% | 8.3E-02 | 5.9E-03 | 2.6E+01 | 2.7E+01 | 42% |
| Trichloroethene | 79-01-6 | 3.88E-04 | UCL | 1.78E-05 | [1] | 2.04E-05 | [1] | 3.3E-07 | 5.1E-08 | 4.1E-07 | 7.8E-07 | <1% | 3.9E-02 | 5.6E-03 | 9.3E-02 | 1.4E-01 | <1% | 3.0E-02 | 4.9E-03 | 1.2E-01 | 1.6E-01 | <1% |
| Vinyl chloride | 75-01-4 | 1.06E-01 | UCL | 8.26E-06 | [1] | 9.85E-06 | [2] | 4.9E-03 | 4.0E-04 | 3.2E-04 | 5.7E-03 | 75% | 1.8E+00 | 1.2E-01 | 5.1E-01 | 2.4E+00 | 4% | 1.4E+00 | 1.1E-01 | 6.6E-01 | 2.1E+00 | 3% |
| Xylenes (total) | 1330-20-7 | 5.92E-03 | UCL | 6.53E-05 | [1] | 7.49E-05 | [1] | NA | NA | NA | – | | 1.5E-03 | 7.9E-04 | 2.8E-02 | 3.1E-02 | <1% | 1.2E-03 | 6.8E-04 | 3.7E-02 | 3.9E-02 | <1% |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | | | | | | | | | |
| 4-Chlorobenzenamine | 106-47-8 | 2.50E-02 | max | 7.44E-06 | [1] | 8.53E-06 | [1] | 6.4E-05 | 4.2E-06 | NA | 6.8E-05 | <1% | 3.1E-01 | 1.9E-02 | NA | 3.3E-01 | <1% | 2.4E-01 | 1.6E-02 | NA | 2.6E-01 | <1% |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 4.30E-04 | max | NA | | NA | | 1.7E-06 | NA | NA | 1.7E-06 | <1% | NA | NA | NA | – | | NA | NA | NA | – | |
| 2-Methylnaphthalene | 91-57-6 | 5.48E-03 | UCL | 1.51E-04 | [1] | 1.73E-04 | [1] | NA | NA | NA | – | | 6.8E-02 | 8.4E-02 | NA | 1.5E-01 | <1% | 5.3E-02 | 7.3E-02 | NA | 1.3E-01 | <1% |
| Naphthalene | 91-20-3 | 2.87E-02 | UCL | 7.01E-05 | [1] | 8.04E-05 | [1] | NA | NA | NA | – | | 7.1E-02 | 4.1E-02 | 4.6E+00 | 4.7E+00 | 8% | 5.6E-02 | 3.5E-02 | 6.0E+00 | 6.0E+00 | 10% |
| **Pesticides** | | | | | | | | | | | | | | | | | | | | | | |
| Aldrin | 309-00-2 | 6.10E-04 | UCL | NA | | NA | | 1.3E-04 | NA | 5.3E-04 | 6.7E-04 | 9% | 1.0E+00 | NA | NA | 1.0E+00 | 2% | 7.9E-01 | NA | NA | 7.9E-01 | 1% |
| delta BHC | 319-86-8 | 1.24E-05 | UCL | 1.08E-04 | [1] | 1.24E-04 | [1] | 1.0E-06 | 9.4E-07 | NA | 1.9E-06 | <1% | 7.7E-05 | 6.8E-05 | NA | 1.5E-04 | <1% | 6.0E-05 | 5.9E-05 | NA | 1.2E-04 | <1% |
| alpha-Chlordane | 5103-71-9 | 7.70E-05 | max | 2.23E-04 | [1] | 2.56E-04 | [1] | 3.5E-07 | 6.7E-07 | NA | 1.0E-06 | <1% | NA | NA | NA | – | | NA | NA | NA | – | |
| gamma-Chlordane | 5566-34-7 | 6.25E-04 | UCL | 3.18E-04 | [1] | 3.65E-04 | [1] | 2.8E-06 | 7.8E-06 | NA | 1.1E-05 | <1% | NA | NA | NA | – | | NA | NA | NA | – | |
| 4,4'-DDD | 72-54-8 | 5.60E-05 | max | 1.04E-03 | [1] | 1.19E-03 | [1] | 1.7E-07 | 1.6E-06 | NA | 1.7E-06 | <1% | 9.3E-02 | 7.9E-01 | NA | 8.8E-01 | 1% | 7.3E-02 | 6.8E-01 | NA | 7.6E-01 | 1% |
| Dieldrin | 60-57-1 | 2.80E-05 | max | 2.00E-04 | [1] | 2.30E-04 | [1] | 5.8E-06 | 1.0E-05 | NA | 1.6E-05 | <1% | 2.8E-02 | 4.6E-02 | NA | 7.4E-02 | <1% | 2.2E-02 | 3.9E-02 | NA | 6.1E-02 | <1% |
| Heptachlor epoxide | 1024-57-3 | 3.20E-04 | UCL | 1.36E-04 | [1] | 1.55E-04 | [1] | 3.7E-05 | 4.4E-05 | 1.5E-04 | 2.3E-04 | 3% | 1.2E+00 | 1.4E+00 | NA | 2.6E+00 | 4% | 9.6E-01 | 1.2E+00 | NA | 2.1E+00 | 3% |
| alpha-Hexachlorocyclohexane | 319-84-6 | 5.20E-05 | max | 7.96E-05 | [1] | 9.13E-05 | [1] | 4.2E-06 | 2.9E-06 | NA | 7.1E-06 | <1% | 3.2E-04 | 2.1E-04 | NA | 5.3E-04 | <1% | 2.5E-04 | 1.8E-04 | NA | 4.3E-04 | <1% |
| beta-Hexachlorocyclohexane | 319-85-7 | 1.46E-04 | UCL | 7.96E-05 | [1] | 9.13E-05 | [1] | 3.4E-06 | 2.3E-06 | NA | 5.7E-06 | <1% | NA | NA | NA | – | | NA | NA | NA | – | |
| Lindane | 58-89-9 | 2.24E-05 | UCL | 7.96E-05 | [1] | 9.13E-05 | [1] | 3.2E-07 | 2.2E-07 | NA | 5.4E-07 | <1% | 3.7E-03 | 2.4E-03 | NA | 6.1E-03 | <1% | 2.9E-03 | 2.1E-03 | NA | 5.0E-03 | <1% |
| **Inorganics** | | | | | | | | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | 6.06E-03 | UCL | 5.40E-07 | [0] | 7.10E-07 | [0] | 1.2E-04 | 6.1E-07 | NA | 1.2E-04 | 2% | 1.0E+00 | 4.4E-03 | NA | 1.0E+00 | 2% | 7.9E-01 | 4.4E-03 | NA | 7.9E-01 | 1% |
| Cadmium | 7440-43-9 | 9.50E-04 | max | 5.40E-07 | [0] | 7.10E-07 | [0] | NA | NA | NA | – | | 9.5E-02 | 8.3E-03 | NA | 1.0E-01 | <1% | 7.4E-02 | 8.3E-03 | NA | 8.2E-02 | <1% |
| Chromium | 7440-47-3 | 2.98E-02 | UCL | 5.40E-07 | [0] | 7.10E-07 | [0] | 5.9E-04 | 1.2E-04 | NA | 7.1E-04 | 9% | 4.9E-01 | 8.7E-02 | NA | 5.8E-01 | <1% | 3.9E-01 | 8.6E-02 | NA | 4.7E-01 | <1% |
| Iron | 7439-89-6 | 1.88E+01 | UCL | 5.40E-07 | [0] | 7.10E-07 | [0] | NA | NA | NA | – | | 1.3E+00 | 5.9E-03 | NA | 1.3E+00 | 2% | 1.0E+00 | 5.8E-03 | NA | 1.1E+00 | 2% |
| Lead | 7439-92-1 | 5.07E-03 | UCL | 5.40E-08 | [0] | 7.10E-08 | [0] | NA | NA | NA | – | | NA | NA | NA | – | | NA | NA | NA | – | |
| Manganese | 7439-96-5 | 1.16E+00 | UCL | 5.40E-07 | [0] | 7.10E-07 | [0] | NA | NA | NA | – | | 4.1E-01 | 1.8E-03 | NA | 4.1E-01 | <1% | 3.2E-01 | 1.8E-03 | NA | 3.2E-01 | <1% |
| Mercury | 7439-97-6 | 5.32E-05 | UCL | 5.40E-07 | [0] | 7.10E-07 | [0] | NA | NA | NA | – | | NA | NA | 8.5E-02 | 8.5E-02 | <1% | NA | NA | 1.1E-01 | 1.1E-01 | <1% |
| **Total by pathway** | | | | | | | | 6E-03 | 6E-04 | 1E-03 | | | 31 | 5 | 26 | | | 24 | 4 | 34 | | |
| **Total by age** | | | | | | | | | | | | | | | | 63 | | | | | 63 | |
| **Total Resident Risk** | | | | | | | | | | | 8E-03 | | | | | | | **Total Resident Hazard** | | | 125 | |

| Variable | Unit | Value per Age Range: 0-6 years | 6-26 years |
|---|---|---|---|
| Averaging time, cancer | days | 25,550 | 25,550 |
| Averaging time, non-cancer | days | 2,190 | 7,300 |
| Body weight | kg | 15 | 80 |
| Exposure time | hrs/day | 24 | 24 |
| Exposure frequency | days/year | 350 | 350 |
| Exposure duration | years | 6 | 26 |
| Age-Dependent Adjustment Factor | unitless | – | – |
| Conversion factor (days/hr) | days/hr | 0.041667 | 0.041667 |
| Ingestion rate of GW | L/day | 0.78 | 2.5 |
| Skin surface area for GW contact | $cm^2$ | 6,365 | 19,652 |

[a] The dermal absorption factor (DA) was calculated using Equation [0], [1], or [2], as indicated, from Table 8-17.

| | | | | | |
|---|---|---|---|---|---|
| CASN | Chemical abstracts registry number. | HQ | Hazard Quotient. | mg/L | Milligram per Liter. |
| ELCR | Excess lifetime cancer risk. | $L/cm^2/day$ | Liter per centimeter squared per day. | NA | Not Applicable/Available. |
| EPCgw | Exposure point concentration in groundwater. | max | EPC based on maximum. | UCL | Upper confidence limit. |
| HI | Hazard Index. | | | | |

Equations are presented in Table 8-10.
Constituent-specific absorption parameters are presented in Table 8-17 while receptor-specific exposure parameters are presented in Table 8-7.
Constituent-specific toxicity values are presented in Tables 8-18 to 8-21.

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## Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| | | | Aldrin | Benzene | Chloroform | Cyclohexane | Dibromochloromethane | Dichloroethylene, 1,2-cis- | Dichloroethylene, 1,2-trans- | Endosulfan |
|---|---|---|---|---|---|---|---|---|---|---|
| **Source Characteristics:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Source medium** | | Source | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| **Groundwater concentration** | (ug/L) | Cmedium | 0.61 | 5.101 | 1.7 | 12.11 | 0.68 | 927 | 6.661 | 0.0719 |
| **Depth below grade to water table** | (m) | Ls | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 |
| **Average groundwater temperature** | ($^{o}$C) | Ts | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 |
| Calc: Source vapor concentration | (ug/m3) | Cs | 1 | 914 | 205 | 58948 | 18 | 123940 | 2075 | 0 |
| Calc: % of pure component saturated vapor concentration | (%) | %Sat | 0.027% | 0.000% | 0.000% | 0.013% | 0.000% | 0.012% | 0.000% | 5.142% |
| **Chemical:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Chemical Name** | | Chem | Aldrin | Benzene | Chloroform | Cyclohexane | Dibromochloromethane | Dichloroethylene, 1,2-cis- | Dichloroethylene, 1,2-trans- | Endosulfan |
| CAS No. | | CAS | 309-00-2 | 71-43-2 | 67-66-3 | 110-82-7 | 124-48-1 | 156-59-2 | 156-60-5 | 115-29-7 |
| **Toxicity Factors** | | | | | | | | | | |
| Unit risk factor | ($ug/m^3$)$^{-1}$ | IUR | 4.90E-03 | 7.80E-06 | 2.30E-05 | Not Available | Not Available | Not Available | Not Available | Not Available |
| Mutagenic compound | | Mut | No | No | No | No | No | No | No | No |
| Reference concentration | ($ug/m^3$) | RfC | Not Available | 3.00E-02 | 9.80E-02 | 6.00E+00 | Not Available | Not Available | Not Available | Not Available |
| **Chemical Properties:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| Pure component water solubility | (mg/L) | S | 1.70E-02 | 1.79E+03 | 7.95E+03 | 5.50E+01 | 2.70E+03 | 6.41E+03 | 4.52E+03 | 3.25E-01 |
| Henry's Law Constant @ 25$^{o}$C | (atm-$m^3$/mol) | Hc | 4.40E-05 | 5.55E-03 | 3.67E-03 | 1.50E-01 | 7.83E-04 | 4.08E-03 | 9.38E-03 | 6.50E-05 |
| Calc: Henry's Law Constant @ 25$^{o}$C | (dimensionless) | Hr | 1.80E-03 | 2.27E-01 | 1.50E-01 | 6.13E+00 | 3.20E-02 | 1.67E-01 | 3.84E-01 | 2.66E-03 |
| Calc: Henry's Law Constant @ system temperature | (dimensionless) | Hs | 1.04E-03 | 1.79E-01 | 1.21E-01 | 4.87E+00 | 2.66E-02 | 1.34E-01 | 3.12E-01 | 2.71E-03 |
| Diffusivity in air | (cm2/s) | Dair | 2.28E-02 | 8.95E-02 | 7.69E-02 | 8.00E-02 | 3.66E-02 | 8.84E-02 | 8.76E-02 | 2.25E-02 |
| Diffusivity in water | (cm2/s) | Dwater | 5.84E-06 | 1.03E-05 | 1.09E-05 | 9.11E-06 | 1.06E-05 | 1.13E-05 | 1.12E-05 | 5.76E-06 |
| **Building Characteristics:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Building setting** | | Bldg_Setting | Residential | Residential | Residential | Residential | Residential | Residential | Residential | Residential |
| **Foundation type** | | Found_Type | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade |
| Depth below grade to base of foundation | (m) | Lb | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Foundation thickness | (m) | Lf | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Fraction of foundation area with cracks | (-) | eta | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| Enclosed space floor area | (m2) | Ab | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 |
| Enclosed space mixing height | (m) | Hb | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 |
| Indoor air exchange rate | (1/hr) | ach | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 |
| Qsoil/Qbuilding | (-) | Qsoil_Qb | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 |
| Calc: Building ventilation rate | (m3/hr) | Qb | 164.70 | 164.70 | 164.70 | 164.70 | 164.70 | 164.70 | 164.70 | 164.70 |
| Calc: Average vapor flow rate into building | (m3/hr) | Qsoil | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 |

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# Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| | | | Aldrin | Benzene | Chloroform | Cyclohexane | Dibromochloromethane | Dichloroethylene, 1,2-cis- | Dichloroethylene, 1,2-trans- | Endosulfan |
|---|---|---|---|---|---|---|---|---|---|---|
| **Vadose zone characteristics:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Stratum A (Top of soil profile):** | | | | | | | | | | |
| **Stratum A SCS soil type** | | SCS_A | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam |
| **Stratum A thickness (from surface)** | (m) | hSA | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 |
| Stratum A total porosity | (-) | nSA | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 |
| Stratum A water-filled porosity | (-) | nwSA | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 |
| Stratum A bulk density | ($g/cm^3$) | rhoSA | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 |
| **Stratum B (Soil layer below Stratum A):** | | | | | | | | | | |
| **Stratum B SCS soil type** | | SCS_B | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present |
| **Stratum B thickness** | (m) | hSB | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stratum B total porosity | (-) | nSB | | | | | | | | |
| Stratum B water-filled porosity | (-) | nwSB | | | | | | | | |
| Stratum B bulk density | ($g/cm^3$) | rhoSB | | | | | | | | |
| **Stratum C (Soil layer below Stratum B):** | | | | | | | | | | |
| **Stratum C SCS soil type** | | SCS_C | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present |
| **Stratum C thickness** | (m) | hSC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stratum C total porosity | (-) | nSC | | | | | | | | |
| Stratum C water-filled porosity | (-) | nwSC | | | | | | | | |
| Stratum C bulk density | ($g/cm^3$) | rhoSC | | | | | | | | |
| **Stratum directly above the water table** | | | | | | | | | | |
| Stratum A, B, or C | | src_soil | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A |
| Height of capillary fringe | (m) | hcz | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 |
| Capillary zone total porosity | (-) | ncz | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 |
| Capillary zone water filled porosity | (-) | nwcz | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 |
| **Exposure Parameters:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Target risk for carcinogens** | (-) | Target_CR | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 |
| **Target hazard quotient for non-carcinogens** | (-) | Target_HQ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Exposure Scenario | | Scenario | Residential | Residential | Residential | Residential | Residential | Residential | Residential | Residential |
| Averaging time for carcinogens | (yrs) | ATc | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| Averaging time for non-carcinogens | (yrs) | ATnc | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Exposure duration | (yrs) | ED | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Exposure frequency | (days/yr) | EF | 350 | 350 | 350 | 350 | 350 | 350 | 350 | 350 |
| Exposure time | (hrs/24 hrs) | ET | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Mutagenic mode-of-action factor | (yrs) | MMOAF | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| **Source to Indoor Air Attenuation Factor** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Groundwater to indoor air attenuation coefficient** | **(-)** | **alpha** | **1.5E-06** | **5.1E-06** | **4.5E-06** | **4.4E-06** | **2.3E-06** | **5.1E-06** | **5.0E-06** | **1.5E-06** |
| | | **Range** | 1.5E-06 - 1.5E-06 | 4.9E-06 - 5.1E-06 | 4.3E-06 - 4.5E-06 | 4.3E-06 - 4.5E-06 | 2.2E-06 - 2.3E-06 | 4.9E-06 - 5.1E-06 | 4.8E-06 - 5.0E-06 | 1.4E-06 - 1.5E-06 |
| **Predicted Indoor Air Concentration** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Indoor air concentration due to vapor intrusion** | **(ug/m3)** | **Cia** | **9.6E-07** | **4.7E-03** | **9.2E-04** | **2.6E-01** | **4.1E-05** | **6.4E-01** | **1.0E-02** | **2.8E-07** |
| | | **Range** | 9.5E-07 - 9.7E-07 | 4.5E-03 - 4.7E-03 | 8.8E-04 - 9.2E-04 | 2.5E-01 - 2.6E-01 | 4.0E-05 - 4.1E-05 | 6.1E-01 - 6.4E-01 | 9.9E-03 - 1.0E-02 | 2.8E-07 - 2.8E-07 |
| | **(ppbv)** | **Cia** | **6.5E-08** | **1.5E-03** | **1.9E-04** | **7.6E-02** | **4.9E-06** | **1.6E-01** | **2.6E-03** | **1.7E-08** |
| | | **Range** | 6.4E-08 - 6.5E-08 | 1.4E-03 - 1.5E-03 | 1.8E-04 - 1.9E-04 | 7.3E-02 - 7.6E-02 | 4.8E-06 - 4.9E-06 | 1.5E-01 - 1.6E-01 | 2.5E-03 - 2.6E-03 | 1.7E-08 - 1.7E-08 |

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## Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| | | | Aldrin | Benzene | Chloroform | Cyclohexane | Dibromochloromethane | Dichloroethylene, 1,2-cis- | Dichloroethylene, 1,2-trans- | Endosulfan |
|---|---|---|---|---|---|---|---|---|---|---|
| **Predicted Vapor Concentration Beneath the Foundation** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Subslab vapor concentration** | **(ug/m3)** | **Css** | **3.2E-04** | **1.6E+00** | **3.1E-01** | **8.7E+01** | **1.4E-02** | **2.1E+02** | **3.4E+00** | **9.5E-05** |
| | | **Range** | 1.9E-05 - 9.5E-03 | 9.4E-02 - 4.5E+01 | 1.8E-02 - 8.8E+00 | 5.3E+00 - 2.5E+03 | 8.3E-04 - 4.0E-01 | 1.3E+01 - 6.1E+03 | 2.1E-01 - 9.9E+01 | 5.7E-06 - 2.8E-03 |
| | **(ppbv)** | **Css** | **2.2E-05** | **4.9E-01** | **6.3E-02** | **2.5E+01** | **1.6E-03** | **5.3E+01** | **8.7E-01** | **5.7E-06** |
| | | **Range** | 1.3E-06 - 6.4E-04 | 2.9E-02 - 1.4E+01 | 3.8E-03 - 1.8E+00 | 1.5E+00 - 7.3E+02 | 9.7E-05 - 4.8E-02 | 3.2E+00 - 1.5E+03 | 5.2E-02 - 2.5E+01 | 3.4E-07 - 1.7E-04 |
| **Diffusive Transport Upward Through Vadose Zone** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| Effective diffusion coefficient through Stratum A | (cm2/sec) | DeffA | 1.4E-03 | 5.1E-03 | 4.4E-03 | 4.6E-03 | 2.1E-03 | 5.0E-03 | 5.0E-03 | 1.3E-03 |
| Effective diffusion coefficient through Stratum B | (cm2/sec) | DeffB | | | | | | | | |
| Effective diffusion coefficient through Stratum C | (cm2/sec) | DeffC | | | | | | | | |
| Effective diffusion coefficient through capillary zone | (cm2/sec) | DeffCZ | 9.9E-04 | 4.0E-05 | 4.1E-05 | 2.7E-05 | 8.2E-05 | 4.4E-05 | 3.5E-05 | 3.8E-04 |
| Effective diffusion coefficient through unsaturated zone | (cm2/sec) | DeffT | 1.4E-03 | 4.6E-03 | 4.0E-03 | 4.0E-03 | 2.0E-03 | 4.6E-03 | 4.5E-03 | 1.3E-03 |
| **Critical Parameters** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| $\alpha$ for diffusive transport from source to building with | (-) | A_Param | 1.5E-06 | 5.1E-06 | 4.5E-06 | 4.5E-06 | 2.3E-06 | 5.1E-06 | 5.0E-06 | 1.5E-06 |
| Pe (Peclet Number) for transport through the foundation | (-) | B_Param | 6.5E+02 | 1.7E+02 | 2.0E+02 | 1.9E+02 | 4.2E+02 | 1.8E+02 | 1.8E+02 | 6.8E+02 |
| $\alpha$ for convective transport from subslab to building | (-) | C_Param | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 |
| **Interpretation** | | | | | | | | | | |
| | | | Advection is the dominant mechanism across the foundation. | Advection is the dominant mechanism across the foundation. | Advection is the dominant mechanism across the foundation. | Advection is the dominant mechanism across the foundation. | Advection is the dominant mechanism across the foundation. | Advection is the dominant mechanism across the foundation. | Advection is the dominant mechanism across the foundation. | Advection is the dominant mechanism across the foundation. |
| | | | Diffusion through soil is the overall rate limiting process. | Diffusion through soil is the overall rate limiting process. | Diffusion through soil is the overall rate limiting process. | Diffusion through soil is the overall rate limiting process. | Diffusion through soil is the overall rate limiting process. | Diffusion through soil is the overall rate limiting process. | Diffusion through soil is the overall rate limiting process. | Diffusion through soil is the overall rate limiting process. |
| **Critical Parameters** | | | | | | | | | | |
| | | | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach |
| **Non-Critical Parameters** | | | | | | | | | | |
| | | | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta |

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## Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| Risk Calculations | Units | Symbol | Aldrin Value | Benzene Value | Chloroform Value | Cyclohexane Value | Dibromochloromethane Value | Dichloroethylene, 1,2-cis- Value | Dichloroethylene, 1,2-trans- Value | Endosulfan Value |
|---|---|---|---|---|---|---|---|---|---|---|
| **Risk-Based Target Screening Levels** | | | | | | | | | | |
| Target risk for carcinogens | (-) | Target_CR | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 |
| Target hazard quotient for noncarcinogens | (-) | Target_HQ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Target indoor air concentration** | **(ug/m3)** | **Target_IA** | **5.73E-04** | **3.60E-01** | **1.22E-01** | **6.26E+03** | **No tox data available** | **No tox data available** | **No tox data available** | **No tox data available** |
| | **(ppbv)** | **Target_IA** | **3.84E-05** | **1.13E-01** | **2.50E-02** | **1.82E+03** | **No tox data available** | **No tox data available** | **No tox data available** | **No tox data available** |
| **Target groundwater concentration** | **(ug/L)** | **Target_GW** | **3.62E+02** | **3.91E+02** | **2.25E+02** | **2.89E+05** | **No tox data available** | **No tox data available** | **No tox data available** | **No tox data available** |
| **Incremental Risk Estimates** | | | | | | | | | | |
| **Incremental cancer risk from vapor intrusion** | **(-)** | **Cancer_Risk** | **1.68E-09** | **1.31E-08** | **7.55E-09** | **No IUR** | **No IUR** | **No IUR** | **No IUR** | **No IUR** |
| | | Range | 1.7E-09 - 1.7E-09 | 1.2E-08 - 1.3E-08 | 7.2E-09 - 7.6E-09 | - | - | - | - | - |
| **Hazard quotient from vapor intrusion** | **(-)** | **HQ** | **No RfC Available** | **0.000150179** | **9.02061E-06** | **4.19079E-05** | **No RfC Available** | **No RfC Available** | **No RfC Available** | **No RfC Available** |
| **Hazard quotient from vapor intrusion** | **(-)** | **HQ** | **No RfC Available** | **0.000150179** | **9.02061E-06** | **4.19079E-05** | **No RfC Available** | **No RfC Available** | **No RfC Available** | **No RfC Available** |

| | |
|---|---|
| **Total ELCR** | **4E-06** |
| **Total HI** | **0.01** |

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## Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| | | | Ethylbenzene | Heptachlor Epoxide | Mercury (elemental) | Methylnaphthalene, 2- | Naphthalene | Trichloroethane, 1,1,2- | Trichloroethylene | Vinyl Chloride | Xylenes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Source Characteristics:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Source medium** | | Source | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |
| **Groundwater concentration** | (ug/L) | Cmedium | 5.052 | 0.32 | 0.0532 | 5.478 | 28.66 | 8.5 | 0.388 | 105.9 | 5.921 |
| **Depth below grade to water table** | (m) | Ls | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 |
| **Average groundwater temperature** | ($^{o}$C) | Ts | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 |
| Calc: Source vapor concentration | (ug/m3) | Cs | 1206 | 0 | 12 | 71 | 350 | 216 | 122 | 104993 | 1186 |
| Calc: % of pure component saturated vapor concentration | (%) | %Sat | 0.002% | 0.035% | 0.057% | 0.017% | 0.060% | 0.000% | 0.000% | 0.001% | 0.003% |
| **Chemical:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Chemical Name** | | Chem | Ethylbenzene | Heptachlor Epoxide | Mercury (elemental) | Methylnaphthalene, 2- | Naphthalene | Trichloroethane, 1,1,2- | Trichloroethylene | Vinyl Chloride | Xylenes |
| CAS No. | | CAS | 100-41-4 | 1024-57-3 | 7439-97-6 | 91-57-6 | 91-20-3 | 79-00-5 | 79-01-6 | 75-01-4 | 1330-20-7 |
| **Toxicity Factors** | | | | | | | | | | | |
| Unit risk factor | $(ug/m^3)^{-1}$ | IUR | 2.50E-06 | 2.60E-03 | Not Available | Not Available | 3.40E-05 | 1.60E-05 | see note | 4.40E-06 | Not Available |
| Mutagenic compound | | Mut | No | No | No | No | No | No | Yes | VC | No |
| Reference concentration | ($ug/m^3$) | RfC | 1.00E+00 | Not Available | 3.00E-04 | Not Available | 3.00E-03 | 2.00E-04 | 2.00E-03 | 1.00E-01 | 1.00E-01 |
| **Chemical Properties:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| Pure component water solubility | (mg/L) | S | 1.69E+02 | 2.00E-01 | 6.00E-02 | 2.46E+01 | 3.10E+01 | 4.59E+03 | 1.28E+03 | 8.80E+03 | 1.06E+02 |
| Henry's Law Constant @ 25$^{o}$C | ($atm-m^3/mol$) | Hc | 7.88E-03 | 2.10E-05 | 8.62E-03 | 5.18E-04 | 4.40E-04 | 8.24E-04 | 9.85E-03 | 2.78E-02 | 6.63E-03 |
| Calc: Henry's Law Constant @ 25$^{o}$C | (dimensionless) | Hr | 3.22E-01 | 8.59E-04 | 3.53E-01 | 2.12E-02 | 1.80E-02 | 3.37E-02 | 4.03E-01 | 1.14E+00 | 2.71E-01 |
| Calc: Henry's Law Constant @ system temperature | (dimensionless) | Hs | 2.39E-01 | 4.50E-04 | 2.28E-01 | 1.29E-02 | 1.22E-02 | 2.54E-02 | 3.14E-01 | 9.91E-01 | 2.00E-01 |
| Diffusivity in air | (cm2/s) | Dair | 6.85E-02 | 2.40E-02 | 3.07E-02 | 5.24E-02 | 6.05E-02 | 6.69E-02 | 6.87E-02 | 1.07E-01 | 6.85E-02 |
| Diffusivity in water | (cm2/s) | Dwater | 8.46E-06 | 6.25E-06 | 6.30E-06 | 7.78E-06 | 8.38E-06 | 1.00E-05 | 1.02E-05 | 1.20E-05 | 8.46E-06 |
| **Building Characteristics:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Building setting** | | Bldg_Setting | Residential | Residential | Residential | Residential | Residential | Residential | Residential | Residential | Residential |
| **Foundation type** | | Found_Type | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade | Slab-on-grade |
| Depth below grade to base of foundation | (m) | Lb | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Foundation thickness | (m) | Lf | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Fraction of foundation area with cracks | (-) | eta | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 |
| Enclosed space floor area | (m2) | Ab | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 | 150.00 |
| Enclosed space mixing height | (m) | Hb | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 | 2.44 |
| Indoor air exchange rate | (1/hr) | ach | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 | 0.45 |
| Qsoil/Qbuilding | (-) | Qsoil_Qb | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 | 0.0030 |
| Calc: Building ventilation rate | (m3/hr) | Qb | 164.70 | 164.70 | 164.70 | 164.70 | 164.70 | 164.70 | 164.70 | 164.70 | 164.70 |
| Calc: Average vapor flow rate into building | (m3/hr) | Qsoil | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 |

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## Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| | | | Ethylbenzene | Heptachlor Epoxide | Mercury (elemental) | Methylnaphthalene, 2- | Naphthalene | Trichloroethane, 1,1,2- | Trichloroethylene | Vinyl Chloride | Xylenes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vadose zone characteristics:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Stratum A (Top of soil profile):** | | | | | | | | | | | |
| **Stratum A SCS soil type** | | SCS_A | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam | Sandy Clay Loam |
| **Stratum A thickness (from surface)** | (m) | hSA | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 | 302.40 |
| Stratum A total porosity | (-) | nSA | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 |
| Stratum A water-filled porosity | (-) | nwSA | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 | 0.146 |
| Stratum A bulk density | ($g/cm^3$) | rhoSA | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 | 1.630 |
| **Stratum B (Soil layer below Stratum A):** | | | | | | | | | | | |
| **Stratum B SCS soil type** | | SCS_B | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present |
| **Stratum B thickness** | (m) | hSB | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stratum B total porosity | (-) | nSB | | | | | | | | | |
| Stratum B water-filled porosity | (-) | nwSB | | | | | | | | | |
| Stratum B bulk density | ($g/cm^3$) | rhoSB | | | | | | | | | |
| **Stratum C (Soil layer below Stratum B):** | | | | | | | | | | | |
| **Stratum C SCS soil type** | | SCS_C | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present | Not Present |
| **Stratum C thickness** | (m) | hSC | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Stratum C total porosity | (-) | nSC | | | | | | | | | |
| Stratum C water-filled porosity | (-) | nwSC | | | | | | | | | |
| Stratum C bulk density | ($g/cm^3$) | rhoSC | | | | | | | | | |
| **Stratum directly above the water table** | | | | | | | | | | | |
| Stratum A, B, or C | | src_soil | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A | Stratum A |
| Height of capillary fringe | (m) | hcz | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 | 0.259 |
| Capillary zone total porosity | (-) | ncz | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 | 0.384 |
| Capillary zone water filled porosity | (-) | nwcz | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 | 0.333 |
| **Exposure Parameters:** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Target risk for carcinogens** | (-) | Target_CR | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 | 1.00E-06 |
| **Target hazard quotient for non-carcinogens** | (-) | Target_HQ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Exposure Scenario | | Scenario | Residential | Residential | Residential | Residential | Residential | Residential | Residential | Residential | Residential |
| Averaging time for carcinogens | (yrs) | ATc | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| Averaging time for non-carcinogens | (yrs) | ATnc | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Exposure duration | (yrs) | ED | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Exposure frequency | (days/yr) | EF | 350 | 350 | 350 | 350 | 350 | 350 | 350 | 350 | 350 |
| Exposure time | (hrs/24 hrs) | ET | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Mutagenic mode-of-action factor | (yrs) | MMOAF | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| **Source to Indoor Air Attenuation Factor** | **Units** | **Symbol** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Groundwater to indoor air attenuation coefficient** | **(-)** | **alpha** | **3.9E-06** | **1.7E-06** | **1.8E-06** | **3.3E-06** | **3.8E-06** | **4.1E-06** | **3.9E-06** | **6.0E-06** | **3.9E-06** |
| | | **Range** | 3.8E-06 - 3.9E-06 | 1.7E-06 - 1.7E-06 | 1.8E-06 - 1.8E-06 | 3.2E-06 - 3.3E-06 | 3.7E-06 - 3.8E-06 | 4.0E-06 - 4.1E-06 | 3.8E-06 - 3.9E-06 | 5.7E-06 - 6.0E-06 | 3.8E-06 - 3.9E-06 |
| **Predicted Indoor Air Concentration** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Indoor air concentration due to vapor intrusion** | **(ug/m3)** | **Cia** | **4.7E-03** | **2.5E-07** | **2.2E-05** | **2.3E-04** | **1.3E-03** | **8.9E-04** | **4.8E-04** | **6.3E-01** | **4.7E-03** |
| | | **Range** | 4.5E-03 - 4.7E-03 | 2.4E-07 - 2.5E-07 | 2.1E-05 - 2.2E-05 | 2.3E-04 - 2.3E-04 | 1.3E-03 - 1.3E-03 | 8.6E-04 - 8.9E-04 | 4.6E-04 - 4.8E-04 | 5.9E-01 - 6.3E-01 | 4.5E-03 - 4.7E-03 |
| | **(ppbv)** | **Cia** | **1.1E-03** | **1.5E-08** | **2.6E-06** | **4.0E-05** | **2.5E-04** | **1.6E-04** | **8.9E-05** | **2.5E-01** | **1.1E-03** |
| | | **Range** | 1.0E-03 - 1.1E-03 | 1.5E-08 - 1.5E-08 | 2.6E-06 - 2.6E-06 | 3.9E-05 - 4.0E-05 | 2.4E-04 - 2.5E-04 | 1.6E-04 - 1.6E-04 | 8.6E-05 - 8.9E-05 | 2.3E-01 - 2.5E-01 | 1.0E-03 - 1.1E-03 |

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## Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| | | | Ethylbenzene | Heptachlor Epoxide | Mercury (elemental) | Methylnaphthalene, 2- | Naphthalene | Trichloroethane, 1,1,2- | Trichloroethylene | Vinyl Chloride | Xylenes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Predicted Vapor Concentration Beneath the Foundation** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| **Subslab vapor concentration** | **(ug/m3)** | **Css** | **1.6E+00** | **8.2E-05** | **7.2E-03** | **7.8E-02** | **4.4E-01** | **3.0E-01** | **1.6E-01** | **2.1E+02** | **1.6E+00** |
| | | **Range** | 9.4E-02 - 4.5E+01 | 4.9E-06 - 2.4E-03 | 4.3E-04 - 2.1E-01 | 4.7E-03 - 2.3E+00 | 2.7E-02 - 1.3E+01 | 1.8E-02 - 8.6E+00 | 9.5E-03 - 4.6E+00 | 1.3E+01 - 5.9E+03 | 9.3E-02 - 4.5E+01 |
| | **(ppbv)** | **Css** | **3.6E-01** | **5.1E-06** | **8.8E-04** | **1.3E-02** | **8.4E-02** | **5.4E-02** | **3.0E-02** | **8.2E+01** | **3.6E-01** |
| | | **Range** | 2.2E-02 - 1.0E+01 | 3.1E-07 - 1.5E-04 | 5.3E-05 - 2.6E-02 | 8.0E-04 - 3.9E-01 | 5.1E-03 - 2.4E+00 | 3.3E-03 - 1.6E+00 | 1.8E-03 - 8.6E-01 | 4.9E+00 - 2.3E+03 | 2.1E-02 - 1.0E+01 |
| **Diffusive Transport Upward Through Vadose Zone** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| Effective diffusion coefficient through Stratum A | (cm2/sec) | DeffA | 3.9E-03 | 1.5E-03 | 1.7E-03 | 3.0E-03 | 3.5E-03 | 3.8E-03 | 3.9E-03 | 6.1E-03 | 3.9E-03 |
| Effective diffusion coefficient through Stratum B | (cm2/sec) | DeffB | | | | | | | | | |
| Effective diffusion coefficient through Stratum C | (cm2/sec) | DeffC | | | | | | | | | |
| Effective diffusion coefficient through capillary zone | (cm2/sec) | DeffCZ | 2.9E-05 | 2.4E-03 | 1.5E-05 | 1.2E-04 | 1.4E-04 | 9.1E-05 | 2.8E-05 | 3.8E-05 | 3.0E-05 |
| Effective diffusion coefficient through unsaturated zone | (cm2/sec) | DeffT | 3.5E-03 | 1.5E-03 | 1.6E-03 | 2.9E-03 | 3.4E-03 | 3.7E-03 | 3.5E-03 | 5.4E-03 | 3.5E-03 |
| **Critical Parameters** | | | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** | **Value** |
| $\alpha$ for diffusive transport from source to building with | (-) | A_Param | 3.9E-06 | 1.7E-06 | 1.8E-06 | 3.3E-06 | 3.8E-06 | 4.1E-06 | 3.9E-06 | 6.0E-06 | 3.9E-06 |
| Pe (Peclet Number) for transport through the foundation | (-) | B_Param | 2.3E+02 | 5.8E+02 | 5.1E+02 | 3.0E+02 | 2.6E+02 | 2.3E+02 | 2.3E+02 | 1.5E+02 | 2.3E+02 |
| $\alpha$ for convective transport from subslab to building | (-) | C_Param | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-03 |
| **Interpretation** | | | | | | | | | | | |
| | | | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. | Advection is the dominant mechanism across the foundation. Diffusion through soil is the overall rate limiting process. |
| **Critical Parameters** | | | | | | | | | | | |
| | | | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach | Hb, Ls, DeffT, ach |
| **Non-Critical Parameters** | | | | | | | | | | | |
| | | | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta | Qsoil_Qb, Lf, DeffA, eta |

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## Table of Inputs and Outputs for Multiple Chemicals

*Note: Parameters other than the chemical concentration must be entered in the MODEL sheet and must be the same for all chemicals. Warnings and errors are displayed in only on the MODEL sheet.*

| Risk Calculations | Units | Symbol | Ethylbenzene Value | Heptachlor Epoxide Value | Mercury (elemental) Value | Methylnaphthalene, 2- Value | Naphthalene Value | Trichloroethane, 1,1,2- Value | Trichloroethylene Value | Vinyl Chloride Value | Xylenes Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Risk-Based Target Screening Levels** | | | | | | | | | | | |
| Target risk for carcinogens | (-) | Target_CR | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 | 1E-06 |
| Target hazard quotient for noncarcinogens | (-) | Target_HQ | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Target indoor air concentration** | **(ug/m3)** | **Target_IA** | **1.12E+00** | **1.08E-03** | **3.13E-01** | **No tox data available** | **8.26E-02** | **1.75E-01** | **4.78E-01** | **1.68E-01** | **1.04E+02** |
| | **(ppbv)** | **Target_IA** | **2.59E-01** | **6.78E-05** | **3.81E-02** | **No tox data available** | **1.58E-02** | **3.22E-02** | **8.91E-02** | **6.56E-02** | **2.40E+01** |
| **Target groundwater concentration** | **(ug/L)** | **Target_GW** | **1.20E+03** | **1.41E+03** | **7.71E+02** | **No tox data available** | **1.79E+03** | **1.68E+03** | **3.89E+02** | **2.82E+01** | **1.33E+05** |
| **Incremental Risk Estimates** | | | | | | | | | | | |
| **Incremental cancer risk from vapor intrusion** | **(-)** | **Cancer_Risk** | **4.20E-09** | **2.27E-10** | **No IUR** | **No IUR** | **1.60E-08** | **5.07E-09** | **9.97E-10** | **3.75E-06** | **No IUR** |
| | | Range | 4.0E-09 - 4.2E-09 | 2.2E-10 - 2.3E-10 | - | - | 1.5E-08 - 1.6E-08 | 4.9E-09 - 5.1E-09 | 9.6E-10 - 1.0E-09 | 3.5E-06 - 3.8E-06 | - |
| **Hazard quotient from vapor intrusion** | **(-)** | **HQ** | **4.5222E-06** | **No RfC Available** | **6.90249E-05** | **No RfC Available** | **0.000423168** | **0.004265308** | **0.000228626** | **0.006030046** | **4.4684E-05** |
| **Hazard quotient from vapor intrusion** | **(-)** | **HQ** | **1.000004522** | **No RfC Available** | **1.000069025** | **No RfC Available** | **0.000423168** | **0.004265308** | **0.000228626** | **0.006030046** | **4.4684E-05** |

**Total ELCR** **4E-06**
**Total HI** **0.01**

**Table 8-36**
**Summary of Calculated Human Health Risks and Hazards**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| RECEPTOR<br>Exposure Medium - Scenario | Calculation Table | Total Excess Lifetime Cancer Risk | Total Non-Cancer Hazard |
|---|---|---|---|
| Current or Hypothetical Future Site Worker | | | |
| Direct Contact with Soil (0-2 feet) | Table 8-22 | **4E-06** | 0.03 |
| Direct Contact with Soil (0-10 feet) | Table 8-23 | **3E-06** | 0.1 |
| Inhalation of Vapors in Indoor Air | Table 8-24 | 6E-08 | 0.0006 |
| Potable use of Groundwater | Table 8-25 | **6E-04** | **12** |
| | **TOTAL with Soil (0-2 feet)** | **6E-04** | **12** |
| | **TOTAL with Soil (0-10 feet)** | **6E-04** | **12** |
| Hypothetical Future Construction Worker | | | |
| Direct Contact with Soil (0-10 feet) | Table 8-26 | 4E-07 | 0.1 |
| Hypothetical Future Utility Worker | | | |
| Direct Contact with Soil (0-10 feet) | Table 8-27 | 3E-08 | 0.1 |
| Inhalation of Vapors in a Trench | Table 8-28 | 1E-06 | **67** |
| | **TOTAL** | 1E-06 | **68** |
| Hypothetical Future Adolescent Trespasser | | | |
| Direct Contact with Soil (0-2 feet) | Table 8-29 | 9E-07 | 0.005 |
| Direct Contact with Soil (0-10 feet) | Table 8-30 | 6E-07 | 0.006 |
| Wading | | | |
| Direct Contact with Sediment | Table 8-31 | **4E-06** | 0.02 |
| | **TOTAL with Soil (0-2 feet)** | **5E-06** | 0.03 |
| | **TOTAL with Soil (0-10 feet)** | **4E-06** | 0.03 |
| Hypothetical Future Resident | | | |
| Direct Contact with Soil (0-2 feet) | Table 8-32 | **8E-05** | 0.3 |
| Direct Contact with Soil (0-10 feet) | Table 8-33 | **5E-05** | 1 |
| Potable use of Groundwater | Table 8-34 | **8E-03** | **125** |
| Inhalation of Vapors in Indoor Air | Table 8-35 | **4E-06** | 0.01 |
| | **TOTAL with Soil (0-2 feet)** | **8E-03** | **125** |
| | **TOTAL with Soil (0-10 feet)** | **8E-03** | **126** |

Cancer risk estimates exceeding $1x10^{-6}$ and non-cancer hazard estimates exceeding one are in bold.
NA = not applicable.

Table 8-37
Summary of Calculated Health Based Goals
HAA-01, Hunter Army Airfield
Savannah, Georgia

| Constituent | CASRN | Resident | | | | Resident | | | | Potable Water - Resident | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EPC Soil (0-2) (mg/kg) | Risk (Table 8-32) Cancer | Risk (Table 8-32) Noncancer (child) | HBG Soil (mg/kg) | EPC Soil (0-10) (mg/kg) | Risk (Table 8-33) Cancer | Risk (Table 8-33) Noncancer (child) | HBG Soil (mg/kg) | EPC Water (mg/L) | Risk (Table 8-34) Cancer | Risk (Table 8-34) Noncancer (child) | HBG Water (mg/L) | MCL (mg/L) | Final HBG (mg/L) |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | – | – | – | – | – | – | – | – | 5.10E-03 | 1.12E-05 | 1.54E-01 | 4.55E-04 | 5.00E-03 | 5.00E-03 |
| Chloroform | 67-66-3 | – | – | – | – | – | – | – | – | 1.70E-03 | 7.70E-06 | 1.75E-02 | 2.21E-04 | 8.0E+01(F) | 8.00E+01 |
| Chloromethane | 74-87-3 | – | – | – | – | 3.90E+01 | – | 3.12E-01 | 125 | – | – | – | – | – | – |
| cis-1,2-Dichloroethene | 156-59-2 | – | – | – | – | – | – | – | – | 9.27E-01 | – | 2.57E+01 | 3.61E-02 | 7.00E-02 | 7.00E-02 |
| 1,2-Dichloropropane | 78-87-5 | – | – | – | – | – | – | – | – | 1.10E-03 | 7.82E-06 | 1.33E-01 | 1.41E-04 | 5.00E-03 | 5.00E-03 |
| Ethylbenzene | 100-41-4 | – | – | – | – | – | – | – | – | 5.05E-03 | 3.36E-06 | 6.26E-03 | 1.50E-03 | 7.00E-01 | 7.00E-01 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | – | – | – | – | – | – | – | – | 8.40E-04 | 1.11E-05 | 2.32E-03 | 7.58E-05 | NA | 7.58E-05 |
| 1,1,2-Trichloroethane | 79-00-5 | – | – | – | – | – | – | – | – | 8.50E-03 | 3.09E-05 | 2.05E+01 | 2.75E-04 | 5.00E-03 | 5.00E-03 |
| Trichloroethene | 79-01-6 | – | – | – | – | – | – | – | – | 3.88E-04 | 7.84E-07 | 1.37E-01 | 4.95E-04 | 5.00E-03 | 5.00E-03 |
| Vinyl chloride | 75-01-4 | – | – | – | – | – | – | – | – | 1.06E-01 | 5.65E-03 | 2.39E+00 | 1.87E-05 | 2.00E-03 | 2.00E-03 |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| 4-Chlorobenzenamine | 106-47-8 | – | – | – | – | – | – | – | – | 2.50E-02 | 6.83E-05 | 3.31E-01 | 3.66E-04 | NA | 3.66E-04 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | 6.47E+00 | 5.69E-06 | – | 1.14 | – | – | – | – | – | – | – | – | – | – |
| Benzo(a)pyrene | 50-32-8 | 5.28E+00 | 4.60E-05 | 2.94E-01 | 0.115 | 2.27E+00 | 1.97E-05 | 1.26E-01 | 0.115 | – | – | – | – | – | – |
| Benzo(b)fluoranthene | 205-99-2 | 4.50E+00 | 3.92E-06 | – | 1.15 | 2.35E+00 | 2.05E-06 | – | 1.15 | – | – | – | – | – | – |
| Dibenz(a,h)anthracene | 53-70-3 | 5.37E-01 | 4.67E-06 | – | 0.115 | 3.82E-01 | 3.33E-06 | – | 0.115 | – | – | – | – | – | – |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 2.63E+00 | 2.29E-06 | – | 1.15 | 1.37E+00 | 1.19E-06 | – | 1.15 | 4.30E-04 | 1.72E-06 | – | 2.51E-04 | NA | 2.51E-04 |
| 2-Methylnaphthalene | 91-57-6 | – | – | – | – | – | – | – | – | 5.48E-03 | – | 1.52E-01 | 3.59E-02 | NA | 3.59E-02 |
| Naphthalene | 91-20-3 | – | – | – | – | – | – | – | – | 2.87E-02 | – | 4.69E+00 | 6.11E-03 | NA | 6.11E-03 |
| **Pesticides** | | | | | | | | | | | | | | | |
| Aldrin | 309-00-2 | – | – | – | – | – | – | – | – | 6.10E-04 | 6.65E-04 | 1.01E+00 | 9.17E-07 | NA | 9.17E-07 |
| alpha-Chlordane | 5103-71-9 | – | – | – | – | – | – | – | – | 7.70E-05 | 1.02E-06 | – | 7.56E-05 | NA | 7.56E-05 |
| gamma-Chlordane | 5566-34-7 | – | – | – | – | – | – | – | – | 6.25E-04 | 1.06E-05 | – | 5.89E-05 | NA | 5.89E-05 |
| 4,4'-DDD | 72-54-8 | – | – | – | – | – | – | – | – | 5.60E-05 | 1.74E-06 | 8.84E-01 | 3.22E-05 | NA | 3.22E-05 |
| Dieldrin | 60-57-1 | 4.30E-02 | 1.27E-06 | 1.36E-02 | 0.034 | 4.30E-02 | 1.27E-06 | 1.36E-02 | 0.034 | 2.80E-05 | 1.58E-05 | 7.35E-02 | 1.77E-06 | NA | 1.77E-06 |
| Heptachlor epoxide | 1024-57-3 | – | – | – | – | – | – | – | – | 3.20E-04 | 2.30E-04 | 2.58E+00 | 1.39E-06 | 2.00E-04 | 2.00E-04 |
| alpha-Hexachlorocyclohexane | 319-84-6 | – | – | – | – | – | – | – | – | 5.20E-05 | 7.13E-06 | 5.35E-04 | 7.30E-06 | NA | 7.30E-06 |
| beta-Hexachlorocyclohexane | 319-85-7 | – | – | – | – | – | – | – | – | 1.46E-04 | 5.72E-06 | – | 2.55E-05 | NA | 2.55E-05 |
| **Inorganics** | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | – | – | – | – | – | – | – | – | 6.06E-03 | 1.17E-04 | 1.01E+00 | 5.17E-05 | 1.00E-02 | 1.00E-02 |
| Cadmium | 7440-43-9 | – | – | – | – | – | – | – | – | 9.50E-04 | – | 1.03E-01 | 9.22E-03 | NA | 9.22E-03 |
| Chromium | 7440-47-3 | 4.75E+00 | 1.55E-05 | 2.02E-02 | 0.306 | 6.32E+00 | 2.07E-05 | 2.69E-02 | 0.306 | 2.98E-02 | 7.11E-04 | 5.82E-01 | 4.19E-05 | 1.00E-01 | 1.00E-01 |
| Iron | 7439-89-6 | – | – | – | – | – | – | – | – | 1.88E+01 | – | 1.34E+00 | 1.40E+01 | NA | 1.40E+01 |
| Manganese | 7439-96-5 | – | – | – | – | – | – | – | – | 1.16E+00 | – | 4.14E-01 | 2.80E+00 | NA | 2.80E+00 |

Footnotes on next page.

**Table 8-37**
**Summary of Calculated Health Based Goals**
**HAA-01, Hunter Army Airfield**
**Savannah, Georgia**

| Constituent | CASRN | Site Worker | | | | Site Worker | | | | | | Trespasser | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | EPC Soil (0-2) (mg/kg) | Risk (Table 8-22) Cancer | Risk (Table 8-22) Noncancer | HBG Soil (mg/kg) | EPC Water (mg/L) | Risk (Table 8-25) Cancer | Risk (Table 8-25) Noncancer | HBG Water (mg/L) | MCL (mg/L) | Final HBG (mg/L) | EPC Sediment (mg/kg) | Risk (Table 8-31) Cancer | Risk (Table 8-31) Noncancer | HBG Sediment (mg/kg) |
| **Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| Benzene | 71-43-2 | – | – | – | – | 5.10E-03 | 2.49E-06 | 3.04E-02 | 2.05E-03 | 5.00E-03 | 5.00E-03 | – | – | – | – |
| Chloroform | 67-66-3 | – | – | – | – | 1.70E-03 | 1.76E-06 | 3.45E-03 | 9.68E-04 | 8.0E+01(F) | 8.00E+01 | – | – | – | – |
| Chloromethane | 74-87-3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| cis-1,2-Dichloroethene | 156-59-2 | – | – | – | – | 9.27E-01 | NA | 4.00E+00 | 2.32E-01 | 7.00E-02 | 7.00E-02 | – | – | – | – |
| 1,2-Dichloropropane | 78-87-5 | – | – | – | – | 1.10E-03 | 1.78E-06 | 3.16E-02 | 6.16E-04 | 5.00E-03 | 5.00E-03 | – | – | – | – |
| Ethylbenzene | 100-41-4 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | – | – | – | – | 8.40E-04 | 2.50E-06 | 3.63E-04 | 3.35E-04 | NA | 3.35E-04 | – | – | – | – |
| 1,1,2-Trichloroethane | 79-00-5 | – | – | – | – | 8.50E-03 | 7.03E-06 | 4.87E+00 | 1.21E-03 | 5.00E-03 | 5.00E-03 | – | – | – | – |
| Trichloroethene | 79-01-6 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Vinyl chloride | 75-01-4 | – | – | – | – | 1.06E-01 | 2.53E-04 | 4.25E-01 | 4.18E-04 | 2.00E-03 | 2.00E-03 | – | – | – | – |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | | | | |
| 4-Chlorobenzenamine | 106-47-8 | – | – | – | – | 2.50E-02 | 1.54E-05 | 5.38E-02 | 1.63E-03 | NA | 1.63E-03 | – | – | – | – |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | | | | |
| Benz(a)anthracene | 56-55-3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Benzo(a)pyrene | 50-32-8 | 5.28E+00 | 2.50E-06 | 2.34E-02 | 2.11E+00 | – | – | – | – | – | – | 3.50E+01 | 2.84E-06 | 2.21E-02 | 1.23E+01 |
| Benzo(b)fluoranthene | 205-99-2 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Dibenz(a,h)anthracene | 53-70-3 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 2-Methylnaphthalene | 91-57-6 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Naphthalene | 91-20-3 | – | – | – | – | 2.87E-02 | NA | 1.10E+00 | 2.60E-02 | NA | 2.60E-02 | – | – | – | – |
| **Pesticides** | | | | | | | | | | | | | | | |
| Aldrin | 309-00-2 | – | – | – | – | 6.10E-04 | 1.54E-04 | 1.74E-01 | 3.97E-06 | NA | 3.97E-06 | – | – | – | – |
| alpha-Chlordane | 5103-71-9 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| gamma-Chlordane | 5566-34-7 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 4,4'-DDD | 72-54-8 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Dieldrin | 60-57-1 | – | – | – | – | 2.80E-05 | 1.55E-06 | 5.43E-03 | 1.80E-05 | NA | 1.80E-05 | – | – | – | – |
| Heptachlor epoxide | 1024-57-3 | – | – | – | – | 3.20E-04 | 4.36E-05 | 2.30E-01 | 7.33E-06 | 2.00E-04 | 2.00E-04 | – | – | – | – |
| alpha-Hexachlorocyclohexane | 319-84-6 | – | – | – | – | 5.20E-05 | 1.05E-06 | 5.86E-05 | 4.93E-05 | NA | 4.93E-05 | – | – | – | – |
| beta-Hexachlorocyclohexane | 319-85-7 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| **Inorganics** | | | | | | | | | | | | | | | |
| Arsenic | 7440-38-2 | – | – | – | – | 6.06E-03 | 2.78E-05 | 1.73E-01 | 2.18E-04 | 1.00E-02 | 1.00E-02 | – | – | – | – |
| Cadmium | 7440-43-9 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Chromium | 7440-47-3 | – | – | – | – | 2.98E-02 | 4.60E-05 | 8.58E-02 | 6.48E-04 | 1.00E-01 | 1.00E-01 | – | – | – | – |
| Iron | 7439-89-6 | – | – | – | – | 1.88E+01 | NA | 2.30E-01 | 8.17E+01 | NA | 8.17E+01 | – | – | – | – |
| Manganese | 7439-96-5 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| | |
|---|---|
| — | Not applicable. |
| CASN | Chemical abstracts registry number. |
| EPC | Exposure point concentration. |
| HBG | Health-based concentration goal. |
| mg/kg | Milligrams per kilogram. |
| mg/L | Milligrams per liter. |
| TCR | Target cancer risk = $1x10^{-6}$. |
| THQ | Target hazard quotient = 1. |

Equations:
HBG = EPC x TCR / Cancer Risk.
HBG = EPC x THQ / Noncancer Risk.

**Table 9-1**
**Federal- and State-Listed and Candidate Species of Potential Occurrence**
**Ecological Risk Assessment**
**HAA-01 (Former Fire Training Area and Departure/Arrival Airfield Control Group (DACG) Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| *Scientific Name* | Common Name | Global Rank (G) | State Rank (S) | Federal Status | State Status | Habitat | Habitat present at the Site? |
|---|---|---|---|---|---|---|---|
| **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 | | | Grasslands, marshes, agricultural fields, strips of forest | 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 | | | Large rivers, estuarine, and marine habitats throughout their range; Ogeechee, Satilla and Altamaha rivers | 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 |

Global rarity rank: 1 = very rare to 5 = very common globally.
Q = questionable taxonomy, NR = not ranked.
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, online at http://www.georgiawildlife.com/node/1370

**Table 9-2**
**SLERA - Constituents of Potential Ecological Concern in Surface Soil**
**Screening Level Ecological Risk Assessment**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Constituent | CAS | Frequency of Detection | Maximum Concentration (mg/kg) | Ecological Screening Value (ESVs) [a] (mg/kg) | | Maximum HQ [b] (unitless) | Screening Level Constituent of Potential Ecological Concern? [c] | |
|---|---|---|---|---|---|---|---|---|
| | | | | Value | *Source* | | (YES/no) | Rationale |
| **Volatile Organic Compounds** | | | | | | | | |
| Methylene chloride | 75-09-2 | 1 - 7 14% | 0.002 | 0.21 | R4 | 0.01 | no | HQ ≤ 1 |
| Tetrachloroethene | 127-18-4 | 2 - 7 29% | 0.003 | 0.06 | R4 | 0.05 | no | HQ ≤ 1 |
| Toluene | 108-88-3 | 2 - 7 29% | 0.02 | 0.15 | R4 | 0.1 | no | HQ ≤ 1 |
| Trichlorofluoromethane (CFC-11) | 75-69-4 | 3 - 4 75% | 0.014 | 16.4 | R4 | 0.0009 | no | HQ ≤ 1 |
| **Semi-Volatile Organic Compounds** | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 3 - 3 100% | 0.23 | 0.02 | R4 | 10 | **YES** | HQ > 1 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | |
| Anthracene | 120-12-7 | 2 - 7 29% | 0.67 | See LMW PAHs | | NA | NA | |
| Benz(a)anthracene | 56-55-3 | 4 - 7 57% | 5.3 | See HMW PAHs | | NA | NA | |
| Benzo(ghi)perylene | 191-24-2 | 1 - 7 14% | 0.16 | See HMW PAHs | | NA | NA | |
| Benzo(a)pyrene | 50-32-8 | 4 - 7 57% | 4.8 | See HMW PAHs | | NA | NA | |
| Benzo(b)fluoranthene | 205-99-2 | 4 - 7 57% | 6.9 | See HMW PAHs | | NA | NA | |
| Benzo(k)fluoranthene | 207-08-9 | 3 - 7 43% | 2.7 | See HMW PAHs | | NA | NA | |
| Chrysene | 218-01-9 | 4 - 7 57% | 5.3 | See HMW PAHs | | NA | NA | |
| Fluoranthene | 206-44-0 | 4 - 7 57% | 8.1 | See HMW PAHs | | NA | NA | |
| Fluorene | 86-73-7 | 1 - 7 14% | 0.16 | See LMW PAHs | | NA | NA | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1 - 7 14% | 0.19 | See HMW PAHs | | NA | NA | |
| Naphthalene | 91-20-3 | 1 - 7 14% | 0.1 | See LMW PAHs | | NA | NA | |
| Phenanthrene | 85-01-8 | 3 - 7 43% | 0.67 | See LMW PAHs | | NA | NA | |
| Pyrene | 129-00-0 | 4 - 7 57% | 5.2 | See HMW PAHs | | NA | NA | |
| High Molecular Weight PAHs | | 7 - 7 100% | 39.6 | 1.1 | R4 | 40 | **YES** | HQ > 1 |
| Low Molecular Weight PAHs | | 7 - 7 100% | 2.3 | 29 | R4 | 0.08 | no | HQ ≤ 1 |
| **Inorganics** | | | | | | | | |
| Arsenic | 7440-38-2 | 7 - 7 100% | 1.32 | 18 | R4 | 0.07 | no | HQ ≤ 1 |
| Barium | 7440-39-3 | 7 - 7 100% | 19.1 | 330 | R4 | 0.06 | no | HQ ≤ 1 |
| Cadmium | 7440-43-9 | 3 - 7 43% | 2.5 | 0.36 | R4 | 7 | **YES** | HQ > 1 |
| Chromium | 7440-47-3 | 7 - 7 100% | 6.64 | 0.34 | R4 | 20 | **YES** | HQ > 1 |
| Lead | 7439-92-1 | 6 - 7 86% | 28 | 11 | R4 | 3 | **YES** | HQ > 1 |
| Mercury | 7439-97-6 | 3 - 7 43% | 0.035 | 0.013 | R4 | 3 | **YES** | HQ > 1 |
| Selenium | 7782-49-2 | 3 - 7 43% | 0.59 | 0.52 | R4 | 1 | no | HQ ≤ 1 |
| Silver | 7440-22-4 | 3 - 7 43% | 2.5 | 4.2 | R4 | 0.6 | no | HQ ≤ 1 |

| | | | |
|---|---|---|---|
| – | Not available. | NA | Not applicable. |
| HMWPAHs | High molecular weight polycyclic aromatic hydrocarbons. | NSV | No screening value. |
| LMWPAHs | Low molecular weight polycyclic aromatic hydrocarbons. | PAHs | Polycyclic aromatic hydrocarbons. |
| mg/kg | Milligrams per kilogram. | | |

[a] Ecological soil screening values from the following sources:
USEPA Region 4 Ecological Screening Values (USEPA 2018d; R4).

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

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

**Table 9-3**
**SLERA - Constituents of Potential Ecological Concern in Combined Surface and Subsurface Soil**
**Screening Level Ecological Risk Assessment**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Constituent | CAS | Frequency of Detection | Maximum Concentration (mg/kg) | Ecological Screening Value (ESVs) [a] (mg/kg) | | Maximum HQ [b] (unitless) | Screening Level Constituent of Potential Ecological Concern? [c] | |
|---|---|---|---|---|---|---|---|---|
| | | | | Value | *Source* | | (YES/no) | Rationale |
| **Volatile Organic Compounds** | | | | | | | | |
| Acetone | 67-64-1 | 10 - 68 15% | 24 | 1.2 | R4 | 20 | **YES** | HQ > 1 |
| Benzene | 71-43-2 | 13 - 57 23% | 2.9 | 0.12 | R4 | 20 | **YES** | HQ > 1 |
| 2-Butanone | 78-93-3 | 2 - 37 5% | 0.025 | 1 | R4 | 0.03 | no | HQ ≤ 1 |
| Chloromethane | 74-87-3 | 1 - 37 3% | 0.0069 | – | | NA | **YES** | NSV |
| 1,2-Dichlorobenzene | 95-50-1 | 2 - 36 6% | 0.099 | 0.09 | R4 | 1 | no | HQ ≤ 1 |
| Ethylbenzene | 100-41-4 | 10 - 98 10% | 65 | 0.27 | R4 | 200 | **YES** | HQ > 1 |
| 1-methylethyl benzene | 98-82-8 | 1 - 12 8% | 0.0084 | 0.04 | R4 | 0.2 | no | HQ ≤ 1 |
| Methylene chloride | 75-09-2 | 4 - 37 11% | 0.004 | 0.21 | R4 | 0.02 | no | HQ ≤ 1 |
| Styrene | 100-42-5 | 2 - 27 7% | 0.001 | 1.2 | R4 | 0.0008 | no | HQ ≤ 1 |
| Tetrachloroethene | 127-18-4 | 3 - 78 4% | 0.0061 | 0.06 | R4 | 0.1 | no | HQ ≤ 1 |
| Toluene | 108-88-3 | 8 - 98 8% | 2.2 | 0.15 | R4 | 10 | **YES** | HQ > 1 |
| 1,2,4-Trichlorobenzene | 120-82-1 | 1 - 26 4% | 0.0024 | 0.27 | R4 | 0.009 | no | HQ ≤ 1 |
| Trichlorofluoromethane (CFC-11) | 75-69-4 | 7 - 22 32% | 0.014 | 16.4 | R4 | 0.0009 | no | HQ ≤ 1 |
| Xylenes (total) | 1330-20-7 | 12 - 98 12% | 310 | 0.1 | R4 | 3000 | **YES** | HQ > 1 |
| **Semi-Volatile Organic Compounds** | | | | | | | | |
| Benzoic acid | 65-85-0 | 3 - 14 21% | 0.64 | 0.01 | R4 | 60 | **YES** | HQ > 1 |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 9 - 50 18% | 0.42 | 0.02 | R4 | 20 | **YES** | HQ > 1 |
| Butyl benzyl phthalate | 85-68-7 | 2 - 14 14% | 0.12 | 0.59 | R4 | 0.2 | no | HQ ≤ 1 |
| Dibenzofuran | 132-64-9 | 2 - 14 14% | 0.66 | 0.15 | R4 | 4 | **YES** | HQ > 1 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | |
| Acenaphthene | 83-32-9 | 2 - 61 3% | 1.7 | See LMW PAHs | | NA | NA | |
| Acenaphthylene | 208-96-8 | 11 - 61 18% | 3.6 | See LMW PAHs | | NA | NA | |
| Anthracene | 120-12-7 | 14 - 61 23% | 7.5 | See LMW PAHs | | NA | NA | |
| Benz(a)anthracene | 56-55-3 | 21 - 61 34% | 34 | See HMW PAHs | | NA | NA | |
| Benzo(ghi)perylene | 191-24-2 | 15 - 61 25% | 14 | See HMW PAHs | | NA | NA | |
| Benzo(a)pyrene | 50-32-8 | 19 - 61 31% | 26 | See HMW PAHs | | NA | NA | |
| Benzo(b)fluoranthene | 205-99-2 | 20 - 61 33% | 28 | See HMW PAHs | | NA | NA | |
| Benzo(k)fluoranthene | 207-08-9 | 11 - 61 18% | 27 | See HMW PAHs | | NA | NA | |
| Chrysene | 218-01-9 | 21 - 61 34% | 33 | See HMW PAHs | | NA | NA | |
| Dibenz(a,h)anthracene | 53-70-3 | 7 - 61 11% | 3.9 | See HMW PAHs | | NA | NA | |
| Fluoranthene | 206-44-0 | 22 - 61 36% | 72 | See HMW PAHs | | NA | NA | |
| Fluorene | 86-73-7 | 5 - 61 8% | 3.9 | See LMW PAHs | | NA | NA | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 15 - 61 25% | 16 | See HMW PAHs | | NA | NA | |
| 1-Methylnaphthalene | 90-12-0 | 6 - 20 30% | 40 | See LMW PAHs | | NA | NA | |
| 2-Methylnaphthalene | 91-57-6 | 5 - 34 15% | 50 | See LMW PAHs | | NA | NA | |
| Naphthalene | 91-20-3 | 7 - 81 9% | 22 | See LMW PAHs | | NA | NA | |
| Phenanthrene | 85-01-8 | 17 - 81 21% | 39 | See LMW PAHs | | NA | NA | |
| Pyrene | 129-00-0 | 21 - 61 34% | 49 | See HMW PAHs | | NA | NA | |
| High Molecular Weight PAHs | | 22 - 81 27% | 299 | 1.1 | R4 | 300 | **YES** | HQ > 1 |
| Low Molecular Weight PAHs | | 24 - 81 30% | 90 | 29 | R4 | 3 | **YES** | HQ > 1 |
| **Pesticides** | | | | | | | | |
| 4,4'-DDT | 72-54-8 | 1 - 9 11% | 0.0049 | See Total DDD/DDE/DDT | | NA | NA | |
| 4,4'-DDE | 72-55-9 | 6 - 29 21% | 0.012 | See Total DDD/DDE/DDT | | NA | NA | |
| 4,4'-DDD | 50-29-3 | 7 - 29 24% | 0.012 | See Total DDD/DDE/DDT | | NA | NA | |
| Total DDD/DDE/DDT | | 7 - 29 24% | 0.024 | 0.021 | R4 | 1 | no | HQ ≤ 1 |
| Dieldrin | 60-57-1 | 4 - 41 10% | 0.043 | 0.0029 | R4 | 10 | **YES** | HQ > 1 |
| Methoxychlor | 72-43-5 | 1 - 21 5% | 0.14 | 0.0021 | R4 | 70 | **YES** | HQ > 1 |
| **Polychlorinated Biphenyls** | | | | | | | | |
| Aroclor 1254 | 11097-69-1 | 1 - 20 5% | 0.081 | 0.041 | R4 * | 2 | **YES** | HQ > 1 |
| **Inorganics** | | | | | | | | |
| Arsenic | 7440-38-2 | 37 - 37 100% | 2.44 | 18 | R4 | 0.1 | no | HQ ≤ 1 |
| Barium | 7440-39-3 | 58 - 58 100% | 33 | 330 | R4 | 0.1 | no | HQ ≤ 1 |
| Cadmium | 7440-43-9 | 18 - 57 32% | 2.5 | 0.36 | R4 | 7 | **YES** | HQ > 1 |
| Chromium | 7440-47-3 | 44 - 63 70% | 9.4 | 0.34 | R4 | 30 | **YES** | HQ > 1 |
| Lead | 7439-92-1 | 44 - 57 77% | 53 | 11 | R4 | 5 | **YES** | HQ > 1 |
| Mercury | 7439-97-6 | 27 - 39 69% | 0.071 | 0.013 | R4 | 5 | **YES** | HQ > 1 |
| Selenium | 7782-49-2 | 15 - 37 41% | 1.1 | 0.52 | R4 | 2 | **YES** | HQ > 1 |
| Silver | 7440-22-4 | 14 - 37 38% | 2.5 | 4.2 | R4 | 0.6 | no | HQ ≤ 1 |

| | | | |
|---|---|---|---|
| – | Not available. | NA | Not applicable. |
| HMWPAHs | High molecular weight polycyclic aromatic hydrocarbons. | NSV | No screening value. |
| LMWPAHs | Low molecular weight polycyclic aromatic hydrocarbons. | PAHs | Polycyclic aromatic hydrocarbons. |
| mg/kg | Milligrams per kilogram. | | |

[a] Ecological soil screening values from the following sources:
USEPA Region 4 Ecological Screening Values (USEPA 2018d; R4).

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

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

* The ecological screening value (ESV) presented is the USEPA Region 4 Soil ESV for total polychlorinated biphenyls because there are no aroclor-specific soil ESVs available (USEPA 2018d).

**Table 9-4**
**SLERA - Constituents of Potential Ecological Concern in Sediment as Soil**
**Screening Level Ecological Risk Assessment**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Constituent | CAS | Frequency of Detection | | | Maximum Concentration (mg/kg) | Ecological Screening Value (ESVs) [a] (mg/kg) | | Maximum HQ [b] (unitless) | Screening Level Constituent of Potential Ecological Concern? [c] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Value | *Source* | | (YES/no) | Rationale |
| **Volatile Organic Compounds** | | | | | | | | | | |
| Acetone | 67-64-1 | 2 | 6 | 33% | 0.042 | 1.2 | R4 | 0.04 | no | HQ ≤ 1 |
| 1-methylethyl benzene | 98-82-8 | 1 | 6 | 17% | 0.00087 | 0.04 | R4 | 0.02 | no | HQ ≤ 1 |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 1 | 6 | 17% | 1.1 | 0.02 | R4 | 60 | **YES** | HQ > 1 |
| Caprolactam | 105-60-2 | 1 | 6 | 17% | 0.042 | – | | NA | **YES** | NSV |
| Carbazole | 86-74-8 | 3 | 6 | 50% | 3.8 | 0.07 | R4 | 50 | **YES** | HQ > 1 |
| Dibenzofuran | 132-64-9 | 3 | 6 | 50% | 2 | 0.15 | R4 | 10 | **YES** | HQ > 1 |
| Phenol | 108-95-2 | 2 | 6 | 33% | 0.012 | 0.79 | R4 | 0.02 | no | HQ ≤ 1 |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | |
| Acenaphthene | 83-32-9 | 2 | 6 | 33% | 1.2 | See LMW PAHs | R4 | NA | NA | |
| Acenaphthylene | 208-96-8 | 2 | 6 | 33% | 4.4 | See LMW PAHs | R4 | NA | NA | |
| Anthracene | 120-12-7 | 3 | 6 | 50% | 9.7 | See LMW PAHs | R4 | NA | NA | |
| Benz(a)anthracene | 56-55-3 | 5 | 6 | 83% | 39 | See HMW PAHs | R4 | NA | NA | |
| Benzo(ghi)perylene | 191-24-2 | 4 | 6 | 67% | 8.7 | See HMW PAHs | R4 | NA | NA | |
| Benzo(a)pyrene | 50-32-8 | 4 | 6 | 67% | 35 | See HMW PAHs | R4 | NA | NA | |
| Benzo(b)fluoranthene | 205-99-2 | 5 | 6 | 83% | 51 | See HMW PAHs | R4 | NA | NA | |
| Benzo(k)fluoranthene | 207-08-9 | 3 | 6 | 50% | 23 | See HMW PAHs | R4 | NA | NA | |
| Chrysene | 218-01-9 | 3 | 6 | 50% | 39 | See HMW PAHs | R4 | NA | NA | |
| Fluoranthene | 206-44-0 | 5 | 6 | 83% | 94 | See HMW PAHs | R4 | NA | NA | |
| Fluorene | 86-73-7 | 3 | 6 | 50% | 4.4 | See LMW PAHs | R4 | NA | NA | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 3 | 6 | 50% | 9.6 | See HMW PAHs | R4 | NA | NA | |
| Phenanthrene | 85-01-8 | 3 | 6 | 50% | 36 | See LMW PAHs | R4 | NA | NA | |
| Pyrene | 129-00-0 | 3 | 6 | 50% | 63 | See HMW PAHs | R4 | NA | NA | |
| High Molecular Weight PAHs | | 5 | 6 | 83% | 362.3 | 1.1 | R4 | 300 | **YES** | HQ > 1 |
| Low Molecular Weight PAHs | | 3 | 6 | 50% | 55.7 | 29 | R4 | 2 | **YES** | HQ > 1 |
| **Pesticides** | | | | | | | | | | |
| Aldrin | 309-00-2 | 1 | 6 | 17% | 0.0015 | 0.03 | R4 | 0.05 | no | HQ ≤ 1 |
| delta BHC | 319-86-8 | 2 | 6 | 33% | 0.0024 | – | R4 | NA | **YES** | NSV |
| alpha-Chlordane | 5103-71-9 | 2 | 6 | 33% | 0.0055 | 0.0029 | R4 | 2 | **YES** | HQ > 1 |
| gamma-Chlordane | 5566-34-7 | 2 | 6 | 33% | 0.0036 | 0.02 | R4 | 0.2 | no | HQ ≤ 1 |
| 4,4'-DDT | 72-54-8 | 4 | 6 | 67% | 0.013 | See Total DDD/DDE/DDT | R4 | NA | NA | |
| 4,4'-DDD | 50-29-3 | 4 | 6 | 67% | 0.038 | See Total DDD/DDE/DDT | R4 | NA | NA | |
| Total DDD/DDE/DDT | | 4 | 6 | 67% | 0.0565 | 0.021 | R4 | 3 | **YES** | HQ > 1 |
| Dieldrin | 60-57-1 | 3 | 6 | 50% | 0.0051 | 0.0029 | R4 | 2 | **YES** | HQ > 1 |
| Endosulfan I | 959-98-8 | 1 | 6 | 17% | 0.0016 | 0.0009 | R4 | 2 | **YES** | HQ > 1 |
| Endosulfan II | 33213-65-9 | 3 | 6 | 50% | 0.0039 | 0.0009 | R4 | 4 | **YES** | HQ > 1 |
| Endosulfan Sulfate | 1031-07-8 | 3 | 6 | 50% | 0.029 | 0.0065 | R4 | 4 | **YES** | HQ > 1 |
| Endrin | 72-20-8 | 4 | 6 | 67% | 0.014 | 0.0019 | R4 | 7 | **YES** | HQ > 1 |
| Endrin Aldehyde | 7421-93-4 | 4 | 6 | 67% | 0.021 | – | R4 | NA | **YES** | NSV |
| Endrin ketone | 53494-70-5 | 5 | 6 | 83% | 0.08 | – | R4 | NA | **YES** | NSV |
| Lindane | 58-89-9 | 1 | 6 | 17% | 0.0024 | 0.0031 | R4 | 0.8 | no | HQ ≤ 1 |
| Methoxychlor | 72-43-5 | 4 | 6 | 67% | 0.11 | 0.0021 | R4 | 50 | **YES** | HQ > 1 |
| **Inorganics** | | | | | | | | | | |
| Arsenic | 7440-38-2 | 6 | 6 | 100% | 2.9 | 18 | R4 | 0.2 | no | HQ ≤ 1 |
| Barium | 7440-39-3 | 6 | 6 | 100% | 18 | 330 | R4 | 0.05 | no | HQ ≤ 1 |
| Cadmium | 7440-43-9 | 6 | 6 | 100% | 0.33 | 0.36 | R4 | 0.9 | no | HQ ≤ 1 |
| Chromium | 7440-47-3 | 6 | 6 | 100% | 9.1 | 23 | R4 | 0.4 | no | HQ ≤ 1 |
| Chromium, hexavalent | 18540-29-9 | 3 | 6 | 50% | 0.82 | 0.34 | R4 | 2 | **YES** | HQ > 1 |
| Lead | 7439-92-1 | 6 | 6 | 100% | 18 | 11 | R4 | 2 | **YES** | HQ > 1 |
| Mercury | 7439-97-6 | 1 | 6 | 17% | 0.019 | 0.013 | R4 | 1 | no | HQ ≤ 1 |
| Selenium | 7782-49-2 | 2 | 6 | 33% | 0.54 | 0.52 | R4 | 1 | no | HQ ≤ 1 |

| | | | |
|---|---|---|---|
| – | Not available. | NA | Not applicable. |
| HMWPAHs | High molecular weight polycyclic aromatic hydrocarbons. | NSV | No screening value. |
| LMWPAHs | Low molecular weight polycyclic aromatic hydrocarbons. | PAHs | Polycyclic aromatic hydrocarbons. |
| mg/kg | Milligrams per kilogram. | | |

[a] Ecological soil screening values from the following sources:
USEPA Region 4 Ecological Screening Values (USEPA 2018d; R4).

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

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

**Table 9-5**
**BERA - Constituents of Potential Ecological Concern in Surface Soil**
**Screening Level Ecological Risk Assessment**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Constituent | CAS | Frequency of Detection | | | Maximum Concentration (mg/kg) | Exposure Point Concentration [a] (mg/kg) | | Background Concentration [b] (mg/kg) | Alternative Ecological Screening Value (ASVs) [c] (mg/kg) | | Refined HQ [d] (unitless) | Baseline Level Constituent of Potential Ecological Concern? [e] | | Bioaccumulative? [f] (YES/no) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Value | *Source* | | (YES/no) | Rationale | |
| **Semi-Volatile Organic Compounds** | | | | | | | | – | | | | | | |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 3 | - 3 | 100% | 0.23 | 0.23 | max | – | 0.925 | R5 | 0.2 | no | HQ ≤ 1 | YES |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | – | | | | | | |
| High Molecular Weight PAHs | | 7 | - 7 | 100% | 39.6 | 39.6 | max | – | 1.1 | EcoSSL | 40 | **YES** | HQ > 1 | YES |
| **Inorganics** | | | | | | | | – | | | | | | |
| Cadmium | 7440-43-9 | 3 | - 7 | 43% | 2.5 | 2.5 | max | 2.6 | 0.36 | EcoSSL | 7 | no | Max ≤ BKGD | no |
| Chromium | 7440-47-3 | 7 | - 7 | 100% | 6.64 | 6.64 | max | 7.7 | 130 | EcoSSL | 0.05 | no | Max ≤ BKGD | no |
| Lead | 7439-92-1 | 6 | - 7 | 86% | 28 | 28 | max | 53 | 11 | EcoSSL | 3 | no | Max ≤ BKGD | no |
| Mercury | 7439-97-6 | 3 | - 7 | 43% | 0.035 | 0.035 | max | 0.39 | 0.1 | R5 | 0.4 | no | Max ≤ BKGD | YES |

| | | | |
|---|---|---|---|
| – | Not available. | mg/kg | Milligrams per kilogram. |
| BKGD | Background. | NA | Not applicable. |
| FOD | Frequency of Detection. | | |

[a] Exposure point concentration (EPCs) are the lower of either the upper confidence limit (UCL) on the mean or the maximum (max) concentration.

[b] Background concentrations are from the Revised Final Compliance Status Report for the Fire Training Station at HAAF (Law 2002).

[c] Alternative ecological soil screening values were selected using the following hierarchy: USEPA Ecological Screening Levels for Soil (EcoSSLs; USEPA 2005c); USEPA Region 5 Ecological Screening Levels (R5; USEPA 2003b) and Los Alamos National Laboratory (LANL) Ecological Screening Levels (LANL 2017).

EcoSSLs are available and were used as ASVs for high molecular weight PAHs, cadmium, chromium, and lead. The remaining COPECs are discussed below.
--Bis(2-ethylhexyl)phthalate – An EcoSSL is not available; therefore, the EPA Region 5 ESL of 0.925 mg/kg was used as the ASV. The ESL is based on a masked shrew and is protective of mammalian receptors.
--Mercury – An EcoSSL is not available; therefore, the EPA Region 5 ESL of 0.1 mg/kg was used as the ASV. The ESL is protective of soil invertebrates. This ASV is less than the available LANL Low Effect ESLs.

[d] The refined hazard quotient (HQ) is the ratio of the EPC to the screening value. HQs are rounded to one significant figure.

[e] Constituents with a refined hazard quotient (HQ) greater than 1 (HQ > 1) or without a screening value (NSV) were considered constituents of potential ecological concern (COPECs) for baseline level assessment, unless the maximum detected concentration was equal to or below background (BKGD) or the frequency of detection (FOD) was equal to or less than 5 percent.

[f] The following source was consulted to identify bioaccumulation potential: Region 4 Ecological Risk Assessment Supplemental Guidance (USEPA 2018d).

**Table 9-6**
**BERA - Constituents of Potential Ecological Concern in Combined Surface and Subsurface Soil**
**Screening Level Ecological Risk Assessment**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Constituent | CAS | Frequency of Detection | Maximum Concentration (mg/kg) | Exposure Point Concentration [a] (mg/kg) | | Background Concentration [b] (mg/kg) | Alternative Ecological Screening Value (ASVs) [c] (mg/kg) | | Refined HQ [d] (unitless) | Baseline Level Constituent of Potential Ecological Concern? [e] | | Bioaccumulative? [f] (YES/no) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Value | *Source* | | (YES/no) | Rationale | |
| **Volatile Organic Compounds** | | | | | | | | | | | | |
| Acetone | 67-64-1 | 10 - 68 15% | 24 | 2.07 | UCL | – | 2.5 | R5 | 0.8 | no | HQ ≤ 1 | no |
| Benzene | 71-43-2 | 13 - 57 23% | 2.9 | 0.23 | UCL | – | 0.25462 | R5 | 0.9 | no | HQ ≤ 1 | no |
| Chloromethane | 74-87-3 | 1 - 37 3% | 0.0069 | 0.0069 | max | – | 10.4 | R5 | 0.0007 | no | FOD<5% | no |
| Ethylbenzene | 100-41-4 | 10 - 98 10% | 65 | 3.37 | UCL | – | 5.16 | R5 | 0.7 | no | HQ ≤ 1 | no |
| Toluene | 108-88-3 | 8 - 98 8% | 2.2 | 0.22 | UCL | – | 5.45 | R5 | 0.04 | no | HQ ≤ 1 | no |
| Xylenes (total) | 1330-20-7 | 12 - 98 12% | 310 | 34.4 | UCL | – | 10 | R5 | 3 | **YES** | HQ > 1 | no |
| **Semi-Volatile Organic Compounds** | | | | | | – | | | | | | |
| Benzoic acid | 65-85-0 | 3 - 14 21% | 0.64 | 0.64 | max | – | 1 | LANL | 0.6 | no | HQ ≤ 1 | no |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 9 - 50 18% | 0.42 | 0.202 | UCL | – | 0.925 | R5 | 0.2 | no | HQ ≤ 1 | YES |
| Dibenzofuran | 132-64-9 | 2 - 14 14% | 0.66 | 0.66 | max | – | 6.1 | LANL | 0.1 | no | HQ ≤ 1 | no |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | – | | | | | | |
| High Molecular Weight PAHs | | 22 - 81 27% | 299 | 42.663 | UCL | – | 1.1 | EcoSSL | 40 | **YES** | HQ > 1 | YES |
| Low Molecular Weight PAHs | | 24 - 81 30% | 90 | 14.528 | UCL | – | 29 | EcoSSL | 0.5 | no | HQ ≤ 1 | no |
| **Pesticides** | | | | | | – | | | | | | |
| Dieldrin | 60-57-1 | 4 - 41 10% | 0.043 | 0.043 | max | – | 0.0049 | EcoSSL | 9 | **YES** | HQ > 1 | YES |
| Methoxychlor | 72-43-5 | 1 - 21 5% | 0.14 | 0.14 | max | – | 0.0199 | R5 | 7 | no | FOD<5% | YES |
| **Polychlorinated Biphenyls** | | | | | | – | | | | | | |
| Aroclor 1254 | 11097-69-1 | 1 - 20 5% | 0.081 | 0.081 | max | – | 0.041 | R4 | 2 | no | FOD<5% | YES |
| **Inorganics** | | | | | | – | | | | | | |
| Cadmium | 7440-43-9 | 18 - 57 32% | 2.5 | 2.291 | UCL | 2.6 | 0.36 | EcoSSL | 6 | no | Max ≤ BKGD | no |
| Chromium | 7440-47-3 | 44 - 63 70% | 9.4 | 4.71 | UCL | 7.7 | 130 | EcoSSL | 0.04 | no | HQ ≤ 1 | no |
| Lead | 7439-92-1 | 44 - 57 77% | 53 | 12.097 | UCL | 53 | 11 | EcoSSL | 1 | no | Max ≤ BKGD | no |
| Mercury | 7439-97-6 | 27 - 39 69% | 0.071 | 0.03728 | UCL | 0.39 | 0.1 | R5 | 0.4 | no | Max ≤ BKGD | YES |
| Selenium | 7782-49-2 | 15 - 37 41% | 1.1 | 0.4337 | UCL | 1.9 | 0.52 | EcoSSL | 0.8 | no | Max ≤ BKGD | YES |

| | | | |
|---|---|---|---|
| – | Not available. | mg/kg | Milligrams per kilogram. |
| BKGD | Background. | NA | Not applicable. |
| FOD | Frequency of Detection. | | |

[a] Exposure point concentration (EPCs) are the lower of either the upper confidence limit (UCL) on the mean or the maximum (max) concentration.

[b] Background concentrations are from the Revised Final Compliance Status Report for the Fire Training Station at HAAF (Law 2002).

[c] Alternative ecological soil screening values were selected using the following hierarchy: USEPA Ecological Screening Levels for Soil (EcoSSLs; USEPA 2005c); USEPA Region 5 Ecological Screening Levels (R5; USEPA 2003b) and Los Alamos National Laboratory (LANL) Ecological Screening Levels (LANL 2017).

EcoSSLs are available and were used as ASVs for high and low molecular weight PAHs, dieldrin, cadmium, chromium, lead, and selenium. The remaining COPECs are discussed below.
EcoSSLs are not available for VOCs acetone, benzene, chloromethane, ethylbenzene, toluene and xylenes and therefore Region 5 ESLs were used as ASVs. All ESLs are based on a masked shrew or meadow vole and are protective of mammalian receptors, except for the Region 5 ESL for xylenes which is based on protection of terrestrial plants.
--Benzoic Acid – An EcoSSL and Region 5 ESL are not available; therefore, the lowest LANL No Effect ESL of 1.0 mg/kg was conservatively used as the ASV. The ESL is based on a shrew and is protective of mammalian receptors.
--Bis(2-ethylhexyl)phthalate – See description on Table 9-5.
--Dibenzofuran – An EcoSSL and Region 5 ESL are not available; therefore, the lowest LANL No Effect ESL of 6.1 mg/kg based on plants was conservatively used as the ASV.
--Methoxychlor – An EcoSSL is not available; therefore, the EPA Region 5 ESL of 0.0199 mg/kg was used as the ASV. The ESL is based on a masked shrew and is protective of mammalian receptors.
--Aroclor 1254 – An EcoSSL and Region 5 ESL are not available; therefore, the lowest LANL No Effect ESL and Region 4 ESV for Total PCBs of 0.041 mg/kg was conservatively used as the ASV.
--Mercury – See description on Table 9-5.

**Table 9-6**
**BERA - Constituents of Potential Ecological Concern in Combined Surface and Subsurface Soil**
**Screening Level Ecological Risk Assessment**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Constituent | CAS | Frequency of Detection | Maximum Concentration (mg/kg) | Exposure Point Concentration [a] (mg/kg) | Background Concentration [b] (mg/kg) | Alternative Ecological Screening Value (ASVs) [c] (mg/kg) | | Refined HQ [d] (unitless) | Baseline Level Constituent of Potential Ecological Concern? [e] | | Bioaccumulative? [f] (YES/no) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Value | *Source* | | (YES/no) | Rationale | |

[d] The refined hazard quotient (HQ) is the ratio of the EPC to the screening value. HQs are rounded to one significant figure.

[e] Constituents with a refined hazard quotient (HQ) greater than 1 (HQ > 1) or without a screening value (NSV) were considered constituents of potential ecological concern (COPECs) for baseline level assessment, unless the maximum detected concentration was equal to or below background (BKGD) or the frequency of detection (FOD) was equal to or less than 5 percent.

[f] The following source was consulted to identify bioaccumulation potential: Region 4 Ecological Risk Assessment Supplemental Guidance (USEPA 2018d).

**Table 9-7**
**BERA - Constituents of Potential Ecological Concern in Sediment as Soil**
**Screening Level Ecological Risk Assessment**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Constituent | CAS | Frequency of Detection | Maximum Concentration (mg/kg) | Exposure Point Concentration [a] (mg/kg) | | Background Concentration [b] (mg/kg) | Alternative Ecological Screening Value (ASVs) [c] (mg/kg) | | Refined HQ [d] (unitless) | Baseline Level Constituent of Potential Ecological Concern? [e] | | Bioaccumulative? [f] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Value | *Source* | | (YES/no) | Rationale | (YES/no) |
| **Semi-Volatile Organic Compounds** | | | | | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | 117-81-7 | 1 - 6 17% | 1.1 | 1.1 | max | NA | 0.925 | R5 | 1 | no | HQ ≤ 1 | YES |
| Caprolactam | 105-60-2 | 1 - 6 17% | 0.042 | 0.042 | max | NA | 1,000 | [g] | 0.00004 | no | HQ ≤ 1 | no |
| Carbazole | 86-74-8 | 3 - 6 50% | 3.8 | 3.8 | max | NA | 79 | LANL | 0.05 | no | HQ ≤ 1 | no |
| Dibenzofuran | 132-64-9 | 3 - 6 50% | 2 | 2 | max | NA | 6.1 | LANL | 0.3 | no | HQ ≤ 1 | no |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | | | | |
| High Molecular Weight PAHs | | 5 - 6 83% | 362.3 | 362.3 | max | NA | 1.1 | EcoSSL | 300 | **YES** | HQ > 1 | YES |
| Low Molecular Weight PAHs | | 3 - 6 50% | 55.7 | 55.7 | max | NA | 29 | EcoSSL | 2 | **YES** | HQ > 1 | no |
| **Pesticides** | | | | | | | | | | | | |
| delta BHC | 319-86-8 | 2 - 6 33% | 0.0024 | 0.0024 | max | NA | 9.94 | R5 | 0.0002 | no | HQ ≤ 1 | no |
| alpha-Chlordane | 5103-71-9 | 2 - 6 33% | 0.0055 | 0.0055 | max | NA | 0.224 | R5 | 0.02 | no | HQ ≤ 1 | YES |
| Total DDD/DDE/DDT | | 4 - 6 67% | 0.0565 | 0.0565 | max | NA | 0.021 | R5 | 3 | **YES** | HQ > 1 | YES |
| Dieldrin | 60-57-1 | 3 - 6 50% | 0.0051 | 0.0051 | max | NA | 0.0049 | EcoSSL | 1 | no | HQ ≤ 1 | YES |
| Endosulfan I | 959-98-8 | 1 - 6 17% | 0.0016 | 0.0016 | max | NA | 0.119 | R5 | 0.01 | no | HQ ≤ 1 | no |
| Endosulfan II | 33213-65-9 | 3 - 6 50% | 0.0039 | 0.0039 | max | NA | 0.119 | R5 | 0.03 | no | HQ ≤ 1 | no |
| Endosulfan Sulfate | 1031-07-8 | 3 - 6 50% | 0.029 | 0.029 | max | NA | 0.0358 | R5 | 0.8 | no | HQ ≤ 1 | no |
| Endrin | 72-20-8 | 4 - 6 67% | 0.014 | 0.014 | max | NA | 0.0101 | R5 | 1 | no | HQ ≤ 1 | YES |
| Endrin Aldehyde | 7421-93-4 | 4 - 6 67% | 0.021 | 0.021 | max | NA | 0.0105 | R5 | 2 | **YES** | HQ > 1 | no |
| Endrin ketone | 53494-70-5 | 5 - 6 83% | 0.08 | 0.08 | max | NA | – | | NA | **YES** | NSV | no |
| Methoxychlor | 72-43-5 | 4 - 6 67% | 0.11 | 0.11 | max | NA | 0.0199 | R5 | 6 | **YES** | HQ > 1 | YES |
| **Inorganics** | | | | | | | | | | | | |
| Chromium, hexavalent | 18540-29-9 | 3 - 6 50% | 0.82 | 0.82 | max | 7.7 | 130 | EcoSSL | 0.006 | no | Max ≤ BKGD | no |
| Lead | 7439-92-1 | 6 - 6 100% | 18 | 18 | max | 53 | 11 | EcoSSL | 2 | no | Max ≤ BKGD | no |

– Not available.
mg/kg Milligrams per kilogram.
NA Not applicable.

[a] The exposure point concentration (EPC) for sediment was the maximum concentration.
[b] Background concentrations are from the Revised Final Compliance Status Report for the Fire Training Station at HAAF (Law 2002).
[c] Alternative ecological soil screening values were selected using the following hierarchy: USEPA Ecological Screening Levels for Soil (EcoSSLs; USEPA 2005c); USEPA Region 5 Ecological Screening Levels (R5; USEPA 2003b) and Los Alamos National Laboratory (LANL) Ecological Screening Levels (LANL 2017).
EcoSSLs are available and were used as ASVs for high and low molecular weight PAHs, dieldrin, chromium, and lead. The remaining COPECs are discussed below.
--Bis(2-ethylhexyl)phthalate – See description on Table 9-5.
--Caprolactam – An EcoSSL, Region 5 ESL, and LANL ESL are not available; therefore, a no observed adverse effect level (NOAEL) based on dietary exposure from the EPA Integrated Risk Information System (IRIS) database was used as the ASV.
--Carbazole – An EcoSSL and Region 5 ESL are not available; therefore, the lowest LANL No Effect ESL of 79 mg/kg based on a deer mouse was conservatively used as the ASV.
--Dibenzofuran – See description on Table 9-6.
--Delta BHC and Alpha-Chlordane – EcoSSLs are not available; therefore, the EPA Region 5 ESL of 9.94 mg/kg was used as the ASV for delta-BHC and an ESL of 0.224 mg/kg was used as the ASV for alpha-chlordane. The ESLs for delta-BHC and alpha-chlordane are based on a masked shrew and terrestrial plants, respectively, and are protective of mammalian receptors and plants.
--Total DDD/DDE/DDT - An EcoSSL, Region 5 ESL and LANL ESL are not available; therefore, the Region 4 ESV for Total DDD/DDE/DDT of 0.021 mg /kg was conservatively used as the ASV.
--Endosulfan and Endrin – EcoSSLs are not available for endosulfan and endrin or their isomers; therefore, the EPA Region 5 ESLs were used as the ASVs. The ESLs are based on a masked shrew and are protective of mammalian receptors.
--Methoxychlor – See description on Table 9-6.

**Table 9-7**
**BERA - Constituents of Potential Ecological Concern in Sediment as Soil**
**Screening Level Ecological Risk Assessment**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Constituent | CAS | Frequency of Detection | Maximum Concentration (mg/kg) | Exposure Point Concentration [a] (mg/kg) | Background Concentration [b] (mg/kg) | Alternative Ecological Screening Value (ASVs) [c] (mg/kg) | | Refined HQ [d] (unitless) | Baseline Level Constituent of Potential Ecological Concern? [e] | | Bioaccumulative? [f] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Value | *Source* | | (YES/no) | Rationale | (YES/no) |

[d] The refined hazard quotient (HQ) is the ratio of the EPC to the screening value. HQs are rounded to one significant figure.

[e] Constituents with a refined hazard quotient (HQ) greater than 1 (HQ > 1) or without a screening value (NSV) were considered constituents of potential ecological concern (COPECs) for baseline level assessment, unless the maximum detected concentration was below background (BKGD).

[f] The following source was consulted to identify bioaccumulation potential: Region 4 Ecological Risk Assessment Supplemental Guidance (USEPA 2018d).

[g] An ecological screening level was not identified for caprolactam. Based on available information from IRIS (2017b) NOAEL = 1000 mg/kg (diet) or 50 mg/kg/day. Therefore, caprolactam is not considered a constituent of potential ecological concern.

**Table 9-8**
**Food Chain Modeling for the Short-tailed Shrew in Surface Soil [a]**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Parameter | Acronym | Value | Reference |
|---|---|---|---|
| Body Weight (kg): | BW | 0.017 | USEPA (1993). Mean of male and female BWs. |
| Total dietary intake (wet kg/d): | IRf | 0.01 | USEPA (1993). |
| Soil Ingestion Rate (dry kg/d): | IRs | 0.00004 | Beyer et al, (1994) assumes 2.4% soil in diet. |
| Insect Ingestion Rate (wet kg/d): | IRi | 0.01 | USEPA (1993). Assumed to be 100% of total dietary intake. |
| Site Use Factor: | SUF | 1 | Conservative assumption |

| Constituent | EPC [b] (mg/kg) | | Soil Bioconcentration Factors or Regression Equations [c] Invertebrate | Concentration in Insects (Ci) [d] (mg (wet weight)/kg) Invertebrate | Maximum Estimated Dietary Ingestion [e] mg/kg-BW-day | Toxicity Reference Value (TRV) [f] mg/kg-BW-day | | Maximum Scenario HQ [g] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | NOAEL | LOAEL | NOAEL | LOAEL |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | |
| High Molecular Weight PAHs | 39.6 | max | 2.6 | 17.20 | 10.33 | 0.615 | 3.07 | 17 | 3 |

HQ Hazard Quotient.
mg/kg Milligrams per kilogram.
mg/kg-BW-day Milligrams per kilogram of body weight each day.
PAHs Polycyclic aromatic hydrocarbons.

[a] The southern short-tailed shrew is a common inhabitant of habitats in the Atlantic Coastal Plain of the eastern United States, including eastern Georgia. In most of these areas, it is among the two or three most abundant species in the small mammal fauna. In addition, exposure parameters for the short-tailed shrew are available in the USEPA's Exposure Factors Handbook (1993). Therefore, the short-tailed shrew is considered an appropriate and conservative surrogate for an invertivore mammal at the site.

[b] The exposure point concentration (EPC) is the upper confidence limit on the mean (UCL) or the maximum (max) concentration.

[c] Soil bioconcentration factors or regression equations are from USEPA EcoSSLs documents (USEPA 2007a,b).

[d] Estimated tissue concentration = concentration in soil x BCF x tissue percent dry weight (16.7% for invertebrates).

[e] Dose (mg/kg-day) = ((Cs x IRs)+(Cf x IRf))/BW; Cs= EPC

[f] TRVs are from EcoSSLs (USEPA 2007a,b).

[g] HQ = (Estimated Dietary Dose/TRV).

**Table 9-9**
**Food Chain Modeling for the American Robin in Surface Soil**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Parameter | Acronym | Value | Reference |
|---|---|---|---|
| Body Weight (kg): | BW | 0.081 | USEPA (1993). Mean of male and female BWs. |
| Total dietary intake (wet kg/d): | IRf | 0.098 | USEPA (1993). |
| Soil Ingestion Rate (dry kg/d): | IRs | 0.0016 | Beyer et al, (1994) as cited in USEPA (1999c), uses 10% soil in diet from range of values. |
| Insect Ingestion Rate (wet kg/d): | IRi | 0.098 | USEPA (1993). Assumed to be 100% of total dietary intake. |
| Site Use Factor: | SUF | 1 | Conservative assumption |

| Constituent | EPC [a] (mg/kg) | | Soil Bioconcentration Factors o Regression Equations [b] Invertebrate | Concentration in Insects (Ci) [c] (mg (wet weight)/kg) Invertebrate | Maximum Estimated Dietary Ingestion [d] mg/kg-BW-day | Toxicity Reference Value (TRV) [e] mg/kg-BW-day | | Maximum Scenario HQ [f] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | NOAEL | LOAEL | NOAEL | LOAEL |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | |
| High Molecular Weight PAHs | 39.6 | max | 2.6 | 17.20 | 21.61 | 10 | 100 | 2 | 0.2 |

| | |
|---|---|
| HQ | Hazard Quotient. |
| mg/kg | Milligrams per kilogram. |
| mg/kg-BW-day | Milligrams per kilogram of body weight each day. |
| PAHs | Polycyclic aromatic hydrocarbons. |

[a] The exposure point concentration (EPC) is the upper confidence limit on the mean (UCL) or the maximum (max) concentration.
[b] Soil bioconcentration factors or regression equations are from USEPA EcoSSLs documents (USEPA 2007a,b).
[c] Estimated tissue concentration = concentration in soil x BCF x tissue percent dry weight (16.7% for invertebrates).
[d] ((Cs x IRs)+(Cf x IRf))/BW; Cs= EPC.
[e] TRVs are from EcoSSLs (USEPA 2007b); Trust et al (1994).
[f] HQ = (Estimated Dietary Dose/TRV).

**Table 9-10**
**Food Chain Modeling for the Short-tailed Shrew in Combined Surface and Subsurface Soil [a]**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Parameter | Acronym | Value | Reference |
|---|---|---|---|
| Body Weight (kg): | BW | 0.017 | USEPA (1993). Mean of male and female BWs. |
| Total dietary intake (wet kg/d): | IRf | 0.01 | USEPA (1993). |
| Soil Ingestion Rate (dry kg/d): | IRs | 0.00004 | Beyer et al, (1994) assumes 2.4% soil in diet. |
| Insect Ingestion Rate (wet kg/d): | IRi | 0.01 | USEPA (1993). Assumed to be 100% of total dietary intake. |
| Site Use Factor: | SUF | 1 | Conservative assumption |

| Constituent | EPC [b] (mg/kg) | | Soil Bioconcentration Factors or Regression Equations [c] Invertebrate | Concentration in Insects (Ci) [d] (mg (wet weight)/kg) Invertebrate | Maximum Estimated Dietary Ingestion [e] mg/kg-BW-day | Toxicity Reference Value (TRV) [f] mg/kg-BW-day | | Maximum Scenario HQ [g] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | NOAEL | LOAEL | NOAEL | LOAEL |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | |
| High Molecular Weight PAHs | 43 | UCL | 2.6 | 18.52 | 11.13 | 0.615 | 3.07 | 18 | 4 |
| **Pesticides** | | | | | | | | | |
| Dieldrin | 0.043 | max | 14.7 | 0.11 | 0.06 | 0.015 | 0.03 | 4 | 2 |

HQ Hazard Quotient.
mg/kg Milligrams per kilogram.
mg/kg-BW-day Milligrams per kilogram of body weight each day.
PAHs Polycyclic aromatic hydrocarbons.

[a] The southern short-tailed shrew is a common inhabitant of habitats in the Atlantic Coastal Plain of the eastern United States, including eastern Georgia. In most of these areas, it is among the two or three most abundant species in the small mammal fauna. In addition, exposure parameters for the short-tailed shrew are available in the USEPA's Exposure Factors Handbook (1993). Therefore, the short-tailed shrew is considered an appropriate and conservative surrogate for an invertivore mammal at the site.

[b] The exposure point concentration (EPC) is the upper confidence limit on the mean (UCL) or the maximum (max) concentration.

[c] Soil bioconcentration factors or regression equations are from USEPA EcoSSLs documents (USEPA 2007a,b).

[d] Estimated tissue concentration = concentration in soil x BCF x tissue percent dry weight (16.7% for invertebrates).

[e] Dose (mg/kg-day) = ((Cs x IRs)+(Cf x IRf))/BW; Cs= EPC

[f] TRVs are from EcoSSLs (USEPA 2007a,b).

[g] HQ = (Estimated Dietary Dose/TRV).

**Table 9-11**
**Food Chain Modeling for the American Robin in Combined Surface and Subsurface Soil**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Parameter | Acronym | Value | Reference |
|---|---|---|---|
| Body Weight (kg): | BW | 0.081 | USEPA (1993). Mean of male and female BWs. |
| Total dietary intake (wet kg/d): | IRf | 0.098 | USEPA (1993). |
| Soil Ingestion Rate (dry kg/d): | IRs | 0.0016 | Beyer et al, (1994) as cited in USEPA (1999c), uses 10% soil in diet from range of values. |
| Insect Ingestion Rate (wet kg/d): | IRi | 0.098 | USEPA (1993). Assumed to be 100% of total dietary intake. |
| Site Use Factor: | SUF | 1 | Conservative assumption |

| Constituent | EPC [a] (mg/kg) | | Soil Bioconcentration Factors o Regression Equations [b] Invertebrate | Concentration in Insects (Ci) [c] (mg (wet weight)/kg) Invertebrate | Maximum Estimated Dietary Ingestion [d] mg/kg-BW-day | Toxicity Reference Value (TRV) [e] mg/kg-BW-day | | Maximum Scenario HQ [f] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | NOAEL | LOAEL | NOAEL | LOAEL |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | |
| High Molecular Weight PAHs | 43 | UCL | 2.6 | 18.52 | 23.27 | 10 | 100 | 2 | 0.2 |
| **Pesticides** | | | | | | | | | |
| Dieldrin | 0.043 | max | 14.7 | 0.11 | 0.13 | 0.0709 | 3.78 | 2 | 0.03 |

| | |
|---|---|
| HQ | Hazard Quotient. |
| mg/kg | Milligrams per kilogram. |
| mg/kg-BW-day | Milligrams per kilogram of body weight each day. |
| PAHs | Polycyclic aromatic hydrocarbons. |

[a] The exposure point concentration (EPC) is the upper confidence limit on the mean (UCL) or the maximum (max) concentration.
[b] Soil bioconcentration factors or regression equations are from USEPA EcoSSLs documents (USEPA 2007a,b).
[c] Estimated tissue concentration = concentration in soil x BCF x tissue percent dry weight (16.7% for invertebrates).
[d] ((Cs x IRs)+(Cf x IRf))/BW; Cs= EPC.
[e] TRVs are from EcoSSLs (USEPA 2007b); Trust et al (1994).
[f] HQ = (Estimated Dietary Dose/TRV).

**Table 9-12**
**Food Chain Modeling for the Short-tailed Shrew Using Sediment as Soil [a]**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Parameter | Acronym | Value | Reference |
|---|---|---|---|
| Body Weight (kg): | BW | 0.017 | USEPA (1993). Mean of male and female BWs. |
| Total dietary intake (wet kg/d): | IRf | 0.01 | USEPA (1993). |
| Soil Ingestion Rate (dry kg/d): | IRs | 0.00004 | Beyer et al, (1994) assumes 2.4% soil in diet. |
| Insect Ingestion Rate (wet kg/d): | IRi | 0.01 | USEPA (1993). Assumed to be 100% of total dietary intake. |
| Site Use Factor: | SUF | 1 | Conservative assumption |

| Constituent | EPC [b] (mg/kg) | | Soil Bioconcentration Factors or Regression Equations [c] Invertebrate | Concentration in Insects (Ci) [d] (mg (wet weight)/kg) Invertebrate | Maximum Estimated Dietary Ingestion [e] mg/kg-BW-day | Toxicity Reference Value (TRV) [f] mg/kg-BW-day | | Maximum Scenario HQ [g] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | NOAEL | LOAEL | NOAEL | LOAEL |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | |
| High Molecular Weight PAHs | 362.3 | max | 2.6 | 1.57E+02 | 94.5 | 0.615 | 3.07 | 154 | 31 |
| **Pesticides** | | | | | | | | | |
| Total DDD/DDE/DDT | 0.0565 | max | 11.2 | 1.06E-01 | 0.06 | 0.147 | 0.735 | 0.4 | 0.1 |
| Methoxychlor | 0.11 | max | (10^((0.87*logKow)-2))/(0.01*Koc) | 1.89E-06 | 0.0003 | 2.5 | 50 | 0.00011 | 0.000005 |

| | |
|---|---|
| HQ | Hazard Quotient. |
| Kow | Octanol-water partition coefficient. |
| Koc | Soil organic carbon-water partition coefficient. |
| mg/kg | Milligrams per kilogram. |
| mg/kg-BW-day | Milligrams per kilogram of body weight each day. |
| PAHs | Polycyclic aromatic hydrocarbons. |

[a] The southern short-tailed shrew is a common inhabitant of habitats in the Atlantic Coastal Plain of the eastern United States, including eastern Georgia. In most of these areas, it is among the two or three most abundant species in the small mammal fauna. In addition, exposure parameters for the short-tailed shrew are available in the USEPA's Exposure Factors Handbook (1993). Therefore, the short-tailed shrew is considered an appropriate and conservative surrogate for an invertivore mammal at the site.

[b] The exposure point concentration (EPC) for sediment was the maximum concentration.

Soil bioconcentration factors are from USEPA EcoSSLs document for PAHs and Total DDT (USEPA 2007a,b), and estimated using relationship to Log Kow and Koc presented in

[c] Jager 1998 for other organic constituents. Physical parameters (Log Kow and Koc were obtained from USEPA 2015a).

[d] Estimated tissue concentration = concentration in soil x BCF x tissue percent dry weight (16.7% for invertebrates).

[e] Dose (mg/kg-day) = ((Cs x IRs)+(Cf x IRf))/BW; Cs= EPC

[f] TRVs are from USEPA EcoSSLs document (USEPA 2007a,b) and Sample et al (1996).

[g] HQ = (Estimated Dietary Dose/TRV).

**Table 9-13**
**Food Chain Modeling for the American Robin Using Sediment as Soil**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

| Parameter | Acronym | Value | Reference |
|---|---|---|---|
| Body Weight (kg): | BW | 0.081 | EPA (1993). Mean of male and female BWs. |
| Total dietary intake (wet kg/d): | IRf | 0.098 | EPA (1993). |
| Soil Ingestion Rate (dry kg/d): | IRs | 0.0016 | Beyer et al, (1994) as cited in EPA (1999c), uses 10% soil in diet from range of values. |
| Insect Ingestion Rate (wet kg/d): | IRi | 0.098 | EPA (1993). Assumed to be 100% of total dietary intake. |
| Site Use Factor: | SUF | 1 | Conservative assumption |

| Constituent | EPC [a] (mg/kg) | | Soil Bioconcentration Factors or Regression Equations [b] Invertebrate | Concentration in Insects (Ci) [c] (mg (wet weight)/kg) Invertebrate | Maximum Estimated Dietary Ingestion [d] mg/kg-BW-day | Toxicity Reference Value (TRV) [e] mg/kg-BW-day | | Maximum Scenario HQ [f] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | NOAEL | LOAEL | NOAEL | LOAEL |
| **Polycyclic Aromatic Hydrocarbons** | | | | | | | | | |
| High Molecular Weight PAHs | 362.3 | max | 2.6 | 1.57E+02 | 197.6 | 10 | 100 | 20 | 2 |
| **Pesticides** | | | | | | | | | |
| Total DDD/DDE/DDT | 0.0565 | max | 11.2 | 1.06E-01 | 0.13 | 0.227 | 2.27 | 0.6 | 0.06 |
| Methoxychlor | 0.11 | max | (10^((0.87*logKow)-2))/(0.01*Koc) | 1.89E-06 | 0.0022 | 3.2 | 32 | 0.0007 | 0.00007 |

| | |
|---|---|
| HQ | Hazard Quotient. |
| Kow | Octanol-water partition coefficient. |
| Koc | Soil organic carbon-water partition coefficient. |
| mg/kg | Milligrams per kilogram. |
| mg/kg-BW-day | Milligrams per kilogram of body weight each day. |
| PAHs | Polycyclic aromatic hydrocarbons. |

[a] The exposure point concentration (EPC) for sediment was the maximum concentration.
[b] Soil bioconcentration factors are from USEPA EcoSSLs document for PAHs and Total DDT (USEPA 2007b,c), and estimated using relationship to Log Kow and Koc presented in Jager 1998 for other organic constituents. Physical parameters (Log Kow and Koc were obtained from USEPA 2015a).
[c] Estimated tissue concentration = concentration in soil x BCF x tissue percent dry weight (16.7% for invertebrates).
[d] ((Cs x IRs)+(Cf x IRf))/BW; Cs= EPC.
[e] TRVs are from Patton and Dieter 1980, Trust et al (1994), USEPA EcoSSLs document (USEPA 2007b,c), and Sample et al (1996).
[f] HQ = (Estimated Dietary Dose/TRV).

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**Table 9-14**
**Uncertainties in the Ecological Risk Assessment**
**Ecological Risk Assessment**
**HAA-01 - Former Fire Training Area and DAACG Chlorinated Solvents Area**
**Hunter Army Airfield, Georgia**

| 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. Similarly, limited data used to estimate uptake into organisms may overestimate exposure via the food web. | 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 1996a,b; 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 |
| Bioavailability | 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). | Overestimate of risk |

**Table 9-14**
**Uncertainties in the Ecological Risk Assessment**
**Ecological Risk Assessment**
**HAA-01 - Former Fire Training Area and DAACG Chlorinated Solvents Area**
**Hunter Army Airfield, Georgia**

| Assumptions | Description And Discussion Related To Uncertainties in ERA | Level of Uncertainty |
|---|---|---|
| Adaptation and tolerance | 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 |
| **Hazard Quotients** | | |
| HQs based on maximum | The SLERA HQ is based on the maximum detected concentrations and the most conservative ESVs available (USEPA 1997; 2000d). HQs in the BERA are based on the exposure point concentration (minimum of the UCL and the maximum concentration). | Overestimate of risk |
| 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. |
| UCL | Upper confidence limit. |
| SLERA | Screening level ecological risk assessment. |

**Table 10-1**
**Evaluation of General Response Actions**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Remedial Technology | Remedial Technology Process Option | Effectiveness Evaluation | Implementability Evaluation | Relative Cost Evaluation | Retained? |
|---|---|---|---|---|---|
| No Action | No Action | Not effective | Implementable | No cost | Yes: Required by NCP and USEPA guidance as a baseline for comparison to other process options. |
| Land Use Controls | Governmental Controls | Does not require negotiation, drafting, or recording of parcel-by-parcel proprietary controls. Governmental controls remain effective so long as they are not repealed and are enforced. | HAAF can specify Site uses. | Negligible cost. | Yes. Considered in conjunction with other technologies. |
| | Proprietary Controls | Advisable when restrictions on activities are intended to be long-term or permanent. Requires transfer of property to be enforceable. | Can be implemented without the intervention of any federal, state, or local regulatory authority. | Moderate capital and O&M costs to implement and maintain. | No. Government facility. |
| | Enforcement Tools with Institutional Control Components | Typically only binding on the original signatories of the agreement. Enforceable by USEPA under CERCLA and RCRA or by a state if state enforcement tools are used. | May be easier to establish than proprietary controls because USEPA is not dependent on third parties to establish and enforce them. | Negligible cost. | Yes: Considered in conjunction with other technologies. |
| | Information Devices | Reduces potential for exposure, but does not reduce environmental impacts. | HAAF can specify Site uses. | Negligible cost. | Yes. Considered in conjunction with other technologies. |
| Monitoring | Monitoring - Environmental Media Sampling | Does not reduce COCs or exposure risk. Used to assess effectiveness of remedy. | High: existing well network already in place | Low cost. | Yes. Considered in conjunction with other technologies. |
| | Monitored Natural Attenuation (MNA) | No aggressive remediation is performed; passive remediation of VOCs is monitored. | Requires only enhancement of existing groundwater monitoring program. | Low capital costs due to existing monitoring well network, although enhancement may be required; moderate long- term O&M costs. | Yes: Conventional technology. Considered in conjunction with institutional controls and source treatment. |
| Capping | Vegetative Cover | Moderate: Effective for minimizing surface water infiltration, controlling erosion, and reducing human and ecological exposure. | High: Existing vegetative cover at site would need regular care and maintenance. | Low capital costs associated with vegetative cover care and maintenance. | Yes: Considered in conjunction with institutional controls. |
| Containment | Barriers | Moderate to High: Effective for containment of impacted groundwater. | Low. Tree covered area would make implementation difficult. | High | No. Difficult to implement in DAACG and groundwater impacts in former FTA are localized. |
| Excavation | Excavation | High: Physically removes contaminated media. | High. Former FTA amenable to excavation. | High | Yes |
| Collection | Groundwater Extraction | Moderate to High: Effective for containment of impacted groundwater. | Moderate to High: Requires extraction well network to be installed | High | No: Infrastructure to install extraction well network and treatment system is cost prohibitive. |
| In-Situ Soil Stabilization | Solidification | High: Solidification of impacted soil eliminates leaching and is effective for constituents that cannot be degraded into inert forms. | High. Former FTA amenable to soil solidification. | Moderate | No: Existing grassy vegetative cover in former FTA reduces an already low risk receptor, as identified in HHRA. Site also has no plans for permanent, residential housing. |
| Disposal | Disposal | High: Physically removes contaminated media. | High; used in conjunction with excavation. | Moderate | Yes, in conjunction with excavation. |
| In-Situ Groundwater Treatment | Air Sparge/Soil Vapor Extraction | Effective at treating VOCs. Variable permeability in soil may limit effectiveness | Extensive well network must be installed. Air sparge radius of influence (ROI) limited by low-permeability soil. | High capital and O&M costs due to large network required to cover VOC plume. | No: Infrastructure to install well network and treatment system is cost prohibitive. |
| | Chemical Oxidation | Effective at treating VOCs. Variable permeability in soil may limit effectiveness. | Low-permeability soil may require additional well installs and multiple injection events to achieve full ROI. Health and safety concern during implementation and distribution would be difficult. | High capital and moderate O&M costs. | Yes for DAACG Area: Effective at treating VOCs, although it carries a health and safety risk during implementation.<br>No for former FTA: FTA groundwater impacts are lower in magnitude relative to DAACG Area and do not represent a risk to receptors under current site conditions. |
| | Enhanced Reductive Dechlorination (ERD) | Effective at treating VOCs. Variable permeability in soil may limit effectiveness. Generates persisting reactive zone after injections are completed. | Low-permeability soil may require additional well installs to achieve full ROI. May require permit for injection of substrates. | High capital and moderate O&M costs. | Yes for DAACG Area: Considered in conjunction with MNA and Institutional Controls following implementation.<br>No for former FTA: FTA groundwater impacts are lower in magnitude relative to DAACG Area and do not represent a risk to receptors under current site conditions. |
| Ex-Situ Physical Treatment | Air Stripping | High: Effective for ex-situ remediation of VOCs in groundwater. | Moderate: Proven technology | Moderate to High | No: Considered in conjunction with groundwater extraction, which has not been retained. |
| | Carbon Adsorption | Moderate: Not effective for vinyl chloride but effective for other COCs. | Low to Moderate: Proven and standard technology. | Moderate to High | No: Considered in conjunction with groundwater extraction, which has not been retained. |
| Discharge | Publicly-Owned Treatment Works | High: Requires the lowest level of treatment prior to discharge. | Low: Requires permit for discharge. HAAF does not typically allow discharge to treatment facility. | Moderate | No. Not likely to be acceptable to HAAF. |
| | Groundwater Reinjection | Moderate: Requires high level of treatment to meet discharge standards. Injection rates may be effected by low permeability. | High: Requires permit for discharge to groundwater, treatment system, and well network for extraction and reinjection. | High | No: There is lack of beneficial reuse options on base at HAAF and infrastructure to install treatment system and well network is cost prohibitive. |
| | Surface Water Discharge | Moderate: Requires high level of treatment to meet discharge standards. | Moderate: Requires permit for discharge . | Low | No: Considered in conjunction with groundwater extraction, which has not been retained. |
| | Air Discharge via GAC Air Stripping | High: Effective for site COCs. | High: Proven and standard technology. | Low | No: Considered in conjunction with groundwater extraction, which has not been retained. |

Notes:
Shading indicates that process option will not be retained for further evaluation.
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
COC - constituent of concern
DAACG - Departure/Arrival Airfield Control Group
FTA - Fire Training Area
GAC - granular activated carbon
HAAF - Hunter Army Airfield
H&S - health and safety
HHRA - Human Health Risk Assessment
IDW - investigative derived waste
NCP - National Contingency Plan
O&M - operation and maintenance
RCRA - Resource Conservation and Recovery Act
USEPA - United States Environmental Protection Agency
VOC - volatile organic compound

**Table 10-2A**
**Alternatives Summary and Evaluation – Groundwater**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Evaluation Criteria | | Alternative 1 | Alternative 2 | Alternative 3 | Alternative 4 |
|---|---|---|---|---|---|
| | | No Action | MNA and LUCs | MNA, LUCs, and ERD | MNA, LUCs, and ISCO |
| **Threshold Criteria** | | | | | |
| 1) | Overall protection of human health and the environment | Does not provide overall protection of human health or the environment. Does not minimize, reduce, or control COC impacts or associated exposure risks. Source area RAOs would not be met. | Natural attenuation processes would be monitored while institutional controls would protect against human exposure to impacted groundwater. | ERD will enhance the rate of COC plume degradation while LUCs would protect against human exposure to groundwater impacts. Groundwater monitoring via MNA would be used to assess achievement of RAOs. | ISCO will enhance the rate of COC plume degradation while LUCs would protect against human exposure to groundwater impacts. Groundwater monitoring via MNA would be used to assess achievement of RAOs. |
| 2) | Compliance with ARARs | ARARs are not met with the No Action alternative as no remedy will be implemented | Natural attenuation would occur within an acceptable timeframe to achieve chemical-specific ARARs and would comply with location- and action-specific ARARs. | Natural attenuation and ERD treatment of COCs would occur within an acceptable timeframe to achieve chemical-specific ARARs and would comply with location- and action-specific ARARs | Natural attenuation and ISCO treatment of COCs would occur within an acceptable timeframe to achieve chemical-specific ARARs and would comply with location- and action-specific ARARs |
| **Balancing Criteria** | | | | | |
| 3) | Long-term effectiveness and permanence | Not effective or permanent. Potential exposure risks associated with COCs would remain with no controls or long-term management plan. | MNA and institutional controls would provide adequate and reliable long-term controls to assure exposure does not occur and would quantify the rate of the natural attenuation processes occurring at the site. | Effective in protecting human health and the environment as long as IRZ is well established and LUCs are maintained. | ISCO will treat mass flux of COC plume. As determined by MNA, a second ISCO injection may be necessary to achieve source reduction. |
| 4) | Reduction of mobility, toxicity, or volume | Natural attenuation processes may reduce mobility, toxicity, or volume of source area impacts, although monitoring of these processes would not be performed. | Reduces mobility, toxicity, and volume of VOCs in source area groundwater. | Permanently reduces mobility, toxicity, and volume of COCs via ERD and natural attentuation processes. | Permanently reduces mobility, toxicity, and volume of COCs via ISCO and natural attentuation processes. |
| 5) | Short-term effectiveness | No activities would be implemented that would present potential short-term exposure risks to human health or the environment. | Would result in minimal exposure risks to the community and workers via institutional controls while MNA will track plume migration and ensure that the remedy is protective of potential receptors in the short term. | Substrate injection wells and additional monitoring wells will be needed to monitor IRZ performance. EVO as the substrate injection compound for ERD will not result in additional risks to the community, workers, and the environment. MNA in will track plume migration in the short term. Potential risks are limited to onsite populations. | Requires use of hazardous chemicals that would result in moderate risks to the community, workers, and the environment. This approach would result in rapid oxidation of dissolved phase COCs. |
| 6) | Implementability | This alternative is technically implementable as no action would be taken. | Technically and administratively feasible, as site-wide monitoring well network already exists. | Technically and administratively feasible. Well installation and injection tasks would not interfere with ongoing operations at HAAF. | Technically and administratively feasible. Well installation and injection tasks would not interfere with ongoing operations at HAAF. |
| 7) | Cost | No cost. | $648,813 | $1,176,160 | $1,247,633 |

Notes:
All costs are estimated to an accuracy of +50 percent to -30 percent (per the USEPA Guide to Developing and Documenting Cost Estimates During the Feasibility Study, dated July 2000).

Abbreviations:
ARAR = Applicable or Relevant and Appropriate Requirement
COC = Constituent of Concern
ERD = Enhanced Reductive Dechlorination
EVO = Emulsified Vegetable Oil
IRZ = In-Situ Reactive Zone
ISCO = In-Situ Chemical Oxidation
LUC = Land Use Control
MNA = Monitored Natural Attenuation
RAO = Remedial Action Objective

**Table 10-2B**
**Alternatives Summary and Evaluation – Soil**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Evaluation Criteria | | Alternative 1 | Alternative 2 | Alternative 3 |
|---|---|---|---|---|
| | | No Action | Capping - Vegetative Cover | Excavation and Disposal |
| **Threshold Criteria** | | | | |
| 1) | Overall protection of human health and the environment | Does not provide overall protection of human health or the environment. Does not minimize, reduce, or control COC impacts or associated exposure risks. Source area RAOs would not be met. | Maintaining a vegetative cover would maintain RAOs by limiting exposure to impacted soils while LUCs would also be implemented to protect against current and future human exposure to soil impacts. | Excavation and disposal would maintain RAOs by physically eliminating current and future human exposure to soil impacts. |
| 2) | Compliance with ARARs | ARARs are not met, as no remedy will be implemented. | Alternative 2 would comply with chemical-specific, location-, and action-specific ARARs for soil. | Alternative 3 would comply with chemical-specific, location-, and action-specific ARARs for soil. |
| **Balancing Criteria** | | | | |
| 3) | Long-term effectiveness and permanence | Not effective or permanent. Potential exposure risks associated with COCs would remain with no controls or long-term management plan. | Alternative 2 would achieve long-term effectiveness and permanence through the maintenance of existing vegetative cover and implementation of LUCs. | Alternative 3 would achieve long-term effectiveness and permanence through the elimination of soil COCs. |
| 4) | Reduction of mobility, toxicity, or volume | Natural attenuation processes may reduce mobility, toxicity, or volume of source area impacts, although monitoring of these processes would not be performed. | Erosion control provided by a well-maintained vegetative cover will reduce mobility of COCs. Toxicity, volume, and mass of organic COCs may naturally attenuate over time. | Mobility, toxicity, and volume of soil COCs would completely be eliminated by Alternative 3. |
| 5) | Short-term effectiveness | No activities would be implemented that would present potential short-term exposure risks to human health or the environment. | Implementation would result in minimal exposure risks to the community and workers via LUCs while an existing vegetative cover already provides protection. | Alternative 3 would achieve short-term effectiveness and permanence through the elimination of soil COCs. |
| 6) | Implementability | This alternative is technically implementable as no action would be taken. | Vegetative cover already exists and only requires routine lawn maintenance. | While readily implementable, Alternative 3 may result in air quality effects and hazards from excavation and transportation to the community and workers. |
| 7) | Cost | No cost. | $51,681 | $964,561 |

Notes:
All costs are estimated to an accuracy of +50 percent to -30 percent (USEPA, 2000)

Abbreviations:
ARAR = Applicable or Relevant and Appropriate Requirement
COC = Constituent of Concern
LUC = Land Use Control
MNA = Monitored Natural Attenuation
RAO = Remedial Action Objective

**Table 10-3A**
**Comparative Analysis Score – Groundwater**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Alternative No. | | Alternative 1 (DAACG and Former FTA) | Alternative 2 (Former FTA) | Alternative 3 (DAACG Area) | Alternative 4 (DAACG Area) |
|---|---|---|---|---|---|
| **Remedial Timeframes and Lifecycle Costs (1)** | | | | | |
| 1) | Remedy Name | No Action | MNA and LUCs | ERD in source area with downgradient MNA and LUCs | ISCO in source area with downgradient MNA and LUCs |
| 2) | Estimated Remedial Timeframe | 30 years | 10 years | 5 years | 5 years |
| 3) | Estimated Lifecycle Costs | | | | |
| **Remedy Performance Evaluation Ranking (2)** | | | | | |
| 1) | Overall protection of human health and the environment | **4** | **1** | **1** | **1** |
| 2) | Compliance with applicable regulations | **4** | **2** | **2** | **2** |
| 3) | Long-term effectiveness and permanence | **4** | **2** | **1** | **2** |
| 4) | Reduction of toxicity, mobility, and volume | **4** | **2** | **1** | **1** |
| 5) | Short-term effectiveness | **4** | **3** | **2** | **1** |
| 6) | Implementability | **4** | **2** | **2** | **3** |
| 7) | Relative Cost | **1** | **2** | **2** | **3** |
| 8) | Community Acceptance | **4** | **2** | **1** | **1** |
| | Total Ranking Score (Lowest score is the best performing) | **29** | **16** | **12** | **14** |
| | Average Score (Lowest score is the best performing) | **3.6** | **2.0** | **1.5** | **1.8** |

Notes:
(1) Includes an opinion of probable cost for capital expenses related to system installation, operations and maintenance, and management for the project lifecycle.
(2) Performance Ranking Scale:
1 = Most Favorable
4 = Least Favorable

Abbreviations:
DAACG = Departure/Arrival Airfield Control Group
ERD = Enhanced Reductive Dechlorination
FTA = Fire Training Area
ISCO = In Situ Chemical Oxidation
LUC = Land Use Control
MNA = Monitored Natural Attenuation

**Table 10-3B**
**Comparative Analysis Score – Soil**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvents Area) RI/FS**
**Hunter Army Airfield, Georgia**

| Alternative No. | | Alternative 1 | Alternative 2 |
|---|---|---|---|
| **Remedial Timeframes and Lifecycle Costs (1)** | | | |
| 1) | Remedy Name | No Action | Vegetative Cover and LUCs |
| 2) | Estimated Remedial Timeframe | 30 years | 30 years |
| 3) | Estimated Lifecycle Costs | | |
| **Remedy Performance Evaluation Ranking (2)** | | | |
| 1) | Overall protection of human health and the environment | **4** | **2** |
| 2) | Compliance with applicable regulations | **4** | **2** |
| 3) | Long-term effectiveness and permanence | **4** | **3** |
| 4) | Reduction of toxicity, mobility, and volume | **4** | **3** |
| 5) | Short-term effectiveness | **4** | **3** |
| 6) | Implementability | **4** | **2** |
| 7) | Relative Cost | **1** | **2** |
| 8) | Community Acceptance | **4** | **3** |
| | Total Ranking Score (Lowest score is the best performing) | **29** | **20** |
| | Average Score (Lowest score is the best performing) | **3.6** | **2.5** |

Notes:
(1) Includes an opinion of probable cost for capital expenses related to system installation, operations and maintenance, and management for the project lifecycle.
(2) Performance Ranking Scale:
1 = Most Favorable
4 = Least Favorable

Abbreviations:
LUC = Land Use Control

# FIGURES

HUNTER ARMY AIRFIELD, GEORGIA

**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

## Site Location Map

PIKA ARCADIS a joint venture

FIGURE **2-1**

CITY: CITRIX DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: KSINSABAUGH
PROJECT: 10153001.0001.EE001 PATH: Z:\GISPROJECTS_ENV\HAAF_PIKA\MAPDOCS\H01\2017\H01 RIFS\F2-1 H01_RIFS REG.MXD SAVED: 6/19/2017

CITY: CITRIX DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: KSINSABAUGH
PROJECT: 10153001.0001.EE001 PATH: Z:\GISPROJECTS_ENV\HAAF_PIKA\MAPDOCS\H01\2017\H01 RIFS\F2-2 H01_RIFS SITE.MXD SAVED: 6/19/2017

PROJECTION: NAD83 StatePlane Georgia East Feet
AERIAL SOURCE: SAGIS (2008).

**LEGEND**

- Storm Water Drainage Canal
- Monitoring Well (shallow) (yellow and grey where abandoned)
- Monitoring Well (deep) (yellow and grey where abandoned)
- Injection Well
- Observation Well
- Surface Water/Sediment Sample (December 2014)

0 100 200
SCALE IN FEET

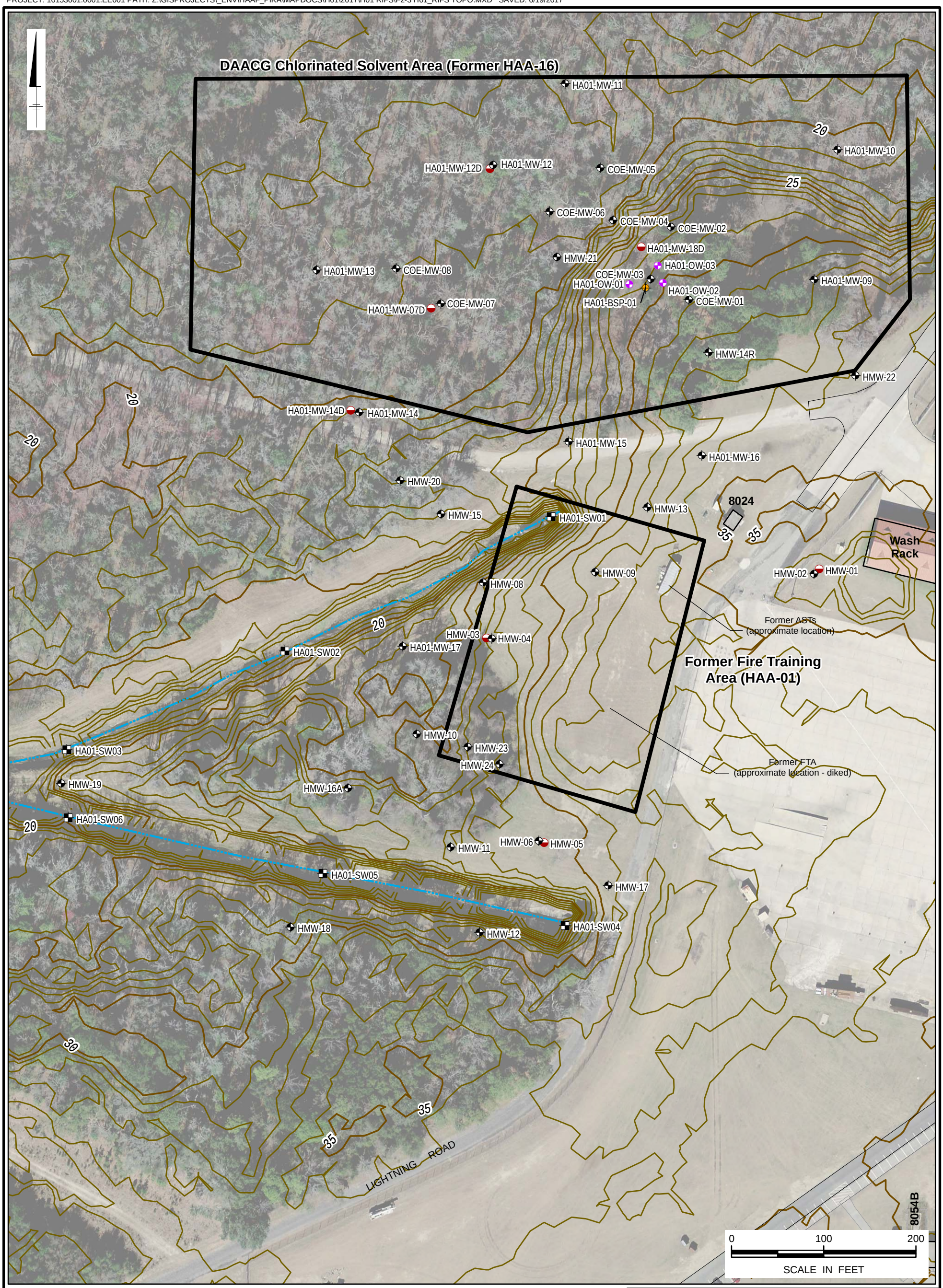
HUNTER army AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Site Map**

PIKA ARCADIS a joint venture

FIGURE
**2-2**

CITY: CITRIX DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: KSINSABAUGH
PROJECT: 10153001.0001.EE001 PATH: Z:\GISPROJECTS_ENV\HAAF_PIKA\MAPDOCS\H01\2017\H01 RIFS\F2-3 H01_RIFS TOPO.MXD SAVED: 6/19/2017




PROJECTION: NAD83 StatePlane Georgia East Feet
AERIAL SOURCE: SAGIS (2008).

**LEGEND**

- Storm Water Drainage Canal
- Topographic Contour (ft amsl) (1 foot)
- Monitoring Well (shallow)
- Monitoring Well (deep)
- Injection Well
- Observation Well
- Surface Water/Sediment Sample

HUNTER army AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Topographic Map**

PIKA ARCADIS a joint venture

FIGURE
**2-3**

CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) LD:(B.ALTOM) PIC:(T.TALELE) PM:(C. BERTZ) APM:(A.DAVIS)
C:\ENVCAD\SYRACUSE\ACT\101530010001\EE0001\DWG\53001V01.dwg LAYOUT: AA SAVED: 6/22/2017 1:24 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: C-LB-PDF-GMS PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 6/22/2017 1:30 PM BY: STOWELL, GARY
XREFS: IMAGES: PROJECT: GP08HAFS.H01C
53001X01.jpg
53001X02.jpg
53001X03.jpg
53001X04.jpg

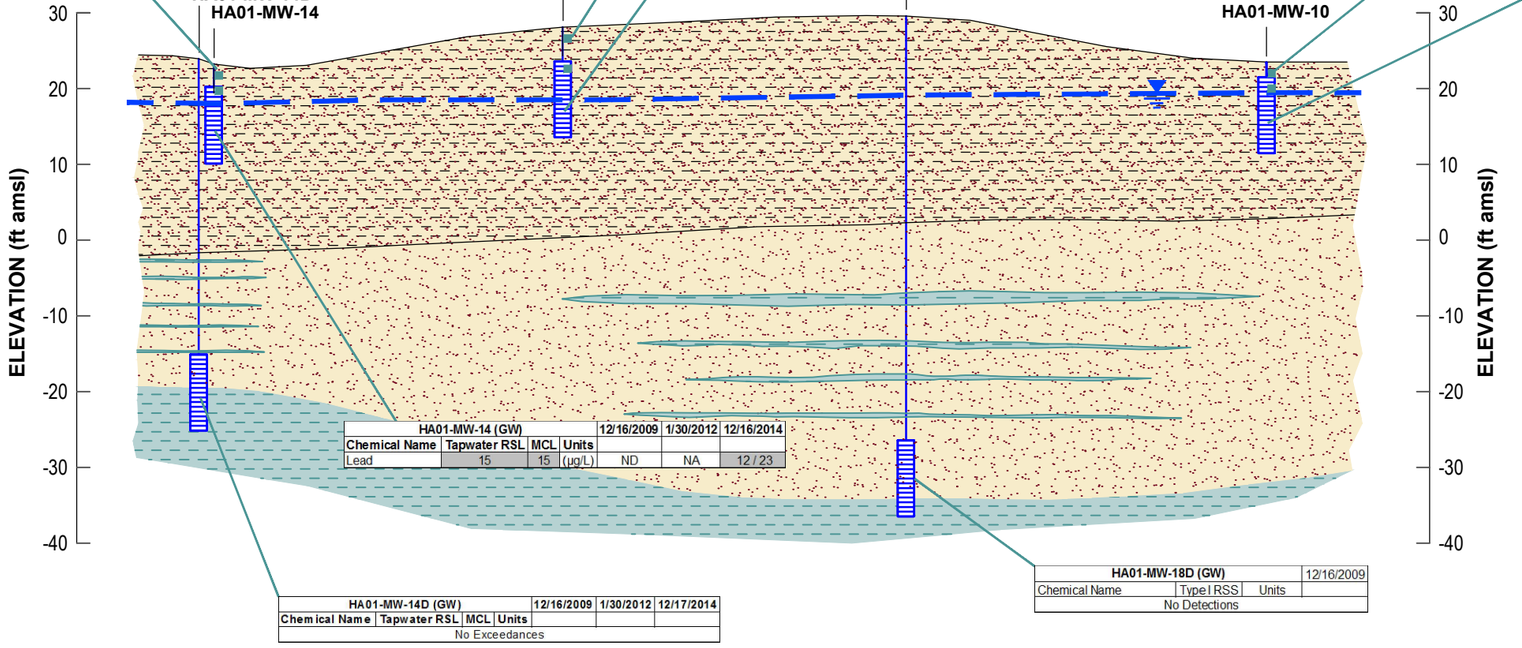
| HA01-MW-14 (soil) | | | | | 11/6/2009 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (1-2') | (3-4') |
| Arsenic | 670 | 3000 | 2600 | (µg/kg) | 1700 | 470 J |
| Chromium | -- | -- | 7700 | (µg/kg) | 8600 | 1400 |

| HA01-MW-15 (soil) | | | | | 11/5/2009 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (1-2') | (5-6') |
| Arsenic | 670 | 3000 | 2600 | (µg/kg) | 1400 | 720 |

| HA01-MW-15 (GW) | | | | 12/17/2009 | 1/25/2011 | 12/17/2014 |
|---|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | | |
| No Exceedances | | | | | | |

| HA01-MW-10 (soil) | | | | | 11/9/2009 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (1-2') | (5-6') |
| Arsenic | 670 | 3000 | 2600 | (µg/kg) | 1000 | 470 J |

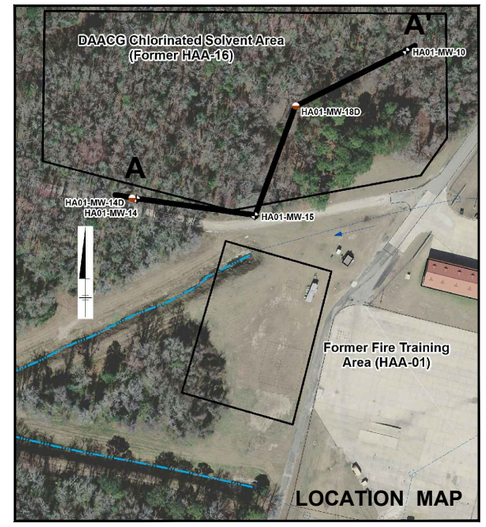
| HA01-MW-10 (GW) | | | | 12/17/2009 | 1/25/2011 | 12/22/2014 |
|---|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | | |
| No Exceedances | | | | | | |




| HA01-MW-14 (GW) | | | | 12/16/2009 | 1/30/2012 | 12/16/2014 |
|---|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | | |
| Lead | 15 | 15 | (µg/L) | ND | NA | 12 / 23 |

| HA01-MW-14D (GW) | | | | 12/16/2009 | 1/30/2012 | 12/17/2014 |
|---|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | | |
| No Exceedances | | | | | | |

| HA01-MW-18D (GW) | | | 12/16/2009 |
|---|---|---|---|
| Chemical Name | Type I RSS | Units | |
| No Detections | | | |




0 20 40
VERTICAL SCALE IN FEET

0 100 200
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

## LEGEND

- SAND
- SILTY SAND / CLAYEY SAND
- SILTY CLAY / CLAY
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- SOIL SAMPLE

NOTES:
1) ND - Not detected above the method detection limit.
2) NA - Not analyzed
3) J - constituent concentration is estimated.
4) µg/L - micrograms per liter.
5) µg/kg - micrograms per kilogram.
6) MCL - United States Environmental Protection Agency (USEPA) Maximum Contaminant Level.
7) Tapwater RSL - USEPA Region 4 Tapwater Regional Screening Level (RSL). If an MCL has not been established for a constituent, the Tapwater RSL is used instead.
8) Surface soil samples collected between 0-2' are screened against the USEPA Residential RSLs. Subsurface soil samples collected below 2' are screened against the USEPA Industrial RSLs.
9) UBC - Upper Background Concentration.
10) Constituents that exceed their applicable screening criteria are shaded gray.
11) Elevations of soil borings are unknown.
12) Not all compounds analyzed or detected are shown. Only compounds exceeding applicable screening criteria are shown.

HUNTER ARMY AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Geologic Cross-Section A-A'**

ARCADIS Design & Consultancy for natural and built assets

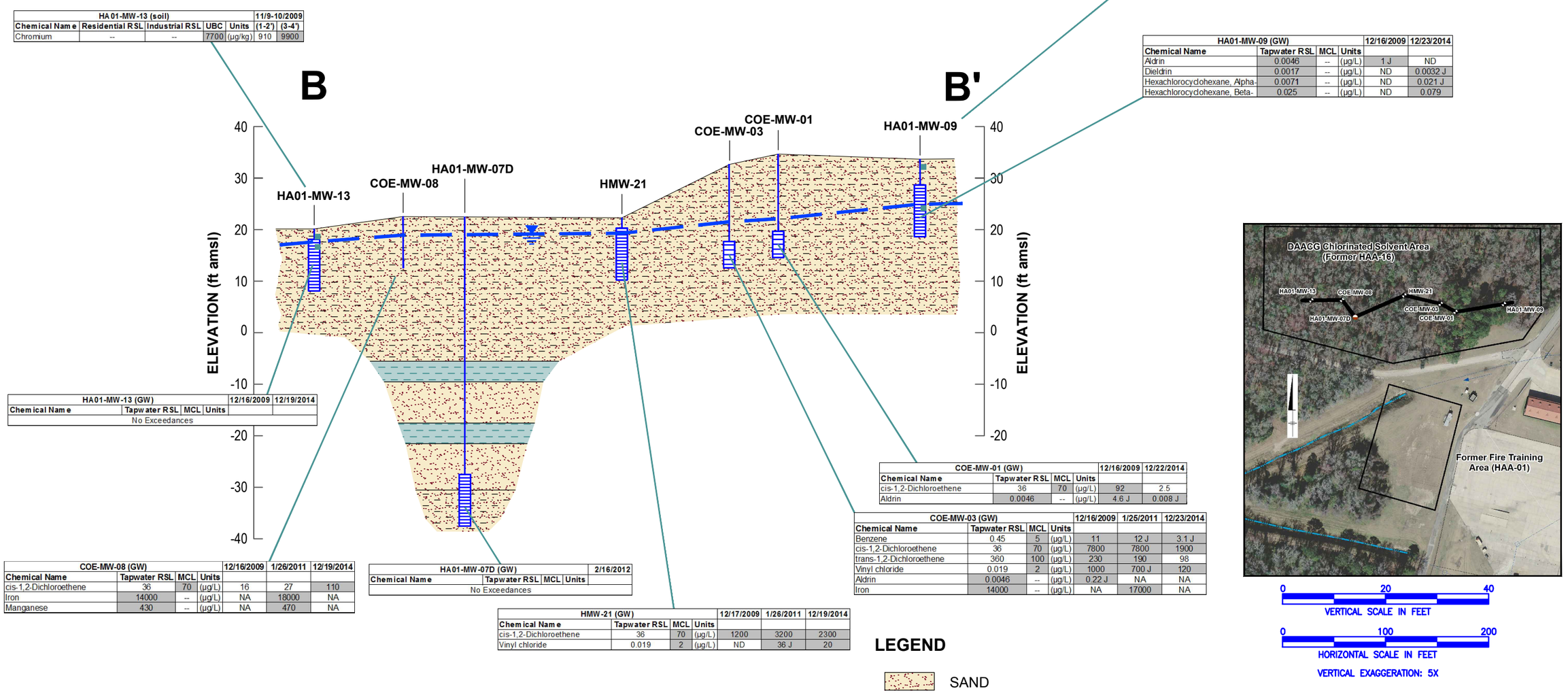
FIGURE
**3-1a**

CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) DB:() LD:(B.ALTOM) PIC:(T.TALELE) PM:(C. BERTZ) APM:(A.DAVIS)
C:\ENVCAD\SYRACUSE\ACT\101530010\0001\EE001\DWG\53001V01.dwg LAYOUT: BB SAVED: 6/22/2017 1:24 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: C-LB-PDF-GMS PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 6/22/2017 1:31 PM BY: STOWELL, GARY
XREFS: PROJECT: GP08HAFS.H01C
IMAGES: 53001X01.jpg 53001X02.jpg 53001X03.jpg 53001X04.jpg

| HA01-MW-13 (soil) | | | | | 11/9-10/2009 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (1-2') | (3-4') |
| Chromium | -- | -- | 7700 | (µg/kg) | 910 | 9900 |

| HA01-MW-09 (soil) | | | | | 11/4/2009 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (1-2') | (9-10') |
| No Exceedances | | | | | | |

| HA01-MW-09 (GW) | | | | 12/16/2009 | 12/23/2014 |
|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | |
| Aldrin | 0.0046 | -- | (µg/L) | 1 J | ND |
| Dieldrin | 0.0017 | -- | (µg/L) | ND | 0.0032 J |
| Hexachlorocyclohexane, Alpha- | 0.0071 | -- | (µg/L) | ND | 0.021 J |
| Hexachlorocyclohexane, Beta- | 0.025 | -- | (µg/L) | ND | 0.079 |




| HA01-MW-13 (GW) | | | | 12/16/2009 | 12/19/2014 |
|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | |
| No Exceedances | | | | | |

| COE-MW-08 (GW) | | | | 12/16/2009 | 1/26/2011 | 12/19/2014 |
|---|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | | |
| cis-1,2-Dichloroethene | 36 | 70 | (µg/L) | 16 | 27 | 110 |
| Iron | 14000 | -- | (µg/L) | NA | 18000 | NA |
| Manganese | 430 | -- | (µg/L) | NA | 470 | NA |

| HA01-MW-07D (GW) | | | | 2/16/2012 |
|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | |
| No Exceedances | | | | |

| HMW-21 (GW) | | | | 12/17/2009 | 1/26/2011 | 12/19/2014 |
|---|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | | |
| cis-1,2-Dichloroethene | 36 | 70 | (µg/L) | 1200 | 3200 | 2300 |
| Vinyl chloride | 0.019 | 2 | (µg/L) | ND | 36 J | 20 |

| COE-MW-01 (GW) | | | | 12/16/2009 | 12/22/2014 |
|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | |
| cis-1,2-Dichloroethene | 36 | 70 | (µg/L) | 92 | 2.5 |
| Aldrin | 0.0046 | -- | (µg/L) | 4.6 J | 0.008 J |

| COE-MW-03 (GW) | | | | 12/16/2009 | 1/25/2011 | 12/23/2014 |
|---|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | | |
| Benzene | 0.45 | 5 | (µg/L) | 11 | 12 J | 3.1 J |
| cis-1,2-Dichloroethene | 36 | 70 | (µg/L) | 7800 | 7800 | 1900 |
| trans-1,2-Dichloroethene | 360 | 100 | (µg/L) | 230 | 190 | 98 |
| Vinyl chloride | 0.019 | 2 | (µg/L) | 1000 | 700 J | 120 |
| Aldrin | 0.0046 | -- | (µg/L) | 0.22 J | NA | NA |
| Iron | 14000 | -- | (µg/L) | NA | 17000 | NA |




0 20 40
VERTICAL SCALE IN FEET

0 100 200
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

## LEGEND

- SAND
- SILTY SAND / CLAYEY SAND
- SILTY CLAY / CLAY
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- SOIL SAMPLE

NOTES:
1) ND - Not detected above the method detection limit.
2) NA - Not analyzed
3) J - constituent concentration is estimated.
4) µg/L - micrograms per liter.
5) µg/kg - micrograms per kilogram.
6) MCL - United States Environmental Protection Agency (USEPA) Maximum Contaminant Level.
7) Tapwater RSL - USEPA Region 4 Tapwater Regional Screening Level (RSL). If an MCL has not been established for a constituent, the Tapwater RSL is used instead.
8) Surface soil samples collected between 0-2' are screened against the USEPA Residential RSLs. Subsurface soil samples collected below 2' are screened against the USEPA Industrial RSLs.
9) UBC - Upper Background Concentration.
10) Constituents that exceed their applicable screening criteria are shaded gray.
11) Elevations of soil borings are unknown.
12) Not all compounds analyzed or detected are shown. Only compounds exceeding applicable screening criteria are shown.

HUNTER ARMY AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Geologic Cross-Section B-B'**

ARCADIS Design & Consultancy for natural and built assets

FIGURE
**3-1b**

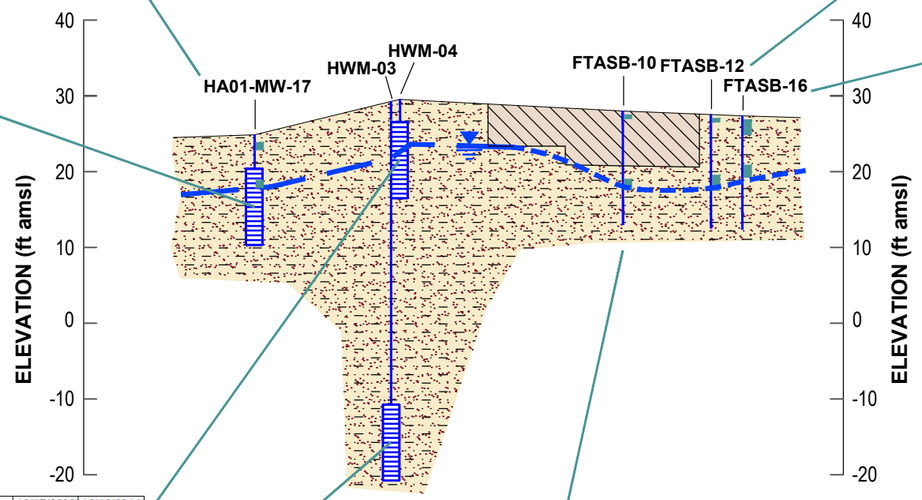
CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) DB:() LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(A.DAVIS)
C:\ENVCAD\SYRACUSE\ACT\101530010\000\1EE0011DWG\53001V01.dwg LAYOUT: CC SAVED: 6/22/2017 1:24 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: C:\LB-PDF-GMS PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 6/22/2017 1:31 PM BY: STOWELL, GARY
XREFS: IMAGES: 53001X01.jpg 53001X02.jpg 53001X03.jpg 53001X04.jpg
PROJECT: GP08HAFS.H01C

| HA01-MW-17 (soil) | | | | | 11/4/2009 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (1-2') | (6-7') |
| Arsenic | 670 | 3000 | 2600 | (µg/kg) | 730 | ND |
| Chromium | -- | -- | 7700 | (µg/kg) | 1800 | 9300 |

| HA01-MW-17 (GW) | | | | 12/17/2009 | 12/16/2014 |
|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | |
| No Exceedances | | | | | |

| HMW-04 (GW) | | | | 12/17/2009 | 12/16/2014 |
|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | |
| No Exceedances | | | | | |

| HMW-03 (GW) | | | | 10/6/1995 |
|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | |
| Cadmium | 9.2 | 5 | (µg/L) | 10 |

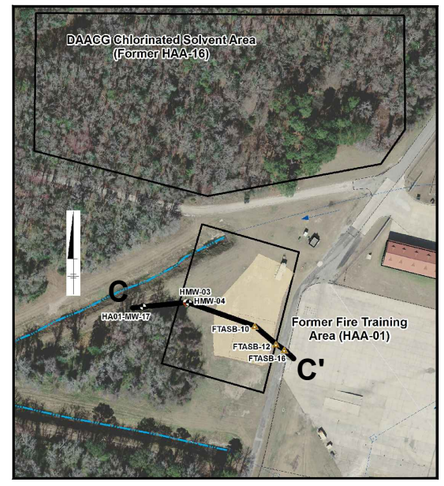



| FTASB-10 (soil) | | | | | 8/24/1995 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (0.5-1') | (9-10.4') |
| Benzene | 1200 | 5100 | -- | (µg/kg) | ND | 18000 |
| Ethylbenzene | 5800 | 25000 | -- | (µg/kg) | 7 | 120000 |
| Benzo(a)pyrene | 15 | 290 | -- | (µg/kg) | 77 J | ND |
| Benzo(b)fluoranthene | 150 | 2900 | -- | (µg/kg) | 180 J | ND |
| Naphthalene | 3800 | 17000 | -- | (µg/kg) | 1600 | 79000 J |
| Arsenic | 670 | 3000 | 2600 | (µg/kg) | 1820 | 670 J |
| Chromium | -- | -- | 7700 | (µg/kg) | 14700 | 2100 J |

| FTASB-12 (soil) | | | | | 8/24/1995 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (0.5-1') | (8-10') |
| Ethylbenzene | 5800 | 25000 | -- | (µg/kg) | 65 J | 61000 |
| Xylenes (total) | 58000 | 250000 | -- | (µg/kg) | 310 J | 260000 |
| Benz(a)anthracene | 150 | 2900 | -- | (µg/kg) | 210 J | 300 J |
| Benzo(a)pyrene | 15 | 290 | -- | (µg/kg) | 190 J | ND |
| Benzo(b)fluoranthene | 150 | 2900 | -- | (µg/kg) | 420 J | ND |
| Indeno(1,2,3-cd)pyrene | 150 | 2900 | -- | (µg/kg) | 160 J | ND |
| Naphthalene | 3800 | 17000 | -- | (µg/kg) | 3400 | 35000 |
| Arsenic | 670 | 3000 | 2600 | (µg/kg) | 1070 | 800 J |

| FTASB-16 (soil) | | | | | 10/4/1995 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (0.5-2.5') | (6.5-8.1') |
| Arsenic | 670 | 3000 | 2600 | (µg/kg) | 1430 | 1290 JQ |

## LOCATION MAP




0 20 40
VERTICAL SCALE IN FEET

0 100 200
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

## LEGEND

- 1997 EXCAVATION AREA
- SILTY SAND / CLAYEY SAND
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- ESTIMATED WATER TABLE
- SOIL SAMPLE

NOTES:
1) ND - Not detected above the method detection limit.
2) NA - Not analyzed
3) J - constituent concentration is estimated.
4) Q values exceed quality control.
5) µg/L - micrograms per liter.
6) µg/kg - micrograms per kilogram.
7) MCL - United States Environmental Protection Agency (USEPA) Maximum Contaminant Level.
8) Tapwater RSL - USEPA Region 4 Tapwater Regional Screening Level (RSL). If an MCL has not been established for a constituent, the Tapwater RSL is used instead.
9) Surface soil samples collected between 0-2' are screened against the USEPA Residential RSLs. Subsurface soil samples collected below 2' are screened against the USEPA Industrial RSLs.
10) UBC - Upper Background Concentration.
11) Constituents that exceed their applicable screening criteria are shaded gray.
12) Elevations of soil borings are unknown.
13) Not all compounds analyzed or detected are shown. Only compounds exceeding applicable screening criteria are shown.

HUNTER ARMY AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Geologic Cross-Section C-C'**

ARCADIS Design & Consultancy for natural and built assets

FIGURE
**3-1c**

| HMW-11 (soil) | | | | | 10/3/1995 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (2-4') | (6-8') |
| Benz(a)anthracene | 150 | 2900 | -- | (µg/kg) | 8000 | 3600 |
| Benzo(a)pyrene | 15 | 290 | -- | (µg/kg) | 5700 | 3200 |
| Benzo(b)fluoranthene | 150 | 2900 | -- | (µg/kg) | 12000 | 4900 |
| Indeno(1,2,3-cd)pyrene | 150 | 2900 | -- | (µg/kg) | 2200 | 1300 |
| Arsenic | 670 | 3000 | 2600 | (µg/kg) | 840 JQ | 750 JQ |
| Chromium | -- | -- | 7700 | (µg/kg) | 8100 | 7500 |

| FTASB-10 (soil) | | | | | 8/24/1995 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (0.5-1') | (9-10.4') |
| Benzene | 1200 | 5100 | -- | (µg/kg) | ND | 18000 |
| Ethylbenzene | 5800 | 25000 | -- | (µg/kg) | 7 | 120000 |
| Benzo(a)pyrene | 15 | 290 | -- | (µg/kg) | 77 J | ND |
| Benzo(b)fluoranthene | 150 | 2900 | -- | (µg/kg) | 180 J | ND |
| Naphthalene | 3800 | 17000 | -- | (µg/kg) | 1600 | 79000 J |
| Arsenic | 670 | 3000 | 2600 | (µg/kg) | 1820 | 670 J |
| Chromium | -- | -- | 7700 | (µg/kg) | 14700 | 2100 J |

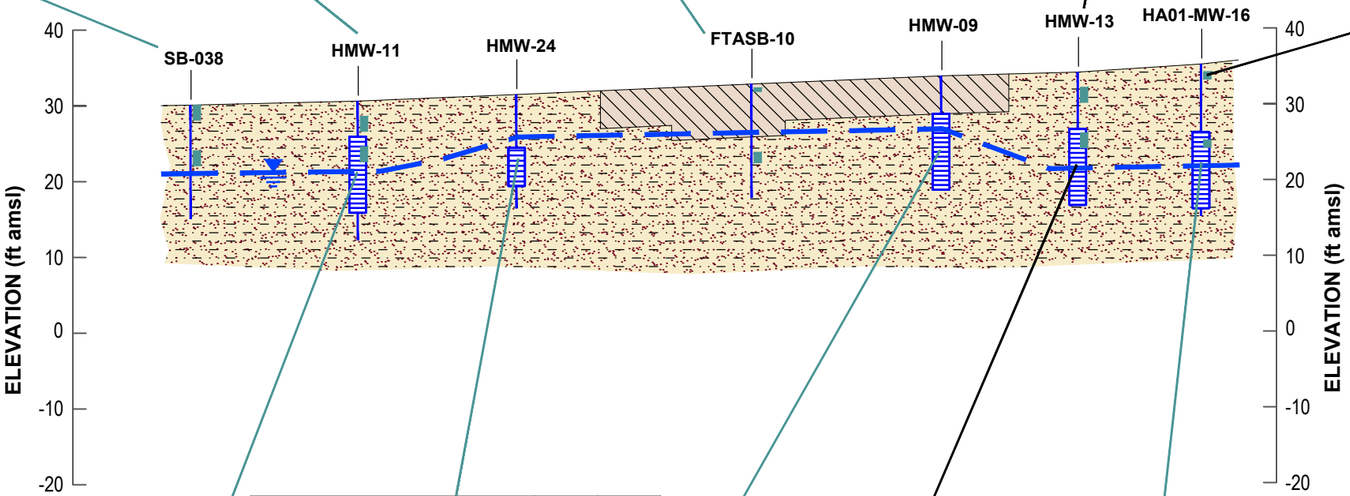
| HMW-13 (soil) | | | | | 10/3/1995 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (2-4') | (8-10') |
| Benzene | 1200 | 5100 | -- | (µg/kg) | 1900 | 44 |
| Ethylbenzene | 5800 | 25000 | -- | (µg/kg) | 65000 | 540 |
| Xylenes (total) | 58000 | 250000 | -- | (µg/kg) | 310000 | 3100 |
| 2-Methylnaphthalene | 23000 | 300000 | -- | (µg/kg) | 32000 | 280 JQ |
| Naphthalene | 3800 | 17000 | -- | (µg/kg) | 22000 | 220 JQ |
| Arsenic | 670 | 3000 | 2600 | (µg/kg) | 720 JQ | 600 JQ |
| Chromium | -- | -- | 7700 | (µg/kg) | 3000 JQ | 31700 |

| SB-038 (soil) | | | | | 1/4/2000 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (0-2') | (3.5-5.5') |
| Benz(a)anthracene | 150 | 2900 | -- | (µg/kg) | 15000 | ND |
| Benzo(a)pyrene | 15 | 290 | -- | (µg/kg) | 9900 | ND |
| Benzo(b)fluoranthene | 150 | 2900 | -- | (µg/kg) | 8600 | ND |
| Benzo(k)fluoranthene | 1500 | 29000 | -- | (µg/kg) | 9400 | ND |
| Dibenz(a,h)anthracene | 15 | 290 | -- | (µg/kg) | 3100 | ND |
| Indeno(1,2,3-cd)pyrene | 150 | 2900 | -- | (µg/kg) | 5600 J | ND |

| HA01-MW-16 (soil) | | | | | 11/4/2009 | |
|---|---|---|---|---|---|---|
| Chemical Name | Residential RSL | Industrial RSL | UBC | Units | (1-2') | (10-11') |
| No Exceedances | | | | | | |

D

D'




## LEGEND

- 1997 EXCAVATION AREA
- SILTY SAND / CLAYEY SAND
- MONITOR WELL SCREENED INTERVAL
- APPROXIMATE WATER TABLE
- SOIL SAMPLE

| HMW-24 (GW) | | | | 12/17/2009 | 12/17/2014 |
|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | |
| 1,1,2,2-Tetrachloroethane | 0.076 | -- | (µg/L) | ND | 0.16 J |
| Benzene | 0.45 | 5 | (µg/L) | 4.9 | 6.1 |
| Naphthalene | 0.17 | -- | (µg/L) | 3.2 | ND |

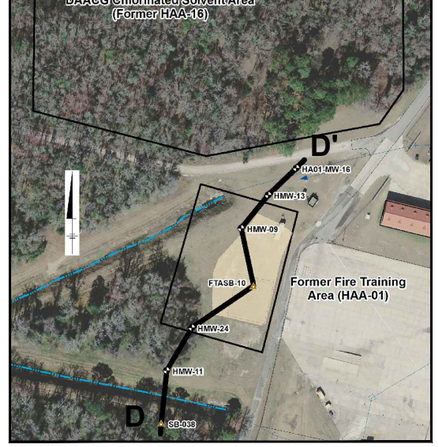
| HMW-09 (GW) | | | | 12/16/2009 | 1/25/2011 | 12/23/2014 |
|---|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | | |
| Benzene | 0.45 | 5 | (µg/L) | ND | 6.1 | 0.44 J |
| Naphthalene | 0.17 | -- | (µg/L) | NA | NA | 4.1 |
| Iron | 14000 | -- | (µg/L) | NA | 16000 | NA |

| HMW-11 (GW) | | | | 12/16/2009 | 12/16/2014 |
|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | |
| 1,1,2,2-Tetrachloroethane | 0.076 | -- | (µg/L) | ND | 0.16 J |

| HMW-13 (GW) | | | | 12/17/2009 | 1/25/2011 | 12/16/2014 |
|---|---|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | | | |
| 1,1,2,2-Tetrachloroethane | 0.076 | -- | (µg/L) | 0.84 | ND | 0.34 J |
| 1,1,2-Trichloroethane | 0.28 | 5 | (µg/L) | ND | 8.5 | ND |
| Benzene | 0.45 | 5 | (µg/L) | 56 | 13 | 30 |
| Benzo(b)fluoranthene | 0.034 | -- | (µg/L) | 0.25 J | NA | ND |
| Indeno(1,2,3-cd)pyrene | 0.034 | -- | (µg/L) | 0.43 J | NA | ND |
| Naphthalene | 0.17 | -- | (µg/L) | 100 | NA | 88 |
| Iron | 14000 | -- | (µg/L) | NA | 36000 | NA |
| Manganese | 430 | -- | (µg/L) | NA | 1800 | NA |

| HA01-MW-16 (GW) | | | | 12/17/2009 |
|---|---|---|---|---|
| Chemical Name | Tapwater RSL | MCL | Units | |
| No Exceedances | | | | |

## LOCATION MAP




NOTES:
1) ND - Not detected above the method detection limit.
2) NA - Not analyzed
3) J - constituent concentration is estimated.
4) Q values exceed quality control.
5) µg/L - micrograms per liter.
6) µg/kg - micrograms per kilogram.
7) MCL - United States Environmental Protection Agency (USEPA) Maximum Contaminant Level.
8) Tapwater RSL - USEPA Region 4 Tapwater Regional Screening Level (RSL). If an MCL has not been established for a constituent, the Tapwater RSL is used instead.
9) Surface soil samples collected between 0-2' are screened against the USEPA Residential RSLs. Subsurface soil samples collected below 2' are screened against the USEPA Industrial RSLs.
10) UBC - Upper Background Concentration.
11) Constituents that exceed their applicable screening criteria are shaded gray.
12) Elevations of soil borings are unknown.
13) Not all compounds analyzed or detected are shown. Only compounds exceeding applicable screening criteria are shown.

0 20 40
VERTICAL SCALE IN FEET

0 100 200
HORIZONTAL SCALE IN FEET

VERTICAL EXAGGERATION: 5X

HUNTER army AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

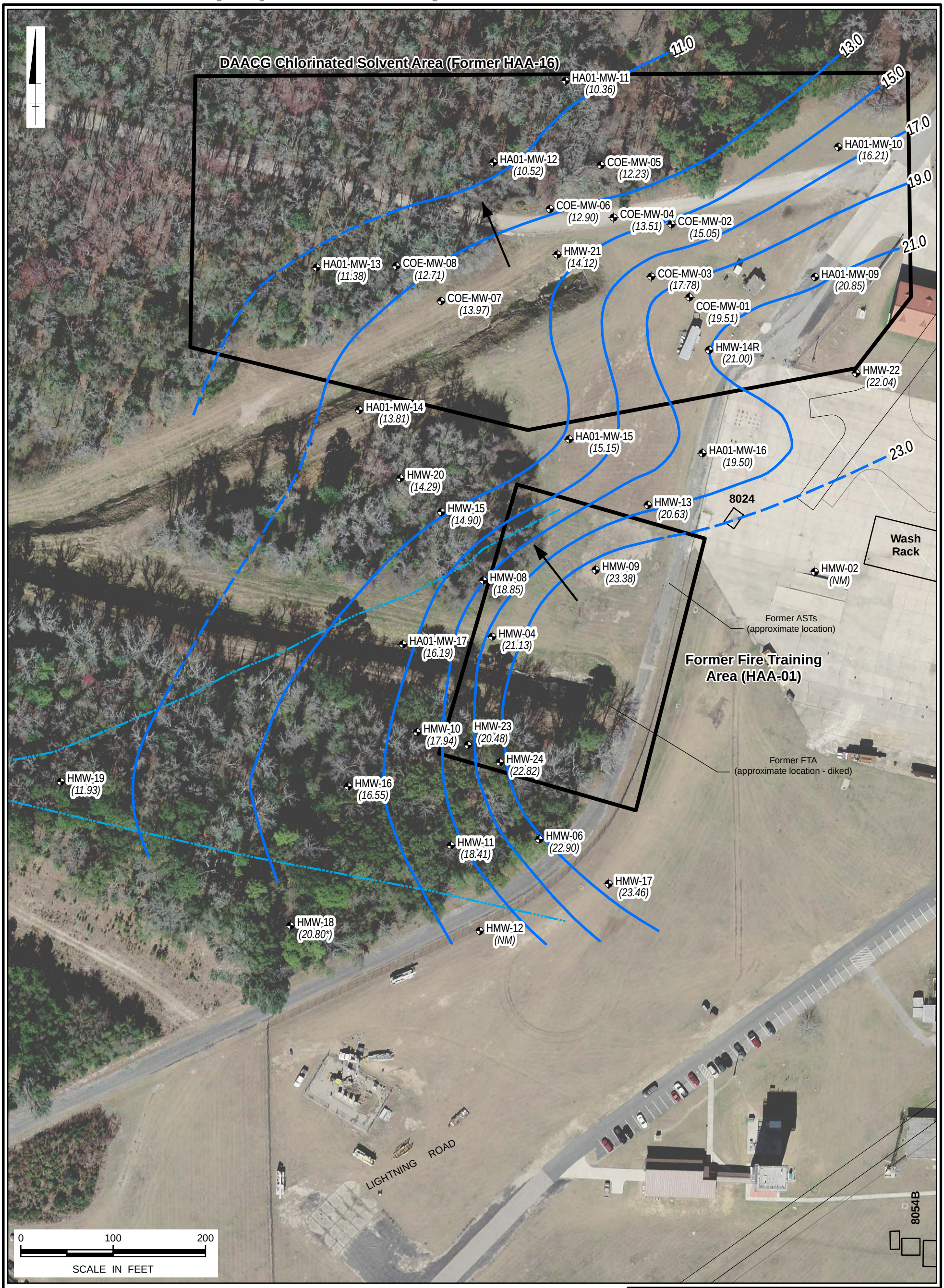
**Geologic Cross-Section D-D'**

ARCADIS Design & Consultancy for natural and built assets

FIGURE
**3-1d**

CITY: (KNOXVILLE) DIV/GROUP: (ENV/GIS) DB:() LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(A.DAVIS)
C:\ENVCAD\SYRACUSE\ACTIVITY\015300\1000\EE0001\DWG\53001V01.dwg LAYOUT: DD SAVED: 6/22/2017 1:24 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: C-LB-PDF-GMS PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 6/22/2017 1:31 PM BY: STOWELL, GARY
XREFS: PROJECT: GP08HAFS.H01C
IMAGES: 53001X01.jpg 53001X02.jpg 53001X03.jpg 53001X04.jpg

CITY: CITRIX DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: KSINSABAUGH
PROJECT: 10153001.0001.EE001 PATH: Z:\GISPROJECTS_ENV\HAAF_PIKA\MAPDOCS\H01\2017\H01 RIFS\F3-2A H01_RIFS 201412 POT S.MXD SAVED: 6/19/2017




PROJECTION: NAD83 StatePlane Georgia East Feet
AERIAL SOURCE: SAGIS (2008).

**LEGEND**

- Storm Water Drainage Canal
- Monitoring Well (shallow)
- (NS) Not Surveyed
- (NM) Not Measured
- ft amsl - feet above mean sea level
- (21.80*) Not Used to Construct Contours
- (11.93) Groundwater Elevation (ft amsl) Measured December 12, 2014
- Groundwater Contour (ft amsl)
- Inferred where dashed
- Direction of Groundwater Flow

HUNTER ARMY AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Shallow Potentiometric Surface Map (December 2014)**

PIKA ARCADIS a joint venture

FIGURE
**3-2a**

CITY: CITRIX DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: KSINSABAUGH
PROJECT: 10153001.0001.EE001 PATH: Z:\GISPROJECTS_ENV\HAAF_PIKA\MAPDOCS\H01\2017\H01 RIFS\F3-2B H01_RIFS 201412 POT D.MXD SAVED: 6/19/2017

PROJECTION: NAD83 StatePlane Georgia East Feet
AERIAL SOURCE: SAGIS (2008).

**LEGEND**

- Storm Water Drainage Canal
- Monitoring Well (deep)
- *(NS)* Not Surveyed
- *(NM)* Not Measured
- *(21.74)* Groundwater Elevation (ft amsl) Measured December 12, 2014
- Groundwater Contour (ft amsl)
- Inferred where dashed
- Direction of Groundwater Flow

ft amsl - feet above mean sea level

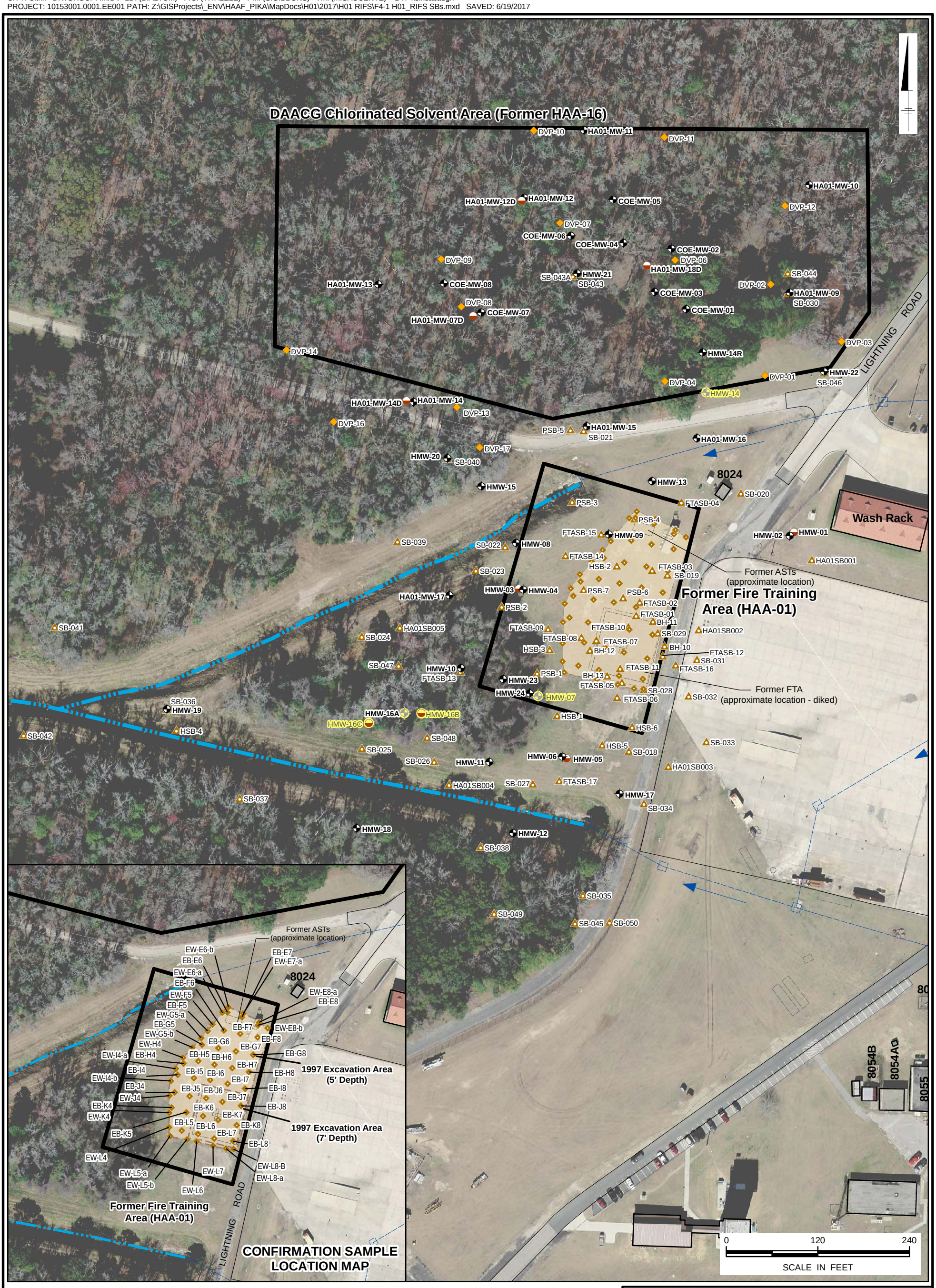
HUNTER army AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Deep Potentiometric Surface Map (December 2014)**

PIKA ARCADIS a joint venture

FIGURE
**3-2b**

CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksinsabaugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GISProjects_ENV\HAAF_PIKA\MapDocs\H01\2017\H01 RIFS\F4-1 H01_RIFS SBs.mxd SAVED: 6/19/2017




PROJECTION: NAD83 State Plane Georgia East Feet
AERIAL SOURCE: SAGIS (2008).

**LEGEND**

- Storm Water Drainage Canal
- Storm Water Drainage System
- Drainage Flow Direction
- Approximate Excavation Area
- Confirmation Soil Sample (November 1997)
- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987 - 2009)
- Groundwater Vertical Profile (August - December 2002)

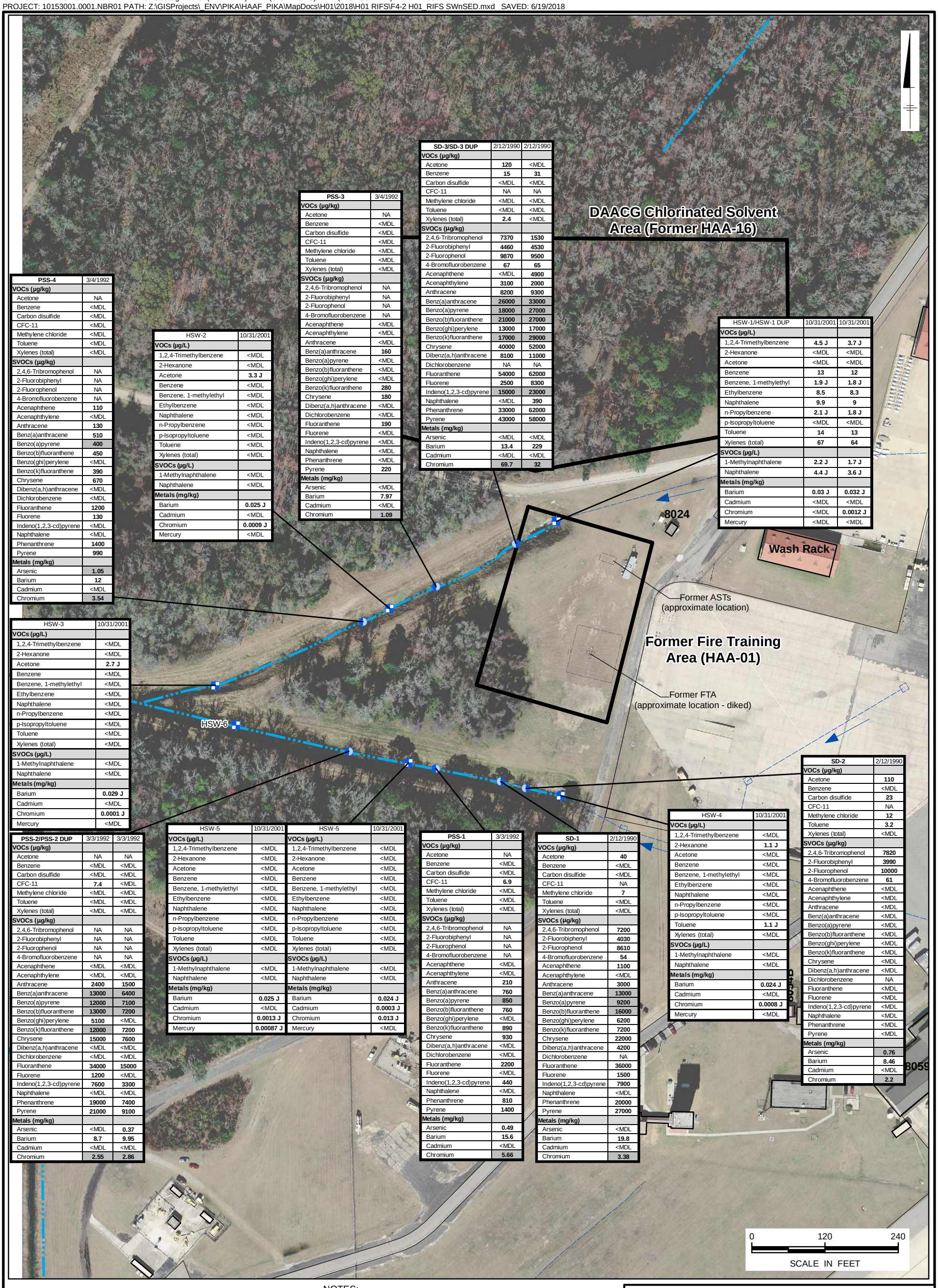
HUNTER ARMY AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

# Historical Soil Boring, Vertical Aquifer Profile, and Monitor Well Location Map

PIKA
ARCADIS
a joint venture

FIGURE
**4-1**

CITY: Citrix DIV/GROUP: IM/DV LD: K. Sinsabaugh PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: kives
PROJECT: 10153001.0001.NBR01 PATH: Z:\GISProjects_ENV\PIKA\HAAF_PIKA\MapDocs\H01\2018\H01 RIFS\F4-2 H01_RIFS SWnSED.mxd SAVED: 6/19/2018




| PSS-4 | 3/4/1992 |
|---|---|
| **VOCs (µg/kg)** | |
| Acetone | NA |
| Benzene | <MDL |
| Carbon disulfide | <MDL |
| CFC-11 | <MDL |
| Methylene chloride | <MDL |
| Toluene | <MDL |
| Xylenes (total) | <MDL |
| **SVOCs (µg/kg)** | |
| 2,4,6-Tribromophenol | NA |
| 2-Fluorobiphenyl | NA |
| 2-Fluorophenol | NA |
| 4-Bromofluorobenzene | NA |
| Acenaphthene | **110** |
| Acenaphthylene | <MDL |
| Anthracene | **130** |
| Benz(a)anthracene | **510** |
| Benzo(a)pyrene | **400** |
| Benzo(b)fluoranthene | **450** |
| Benzo(ghi)perylene | <MDL |
| Benzo(k)fluoranthene | **390** |
| Chrysene | **670** |
| Dibenz(a,h)anthracene | <MDL |
| Dichlorobenzene | <MDL |
| Fluoranthene | **1200** |
| Fluorene | **130** |
| Indeno(1,2,3-cd)pyrene | <MDL |
| Naphthalene | <MDL |
| Phenanthrene | **1400** |
| Pyrene | **990** |
| **Metals (mg/kg)** | |
| Arsenic | **1.05** |
| Barium | **12** |
| Cadmium | <MDL |
| Chromium | **3.54** |

| HSW-2 | 10/31/2001 |
|---|---|
| **VOCs (µg/L)** | |
| 1,2,4-Trimethylbenzene | <MDL |
| 2-Hexanone | <MDL |
| Acetone | **3.3 J** |
| Benzene | <MDL |
| Benzene, 1-methylethyl | <MDL |
| Ethylbenzene | <MDL |
| Naphthalene | <MDL |
| n-Propylbenzene | <MDL |
| p-Isopropyltoluene | <MDL |
| Toluene | <MDL |
| Xylenes (total) | <MDL |
| **SVOCs (µg/L)** | |
| 1-Methylnaphthalene | <MDL |
| Naphthalene | <MDL |
| **Metals (mg/kg)** | |
| Barium | **0.025 J** |
| Cadmium | <MDL |
| Chromium | **0.0009 J** |
| Mercury | <MDL |

| PSS-3 | 3/4/1992 |
|---|---|
| **VOCs (µg/kg)** | |
| Acetone | NA |
| Benzene | <MDL |
| Carbon disulfide | <MDL |
| CFC-11 | <MDL |
| Methylene chloride | <MDL |
| Toluene | <MDL |
| Xylenes (total) | <MDL |
| **SVOCs (µg/kg)** | |
| 2,4,6-Tribromophenol | NA |
| 2-Fluorobiphenyl | NA |
| 2-Fluorophenol | NA |
| 4-Bromofluorobenzene | NA |
| Acenaphthene | <MDL |
| Acenaphthylene | <MDL |
| Anthracene | <MDL |
| Benz(a)anthracene | **160** |
| Benzo(a)pyrene | <MDL |
| Benzo(b)fluoranthene | <MDL |
| Benzo(ghi)perylene | <MDL |
| Benzo(k)fluoranthene | **280** |
| Chrysene | **180** |
| Dibenz(a,h)anthracene | <MDL |
| Dichlorobenzene | <MDL |
| Fluoranthene | **190** |
| Fluorene | <MDL |
| Indeno(1,2,3-cd)pyrene | <MDL |
| Naphthalene | <MDL |
| Phenanthrene | <MDL |
| Pyrene | **220** |
| **Metals (mg/kg)** | |
| Arsenic | <MDL |
| Barium | **7.97** |
| Cadmium | <MDL |
| Chromium | **1.09** |

| SD-3/SD-3 DUP | 2/12/1990 | 2/12/1990 |
|---|---|---|
| **VOCs (µg/kg)** | | |
| Acetone | **120** | <MDL |
| Benzene | **15** | **31** |
| Carbon disulfide | <MDL | <MDL |
| CFC-11 | NA | NA |
| Methylene chloride | <MDL | <MDL |
| Toluene | <MDL | <MDL |
| Xylenes (total) | **2.4** | <MDL |
| **SVOCs (µg/kg)** | | |
| 2,4,6-Tribromophenol | **7370** | **1530** |
| 2-Fluorobiphenyl | **4460** | **4530** |
| 2-Fluorophenol | **9870** | **9500** |
| 4-Bromofluorobenzene | **67** | **65** |
| Acenaphthene | <MDL | **4900** |
| Acenaphthylene | **3100** | **2000** |
| Anthracene | **8200** | **9300** |
| Benz(a)anthracene | **26000** | **33000** |
| Benzo(a)pyrene | **18000** | **27000** |
| Benzo(b)fluoranthene | **21000** | **27000** |
| Benzo(ghi)perylene | **13000** | **17000** |
| Benzo(k)fluoranthene | **17000** | **29000** |
| Chrysene | **40000** | **52000** |
| Dibenz(a,h)anthracene | **8100** | **11000** |
| Dichlorobenzene | NA | NA |
| Fluoranthene | **54000** | **62000** |
| Fluorene | **2500** | **8300** |
| Indeno(1,2,3-cd)pyrene | **15000** | **23000** |
| Naphthalene | <MDL | **390** |
| Phenanthrene | **33000** | **62000** |
| Pyrene | **43000** | **58000** |
| **Metals (mg/kg)** | | |
| Arsenic | <MDL | <MDL |
| Barium | **13.4** | **229** |
| Cadmium | <MDL | <MDL |
| Chromium | **69.7** | **32** |

| HSW-1/HSW-1 DUP | 10/31/2001 | 10/31/2001 |
|---|---|---|
| **VOCs (µg/L)** | | |
| 1,2,4-Trimethylbenzene | **4.5 J** | **3.7 J** |
| 2-Hexanone | <MDL | <MDL |
| Acetone | <MDL | <MDL |
| Benzene | **13** | **12** |
| Benzene, 1-methylethyl | **1.9 J** | **1.8 J** |
| Ethylbenzene | **8.5** | **8.3** |
| Naphthalene | **9.9** | **9** |
| n-Propylbenzene | **2.1 J** | **1.8 J** |
| p-Isopropyltoluene | <MDL | <MDL |
| Toluene | **14** | **13** |
| Xylenes (total) | **67** | **64** |
| **SVOCs (µg/L)** | | |
| 1-Methylnaphthalene | **2.2 J** | **1.7 J** |
| Naphthalene | **4.4 J** | **3.6 J** |
| **Metals (mg/kg)** | | |
| Barium | **0.03 J** | **0.032 J** |
| Cadmium | <MDL | <MDL |
| Chromium | <MDL | **0.0012 J** |
| Mercury | <MDL | <MDL |

| HSW-3 | 10/31/2001 |
|---|---|
| **VOCs (µg/L)** | |
| 1,2,4-Trimethylbenzene | <MDL |
| 2-Hexanone | <MDL |
| Acetone | **2.7 J** |
| Benzene | <MDL |
| Benzene, 1-methylethyl | <MDL |
| Ethylbenzene | <MDL |
| Naphthalene | <MDL |
| n-Propylbenzene | <MDL |
| p-Isopropyltoluene | <MDL |
| Toluene | <MDL |
| Xylenes (total) | <MDL |
| **SVOCs (µg/L)** | |
| 1-Methylnaphthalene | <MDL |
| Naphthalene | <MDL |
| **Metals (mg/kg)** | |
| Barium | **0.029 J** |
| Cadmium | <MDL |
| Chromium | **0.0001 J** |
| Mercury | <MDL |

| PSS-2/PSS-2 DUP | 3/3/1992 | 3/3/1992 |
|---|---|---|
| **VOCs (µg/kg)** | | |
| Acetone | NA | NA |
| Benzene | <MDL | <MDL |
| Carbon disulfide | <MDL | <MDL |
| CFC-11 | **7.4** | <MDL |
| Methylene chloride | <MDL | <MDL |
| Toluene | <MDL | <MDL |
| Xylenes (total) | <MDL | <MDL |
| **SVOCs (µg/kg)** | | |
| 2,4,6-Tribromophenol | NA | NA |
| 2-Fluorobiphenyl | NA | NA |
| 2-Fluorophenol | NA | NA |
| 4-Bromofluorobenzene | NA | NA |
| Acenaphthene | <MDL | <MDL |
| Acenaphthylene | <MDL | <MDL |
| Anthracene | **2400** | **1500** |
| Benz(a)anthracene | **13000** | **6400** |
| Benzo(a)pyrene | **12000** | **7100** |
| Benzo(b)fluoranthene | **13000** | **7200** |
| Benzo(ghi)perylene | **5100** | <MDL |
| Benzo(k)fluoranthene | **12000** | **7200** |
| Chrysene | **15000** | **7600** |
| Dibenz(a,h)anthracene | <MDL | <MDL |
| Dichlorobenzene | <MDL | <MDL |
| Fluoranthene | **34000** | **15000** |
| Fluorene | **1200** | <MDL |
| Indeno(1,2,3-cd)pyrene | **7600** | **3300** |
| Naphthalene | <MDL | <MDL |
| Phenanthrene | **19000** | **7400** |
| Pyrene | **21000** | **9100** |
| **Metals (mg/kg)** | | |
| Arsenic | <MDL | **0.37** |
| Barium | **8.7** | **9.95** |
| Cadmium | <MDL | <MDL |
| Chromium | **2.55** | **2.86** |

| HSW-5 | 10/31/2001 |
|---|---|
| **VOCs (µg/L)** | |
| 1,2,4-Trimethylbenzene | <MDL |
| 2-Hexanone | <MDL |
| Acetone | <MDL |
| Benzene | <MDL |
| Benzene, 1-methylethyl | <MDL |
| Ethylbenzene | <MDL |
| Naphthalene | <MDL |
| n-Propylbenzene | <MDL |
| p-Isopropyltoluene | <MDL |
| Toluene | <MDL |
| Xylenes (total) | <MDL |
| **SVOCs (µg/L)** | |
| 1-Methylnaphthalene | <MDL |
| Naphthalene | <MDL |
| **Metals (mg/kg)** | |
| Barium | **0.025 J** |
| Cadmium | <MDL |
| Chromium | **0.0013 J** |
| Mercury | **0.00087 J** |

| HSW-5 | 10/31/2001 |
|---|---|
| **VOCs (µg/L)** | |
| 1,2,4-Trimethylbenzene | <MDL |
| 2-Hexanone | <MDL |
| Acetone | <MDL |
| Benzene | <MDL |
| Benzene, 1-methylethyl | <MDL |
| Ethylbenzene | <MDL |
| Naphthalene | <MDL |
| n-Propylbenzene | <MDL |
| p-Isopropyltoluene | <MDL |
| Toluene | <MDL |
| Xylenes (total) | <MDL |
| **SVOCs (µg/L)** | |
| 1-Methylnaphthalene | <MDL |
| Naphthalene | <MDL |
| **Metals (mg/kg)** | |
| Barium | **0.024 J** |
| Cadmium | **0.0003 J** |
| Chromium | **0.013 J** |
| Mercury | <MDL |

| PSS-1 | 3/3/1992 |
|---|---|
| **VOCs (µg/kg)** | |
| Acetone | NA |
| Benzene | <MDL |
| Carbon disulfide | <MDL |
| CFC-11 | **6.9** |
| Methylene chloride | <MDL |
| Toluene | <MDL |
| Xylenes (total) | <MDL |
| **SVOCs (µg/kg)** | |
| 2,4,6-Tribromophenol | NA |
| 2-Fluorobiphenyl | NA |
| 2-Fluorophenol | NA |
| 4-Bromofluorobenzene | NA |
| Acenaphthene | <MDL |
| Acenaphthylene | <MDL |
| Anthracene | **210** |
| Benz(a)anthracene | **760** |
| Benzo(a)pyrene | **850** |
| Benzo(b)fluoranthene | **760** |
| Benzo(ghi)perylene | <MDL |
| Benzo(k)fluoranthene | **890** |
| Chrysene | **930** |
| Dibenz(a,h)anthracene | <MDL |
| Dichlorobenzene | <MDL |
| Fluoranthene | **2200** |
| Fluorene | <MDL |
| Indeno(1,2,3-cd)pyrene | **440** |
| Naphthalene | <MDL |
| Phenanthrene | **810** |
| Pyrene | **1400** |
| **Metals (mg/kg)** | |
| Arsenic | **0.49** |
| Barium | **15.6** |
| Cadmium | <MDL |
| Chromium | **5.66** |

| SD-1 | 2/12/1990 |
|---|---|
| **VOCs (µg/kg)** | |
| Acetone | **40** |
| Benzene | <MDL |
| Carbon disulfide | <MDL |
| CFC-11 | NA |
| Methylene chloride | **7** |
| Toluene | <MDL |
| Xylenes (total) | <MDL |
| **SVOCs (µg/kg)** | |
| 2,4,6-Tribromophenol | **7200** |
| 2-Fluorobiphenyl | **4030** |
| 2-Fluorophenol | **8610** |
| 4-Bromofluorobenzene | **54** |
| Acenaphthene | **1100** |
| Acenaphthylene | <MDL |
| Anthracene | **3000** |
| Benz(a)anthracene | **13000** |
| Benzo(a)pyrene | **9200** |
| Benzo(b)fluoranthene | **16000** |
| Benzo(ghi)perylene | **6200** |
| Benzo(k)fluoranthene | **7200** |
| Chrysene | **22000** |
| Dibenz(a,h)anthracene | **4200** |
| Dichlorobenzene | NA |
| Fluoranthene | **36000** |
| Fluorene | **1500** |
| Indeno(1,2,3-cd)pyrene | **7900** |
| Naphthalene | <MDL |
| Phenanthrene | **20000** |
| Pyrene | **27000** |
| **Metals (mg/kg)** | |
| Arsenic | <MDL |
| Barium | **19.8** |
| Cadmium | <MDL |
| Chromium | **3.38** |

| HSW-4 | 10/31/2001 |
|---|---|
| **VOCs (µg/L)** | |
| 1,2,4-Trimethylbenzene | <MDL |
| 2-Hexanone | **1.1 J** |
| Acetone | <MDL |
| Benzene | <MDL |
| Benzene, 1-methylethyl | <MDL |
| Ethylbenzene | <MDL |
| Naphthalene | <MDL |
| n-Propylbenzene | <MDL |
| p-Isopropyltoluene | <MDL |
| Toluene | **1.1 J** |
| Xylenes (total) | <MDL |
| **SVOCs (µg/L)** | |
| 1-Methylnaphthalene | <MDL |
| Naphthalene | <MDL |
| **Metals (mg/kg)** | |
| Barium | **0.024 J** |
| Cadmium | <MDL |
| Chromium | **0.0008 J** |
| Mercury | <MDL |

| SD-2 | 2/12/1990 |
|---|---|
| **VOCs (µg/kg)** | |
| Acetone | **110** |
| Benzene | <MDL |
| Carbon disulfide | **23** |
| CFC-11 | NA |
| Methylene chloride | **12** |
| Toluene | **3.2** |
| Xylenes (total) | <MDL |
| **SVOCs (µg/kg)** | |
| 2,4,6-Tribromophenol | **7820** |
| 2-Fluorobiphenyl | **3990** |
| 2-Fluorophenol | **10000** |
| 4-Bromofluorobenzene | **61** |
| Acenaphthene | <MDL |
| Acenaphthylene | <MDL |
| Anthracene | <MDL |
| Benz(a)anthracene | <MDL |
| Benzo(a)pyrene | <MDL |
| Benzo(b)fluoranthene | <MDL |
| Benzo(ghi)perylene | <MDL |
| Benzo(k)fluoranthene | <MDL |
| Chrysene | <MDL |
| Dibenz(a,h)anthracene | <MDL |
| Dichlorobenzene | NA |
| Fluoranthene | <MDL |
| Fluorene | <MDL |
| Indeno(1,2,3-cd)pyrene | <MDL |
| Naphthalene | <MDL |
| Phenanthrene | <MDL |
| Pyrene | <MDL |
| **Metals (mg/kg)** | |
| Arsenic | **0.76** |
| Barium | **8.46** |
| Cadmium | <MDL |
| Chromium | **2.2** |

PROJECTION: NAD83 State Plane Georgia East Feet
BASE SOURCE: SAGIS (2008).

**LEGEND**

- Storm Water Drainage Canal
- Storm Water Drainage System
- Drainage Flow Direction
- Sediment Sample (February 1990)
- Sediment Sample (March 1992)
- Surface Water Sample (October 2001)

NOTES:
1) NA - Not analyzed
2) <MDL - Results not detected above method detection limit
3) J values are estimated at concentrations above the method detection limit (MDL)
4) **BOLD** - constituent detected above the MDL
5) Grey shaded cells indicate the analyte was detected above the 2017 United States Environmental Protection Agency (EPA) Residential Regional Screening Level.

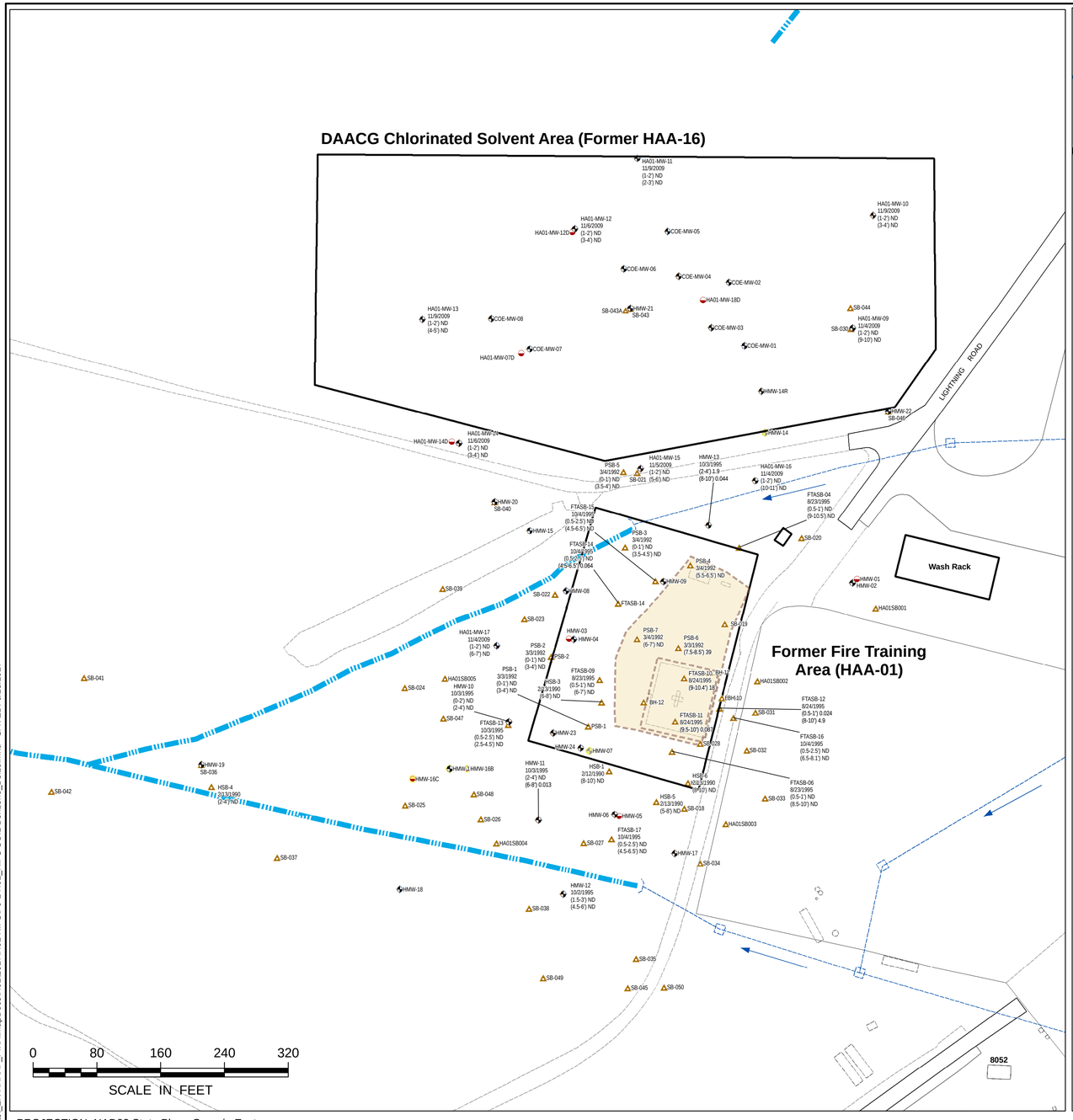
µg/kg - micrograms per kilogram
mg/kg - milligrams per kilogram
µg/L - micrograms per liter
mg/L - milligrams per liter

HUNTER army AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

# (1990-2001) Surface Water and Sediment Sample Location Map

PIKA ARCADIS a joint venture

FIGURE **4-2**




PROJECTION: NAD83 State Plane Georgia East.

**LEGEND**

- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)
- Constituent Exceedance of Industrial RSL
- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Confirmation Soil Sample (November 1997)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Concentrations shown in the soil excavation area are post-soil removal activities.

HUNTER army AIRFIELD, GEORGIA

# HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

## Summary of Benzene Concentrations in Soil

PIKA ARCADIS a joint venture

FIGURE 6-1

CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksirsabaugh
PROJECT: 101S001.0001.EE001 PATH: Z:\GISProjects_ENV\HAAF_PIKA\Mxd\pDocs\H01201\7\H01 RIFS\F6-1 H01_RIFS SOIL Benzene_Dsize.mxd SAVED: 6/28/2017

CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: kshirsabaugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GIS\Projects_ENV\HAAF_PIKA\MapDocs\H01201\7H01 RIFS\F6-2 H01_RIFS SOIL ethylbenzene_Dsize.mxd SAVED: 6/28/2017

## DAACG Chlorinated Solvent Area (Former HAA-16)

## EXCAVATION AREA

**Former Fire Training Area (HAA-01)**

**1997 Excavation Area** (5' Depth)

**1997 Excavation Area** (7' Depth)

FORMER ASTs

FORMER FTA

Wash Rack

LIGHTNING ROAD

0 80 160 240 320
SCALE IN FEET

0 15 30
SCALE IN FEET

PROJECTION: NAD83 State Plane Georgia East.

### LEGEND

- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)
- Constituent Exceedance of Industrial RSL
- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Confirmation Soil Sample (November 1997)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Concentrations shown in the soil excavation area are post-soil removal activities.

HUNTER army AIRFIELD, GEORGIA

# HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

## Summary of Ethylbenzene Concentrations in Soil

PIKA ARCADIS a joint venture

FIGURE **6-2**

CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksirsabaugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GIS\Projects_ENVHAAF_PIKAM\apd\docs\HI01201THH01 RIFS\FIG-3 H01_RIFS SOIL xylenes Dsize.mxd SAVED: 6/28/2017

## DAACG Chlorinated Solvent Area (Former HAA-16)

## Former Fire Training Area (HAA-01)

## EXCAVATION AREA

**1997 Excavation Area**
(5' Depth)

**1997 Excavation Area**
(7' Depth)

FORMER ASTs

FORMER FTA

Wash Rack

LIGHTNING ROAD

8052

0 80 160 240 320
SCALE IN FEET

0 15 30
SCALE IN FEET

PROJECTION: NAD83 State Plane Georgia East.

**LEGEND**

- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)
- Constituent Exceedance of Industrial RSL
- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Confirmation Soil Sample (November 1997)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Concentrations shown in the soil excavation area are post-soil removal activities.

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# HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

## Summary of Total Xylenes Concentrations in Soil

PIKA ARCADIS a joint venture

FIGURE **6-3**

CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksinsabaugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GISProjects_ENVHAAF_PIKA\MapDocs\H01\2017\H01 RIFS\F6-4 H01_RIFS SOIL benz(a)anthracene.mxd SAVED: 6/26/2017

## DAACG Chlorinated Solvent Area (Former HAA-16)

LIGHTNING ROAD

7920

8052

Wash Rack

Former Fire Training Area (HAA-01)

SB-044 11/1/2001 (2-4') ND (6-8') ND
SB-030 1/5/2000 (0-2') ND (6-8') 18
HMW-21
SB-043 10/31/2001 (0-2') ND 11/1/2001 (2-4') ND
FTASB-14 10/4/1995 (0.5-2.5') 0.93 (4.5-6.5') 0.2 JQ
HA01-MW-07D
PSB-5 3/4/1992 (0-1') ND (3.5-4') ND
SB-021 7/22/1999 (0-1.5') ND (5.5') ND
FTASB-15 10/4/1995 (0.5-2.5') 0.73 (4.5-6.5') ND
HMW-14R 1/5/2000 (0-2') ND (7-9') ND
SB-046 10/31/2001 (4-6') ND (12-14') ND
SB-022 7/22/1999 (0-1.5') ND (5.5') ND
PSB-3 3/4/1992 (0-1') 5.3 (3.5-4.5') ND
HMW-13 10/3/1995 (2-4') 0.061 JQ (8-10') ND
HMW-14 7/28/1999 (0-1.5') ND (7.5') 1.8
FTASB-04 8/23/1995 (0.5-1') ND (9-10.5') 0.1 J
SB-020 7/22/1999 (0-1.5') ND (5.5') ND
PSB-2 3/3/1992 (0-1') 0.140 (3-4') ND
SB-023 7/29/1999 (0-1.5') 0.51 (6.5') ND
HMW-15 7/28/1999 (0-1.5') ND (7.5') ND
PSB-4 3/4/1992 (5.5-6.5') ND
FTASB-09 8/23/1995 (0.5-1') ND (6-7') 0.064 J
HA01SB001 11/3/2009 (8-10') ND
PSB-7 3/4/1992 (6-7') ND
PSB-6 3/3/1992 (7.5-8.5') ND
SB-019 7/22/1999 (0-1.5') ND (5.5') ND
HA01SB002 11/3/2009 (6-6.5') ND
FTASB-13 10/3/1995 (0.5-2.5') 0.16 JQ (2.5-4.5') 0.099 JQ
SB-024 7/29/1999 (0-1.5') ND (6.5') ND
HMW-10 10/3/1995 (0-2') 0.34 JQ (2-4') ND
SB-041 1/31/2000 (0-2') ND 11/1/2001 (2-4') ND
FTASB-10 8/24/1995 (9-10.4') ND
BH-11
BH-12
BH-10
FTASB-11 8/24/1995 (9.5-10') ND
HSB-3 2/13/1990 (6-8') ND
FTASB-12 8/24/1995 (0.5-1') 0.21 J (8-10') 0.3 JL
FTASB-16 10/4/1995 (0.5-2.5') ND (6.5-8.1') ND
HMW-16A 7/29/1999 (0-1.5') 34 (7') 13
SB-036 1/6/2000 (0-2') 8.7 (2-3') ND
PSB-1 3/3/1992 (0-1') 0.370 (3-4') ND
HSB-1 2/12/1990 (8-10') ND
SB-042 1/31/2000 (0-2') ND
HSB-4 2/13/1990 (2-4') ND
SB-025 7/22/1999 (0-1.5') 7.4 (6.5-5.5') ND
SB-026 7/22/1999 (0-1.5') 6.8 (5.5') ND
HA01SB003 11/3/2009 (8-10') ND
SB-018 7/22/1999 (0-1.5') ND (6') ND
HSB-6 2/13/1990 (8-10') ND
FTASB-06 8/23/1995 (0.5-1') 0.17 J (8.5-10') ND
SB-028 7/22/1999 (0-1.5') ND (5.5') ND
SB-037 1/6/2000 (0-2') ND (2-3') ND
HMW-18 1/6/2000 (0-2') ND (2-3') ND
HMW-11 10/3/1995 (2-4') 8.0 (6-8') 3.6
HMW-12 10/2/1995 (1.5-3') 0.84 (4.5-6') 1.1
SB-027 7/22/1999 (0-1.5') 17 (5.5') ND
SB-038 1/4/2000 (0-2') 15 (3.5-5.5') ND
SB-049 10/31/2001 (0-2') ND
SB-035 1/6/2000 (0-2') ND (4-6') ND
HMW-17 7/28/1999 (0-1.5') ND (6.5') ND
HSB-5 2/13/1990 (5-8') ND
FTASB-17 10/4/1995 (0.5-2.5') 0.63 (4.5-6.5') 1.4
SB-045 10/31/2001 (0-2') ND
SB-050 10/31/2001 (0-2') ND

## LEGEND

- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Constituent Exceedance of Residential RSL
- Constituent Exceedance of Industrial RSL
- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Concentrations shown in the soil excavation area are post-soil removal activities.

0 125 250
SCALE IN FEET

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

HUNTER ARMY AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Summary of Benz(a)anthracene Concentrations in Soil**

PIKA ARCADIS a joint venture

FIGURE **6-4**

DAACG Chlorinated Solvent Area (Former HAA-16)
Former Fire Training Area (HAA-01)
LIGHTNING ROAD
7920
8052
HA01-MW-11
HA01-MW-12D
HA01-MW-12
COE-MW-05
HA01-MW-10
COE-MW-06
COE-MW-04
COE-MW-02
SB-044 11/1/2001 (2-4') ND (6-8') ND
HMW-21
SB-43A
SB-043 10/31/2001 (0-2') ND 11/1/2001 (2-4') ND
HA01-MW-18D
HA01-MW-13
COE-MW-08
COE-MW-03
SB-030 1/5/2000 (0-2') ND (6-8') 20
COE-MW-07
HA01-MW-07D
COE-MW-01
HMW-14R 1/5/2000 (0-2') ND (7-9') ND
PSB-3 3/4/1992 (0-1') 4.8 (3.5-4.5') ND
PSB-5 3/4/1992 (0-1') ND (3.5-4') ND
SB-021 7/22/1999 (0-1.5') ND (5.5') ND
SB-046 10/31/2001 (4-6') ND (12-14') ND
HA01-MW-14D
HA01-MW-14
HMW-14 7/28/1999 (0-1.5') ND (7.5') 1.9
SB-023 7/29/1999 (0-1.5') 0.75 (6.5') ND
HMW-15 7/28/1999 (0-1.5') ND (7.5') ND
FTASB-14 10/4/1995 (0.5-2.5') 1.2 (4.5-6.5') 0.16 JQ
HA01-MW-16
FTASB-15 10/4/1995 (0.5-2.5') 0.79 (4.5-6.5') ND
FTASB-04 8/23/1995 (0.5-1') ND (9-10.5') 0.12 J
SB-020 7/22/1999 (0-1.5') ND (5.5') ND
HMW-20
SB-040
HMW-13 10/3/1995 (2-4') ND (8-10') ND
FTASB-09 8/23/1995 (0.5-1') ND (6-7') 0.081 J
SB-022 7/22/1999 (0-1.5') ND (5.5') ND
PSB-4 3/4/1992 (5.5-6.5') ND
HA01SB001 11/3/2009 (8-10') ND
HMW-01
HMW-02
SB-039
PSB-7 3/4/1992 (6-7') ND
SB-019 7/22/1999 (5.5') ND
HMW-10 10/3/1995 (0-2') 0.3 JQ (2-4') ND
PSB-2 3/3/1992 (0-1') 0.180 (3-4') ND
HMW-03
HMW-04
PSB-6 3/3/1992 (7.5-8.5') ND
HA01SB002 11/3/2009 (6-6.5') ND
HA01-MW-17
SB-041 1/31/2000 (0-2') ND 11/1/2001 (2-4') ND
SB-024 7/29/1999 (0-1.5') ND (6.5') ND
HA01SB005
FTASB-10 8/24/1995 (9-10.4') ND
BH-11
BH-12
BH-10
PSB-1 3/3/1992 (0-1') 0.320 (3-4') ND
SB-031
FTASB-11 8/24/1995 (9.5-10') ND
FTASB-13 10/3/1995 (0.5-2.5') 0.16 JQ (2.5-4.5') ND
SB-047
HMW-23
HMW-24
HMW-07
SB-032
FTASB-12 8/24/1995 (0.5-1') 0.19 JL (8-10') ND
SB-036 1/6/2000 (0-2') 8.9 (2-3') ND
HMW-16A 7/29/1999 (0-1.5') 26 (7') 10
HMW-16C
HMW-16B
HSB-3 2/13/1990 (6-8') ND
SB-042 1/31/2000 (0-2') ND
HSB-4 2/13/1990 (2-4') ND
HSB-1 2/12/1990 (8-10') ND
SB-048
SB-033
FTASB-06 8/23/1995 (0.5-1') 0.24 JL (8.5-10') ND
SB-028 7/22/1999 (0-1.5') ND (5.5') ND
FTASB-16 10/4/1995 (0.5-2.5') ND (6.5-8.1') ND
HMW-06
HMW-05
HSB-6 2/13/1990 (8-10') ND
SB-025 7/22/1999 (0-1.5') 6.2 (6.5-5.5') ND
SB-026 7/22/1999 (0-1.5') 5.2 (5.5') ND
HA01SB004
HMW-11 10/3/1995 (2-4') 5.7 (6-8') 3.2
HSB-5 2/13/1990 (5-8') ND
SB-018 7/22/1999 (0-1.5') ND (6') ND
SB-034
HA01SB003 11/3/2009 (8-10') ND
SB-037 1/6/2000 (0-2') ND (2-3') ND
HMW-18 1/6/2000 (0-2') ND (2-3') ND
SB-027 7/22/1999 (0-1.5') 16 (5.5') ND
FTASB-17 10/4/1995 (0.5-2.5') 0.76 (4.5-6.5') 1.3
HMW-17 7/28/1999 (0-1.5') ND (6.5') ND
HMW-12 10/2/1995 (1.5-3') 0.91 (4.5-6') 1.2
SB-038 1/4/2000 (0-2') 9.9 (3.5-5.5') ND
SB-049 10/31/2001 (0-2') ND
SB-045 10/31/2001 (0-2') ND
SB-035 1/6/2000 (0-2') ND (4-6') ND
SB-050 10/31/2001 (0-2') ND
LEGEND
Monitor Well (shallow)
Monitor Well (deep)
Destroyed/Abandoned Monitor Well (shallow)
Destroyed/Abandoned Monitor Well (deep)
Soil Boring (1987-2009)
Constituent Exceedance of Residential RSL
Constituent Exceedance of Industrial RSL
Storm Water Drainage System
Drainage Flow Direction
Storm Water Drainage Canal
Approximate Excavation Area (1997)
NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Concentrations shown in the soil excavation area are post-soil removal activities.
0
125
250
SCALE IN FEET
PROJECTION: NAD83 State Plane Georgia East.
AERIAL SOURCE: SAGIS (2008).
HUNTER army AIRFIELD, GEORGIA
HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY
Summary of Benzo(a)pyrene Concentrations in Soil
PIKA ARCADIS a joint venture
FIGURE 6-5
CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksinsabaugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GISProjects_ENV\HAAF_PIKA\MapDocs\HO1\2017\H01 RIFS\F6-5 H01_RIFS SOIL benzo(a)pyrene.mxd SAVED: 6/26/2017

CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksinsabaugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GISProjects_ENVHAAF_PIKA\MapDocs\H01\2017\H01 RIFS\F6-6 H01_RIFS SOIL benzo(b)fluor.mxd SAVED: 6/26/2017

## DAACG Chlorinated Solvent Area (Former HAA-16)

HA01-MW-11
HA01-MW-12
HA01-MW-12D
COE-MW-05
HA01-MW-10
SB-043
10/31/2001
(0-2') ND
11/1/2001
(2-4') ND
COE-MW-06
COE-MW-04
COE-MW-02
HMW-14R
1/5/2000
(0-2') ND
(7-9') ND
SB-044
11/1/2001
(2-4') ND
(6-8') ND
HA01-MW-18D
SB-043A
HMW-21
HA01-MW-13
COE-MW-08
COE-MW-03
HA01-MW-09
SB-030
1/5/2000
(0-2') ND
**(6-8') 13**
COE-MW-01
COE-MW-07
HA01-MW-07D
HMW-15
7/28/1999
(0-1.5') ND
(7.5') ND
PSB-3
3/4/1992
**(0-1') 6.9**
(3.5-4.5') ND
PSB-5
3/4/1992
(0-1') ND
(3.5-4') ND
SB-021
7/22/1999
(0-1.5') ND
(5.5') ND
HMW-14
7/28/1999
(0-1.5') ND
**(7.5') 1.6**
SB-046
10/31/2001
(4-6') ND
(12-14') ND
SB-020
7/22/1999
(0-1.5') ND
(5.5') ND
HA01-MW-14D
HA01-MW-14
SB-022
7/22/1999
(0-1.5') ND
(5.5') ND
FTASB-14
10/4/1995
**(0.5-2.5') 2.6**
(4.5-6.5') 0.37 J
HA01-MW-15
HMW-13
10/3/1995
(2-4') 0.11 JQ
(8-10') ND
FTASB-04
8/23/1995
(0.5-1') ND
(9-10.5') 0.22 JL
HA01-MW-16
SB-040
HMW-20
SB-023
7/29/1999
**(0-1.5') 0.74**
(6.5') ND
FTASB-09
8/23/1995
(0.5-1') ND
(6-7') 0.14 JL
PSB-2
3/3/1992
**(0-1') 0.160**
(3-4') ND
FTASB-15
10/4/1995
**(0.5-2.5') 2.2**
(4.5-6.5') ND
PSB-4
3/4/1992
(5.5-6.5') ND
HMW-09
HMW-01
HMW-02
HA01SB001
11/3/2009
(8-10') ND
Wash Rack
SB-039
HMW-08
HMW-10
10/3/1995
**(0-2') 0.72**
(2-4') ND
PSB-7
3/4/1992
(6-7') ND
SB-019
7/22/1999
(5-5') ND
FTASB-10
8/24/1995
(9-10.4') ND
HMW-04
HMW-03
PSB-6
3/3/1992
(7.5-8.5') ND
HA01SB002
11/3/2009
(6-6.5') ND
HA01-MW-17
SB-041
1/31/2000
(0-2') ND
11/1/2001
(2-4') ND
SB-024
7/29/1999
(0-1.5') ND
(6.5') ND
HA01SB005
PSB-1
3/3/1992
**(0-1') 0.560**
(3-4') ND
HSB-3
2/13/1990
(6-8') ND
BH-11
**Former Fire Training Area (HAA-01)**
BH-12
BH-10
FTASB-11
8/24/1995
(9.5-10') ND
SB-031
FTASB-12
8/24/1995
(0.5-1') 0.42 LJL
(8-10') ND
FTASB-13
10/3/1995
(0.5-2.5') 0.32 JQ
(2.5-4.5') ND
SB-047
HMW-23
HMW-24
HMW-07
SB-032
SB-036
1/6/2000
**(0-2') 8.7**
(2-3') ND
HMW-16A
7/29/1999
**(0-1.5') 28**
**(7') 9.1**
HMW-16B
HMW-16C
HSB-1
2/12/1990
(8-10') ND
HSB-6
2/13/1990
(8-10') ND
SB-033
FTASB-16
10/4/1995
(0.5-2.5') ND
(6.5-8.1') ND
SB-042
1/31/2000
(0-2') ND
HSB-4
2/13/1990
(2-4') ND
SB-048
HMW-06
HMW-05
SB-037
1/6/2000
(0-2') ND
(2-3') ND
SB-025
7/22/1999
**(0-1.5') 7.0**
(6.5-5.5') ND
SB-026
7/22/1999
**(0-1.5') 5.8**
(5.5') ND
HA01SB004
HMW-11
10/3/1995
**(2-4') 12**
**(6-8') 4.9**
SB-034
HSB-5
2/13/1990
(5-8') ND
HA01SB003
11/3/2009
(8-10') ND
SB-018
7/22/1999
(0-1.5') ND
(6') ND
FTASB-06
8/23/1995
(0.5-1') 0.47 LJL
(8.5-10') ND
SB-028
7/22/1999
(0-1.5') ND
(5.5') ND
FTASB-17
10/4/1995
**(0.5-2.5') 2.0**
**(4.5-6.5') 1.6**
HMW-17
7/28/1999
(0-1.5') ND
(6.5') ND
HMW-18
1/6/2000
(0-2') ND
(2-3') ND
SB-038
1/4/2000
**(0-2') 8.6**
(3.5-5.5') ND
HMW-12
10/2/1995
**(1.5-3') 1.8**
**(4.5-6') 2.3**
SB-027
7/22/1999
**(0-1.5') 17**
(5.5') ND
SB-035
1/6/2000
(0-2') ND
(4-6') ND
SB-049
10/31/2001
(0-2') ND
SB-045
10/31/2001
(0-2') ND
SB-050
10/31/2001
(0-2') ND
LIGHTNING ROAD
7920
8052

## LEGEND

- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Constituent Exceedance of Residential RSL
- Constituent Exceedance of Industrial RSL
- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Concentrations shown in the soil excavation area are post-soil removal activities.

0 125 250
SCALE IN FEET

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

HUNTER ARMY AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Summary of Benzo(b)fluoranthene Concentrations in Soil**

PIKA ARCADIS a joint venture

FIGURE
**6-6**

CITY:(KNOXVILLE) DIV/GROUP:(ENV/GIS) LD:(B.ALTOM) PIC:(T.TALELE) PM:(C.BERTZ) APM:(S.GIBBONS) TM:(A.DAVIS)
PROJECT: GP08HAFS.H01C.DPCSR PATH: G:\GIS\HAAF\MapDocs\H01\2012\CSR\F5-12 H01 CSR SOIL benzo(k)fluor.mxd SAVED: 3/21/2012 3:30:37 PM

## DAACG Chlorinated Solvent Area (Former HAA-16)

HA01-MW-11
HA01-MW-12D
HA01-MW-12
COE-MW-05
HA01-MW-10
COE-MW-06
COE-MW-04
COE-MW-02
SB-043
10/31/2001
(0-2') ND
11/1/2001
(2-4') ND
HMW-21
HA01-MW-18D
SB-044
11/1/2001
(2-4') ND
(6-8') ND
HA01-MW-13
COE-MW-08
SB-043A
COE-MW-03
HMW-14R
HA01-MW-09
1/5/2000
(0-2') ND
(7-9') ND
COE-MW-07
HA01-MW-07D
COE-MW-01
SB-030
1/5/2000
(0-2') ND
**(6-8') 12**
SB-046
10/31/2001
(4-6') ND
(12-14') ND
LIGHTNING ROAD
7920
HMW-14
7/28/1999
(0-1.5') ND
**(7.5') 2.0**
FTASB-14
10/4/1995
(0.5-2.5') ND
(4.5-6.5') ND
PSB-3
3/4/1992
**(0-1') 2.7**
(3.5-4.5') ND
PSB-5
3/4/1992
(0-1') ND
(3.5-4') ND
SB-021
7/22/1999
(0-1.5') ND
(5.5') ND
HMW-13
10/3/1995
(2-4') ND
(8-10') ND
SB-023
7/29/1999
**(0-1.5') 0.63**
(6.5') ND
HA01-MW-14D
HA01-MW-14
HA01-MW-15
HA01-MW-16
FTASB-04
8/23/1995
(0.5-1') ND
(9-10.5') ND
HMW-20
SB-040
HMW-15
7/28/1999
(0-1.5') ND
(7.5') ND
SB-022
7/22/1999
(0-1.5') ND
(5.5') ND
FTASB-15
10/4/1995
(0.5-2.5') ND
(4.5-6.5') ND
PSB-2
3/3/1992
**(0-1') 0.150**
(3-4') ND
PSB-4
3/4/1992
(5.5-6.5') ND
SB-020
7/22/1999
(0-1.5') ND
(5.5') ND
Wash Rack
HMW-01
HMW-02
SB-039
HMW-08
HMW-09
HA01SB001
11/3/2009
(8-10') ND
SB-041
1/31/2000
(0-2') ND
11/1/2001
(2-4') ND
HMW-10
10/3/1995
(0-2') ND
(2-4') ND
FTASB-09
8/23/1995
(0.5-1') ND
(6-7') ND
HMW-04
HMW-03
HA01-MW-17
PSB-7
3/4/1992
(6-7') ND
SB-019
7/22/1999
(3.5') ND
PSB-6
3/3/1992
(7.5-8.5') ND
HA01SB002
11/3/2009
(6-6.5') ND
SB-024
7/29/1999
(0-1.5') ND
(6.5') ND
HA01SB005
FTASB-10
8/24/1995
(9-10.4') ND
BH-11
BH-12
BH-10
**Former Fire Training Area (HAA-01)**
HSB-3
2/13/1990
(6-8') ND
FTASB-13
10/3/1995
(0.5-2.5') ND
(2.5-4.5') ND
SB-047
FTASB-11
8/24/1995
(9.5-10') ND
SB-031
HMW-23
HMW-24
HMW-07
HMW-16A
7/29/1999
**(0-1.5') 27**
**(7') 13**
HMW-16C
HMW-16B
PSB-1
3/3/1992
**(0-1') 0.250**
(3-4') ND
SB-032
FTASB-16
10/4/1995
(0.5-2.5') ND
(6.5-8.1') ND
FTASB-12
8/24/1995
(0.5-1') ND
(8-10') ND
SB-036
1/6/2000
**(0-2') 8.6**
(2-3') ND
SB-042
1/31/2000
(0-2') ND
HSB-4
2/13/1990
(2-4') ND
SB-025
7/22/1999
**(0-1.5') 5.6**
(6.5-5.5') ND
SB-048
SB-033
SB-026
7/22/1999
**(0-1.5') 4.9**
(5.5') ND
HA01SB004
HMW-06
HMW-05
SB-037
1/6/2000
(0-2') ND
(2-3') ND
HSB-1
2/12/1990
(8-10') ND
HA01SB003
11/3/2009
(8-10') ND
HSB-6
2/13/1990
(8-10') ND
FTASB-06
8/23/1995
(0.5-1') ND
(8.5-10') ND
SB-028
7/22/1999
(0-1.5') ND
(5.5') ND
HMW-18
1/6/2000
(0-2') ND
(2-3') ND
HMW-11
10/3/1995
(2-4') ND
(6-8') ND
FTASB-17
10/4/1995
(0.5-2.5') ND
(4.5-6.5') ND
SB-034
SB-018
7/22/1999
(0-1.5') ND
(6') ND
SB-038
1/4/2000
**(0-2') 9.4**
(3.5-5.5') ND
SB-027
7/22/1999
**(0-1.5') 14**
(5.5') ND
SB-035
1/6/2000
(0-2') ND
(4-6') ND
HMW-17
7/28/1999
(0-1.5') ND
(6.5') ND
HSB-5
2/13/1990
(5-8') ND
HMW-12
10/2/1995
(1.5-3') ND
(4.5-6') ND
SB-049
10/31/2001
(0-2') ND
SB-045
10/31/2001
(0-2') ND
SB-050
10/31/2001
(0-2') ND
8052

### LEGEND

- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)
- Benzo(k)fluoranthene Isocontour (0.1 mg/kg)
- Benzo(k)fluoranthene Isocontour (10 mg/kg)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the PQL.
4) J values are estimated at concentrations below the practical quantitation limit (PQL).
5) Concentrations shown in the soil excavation area are post-soil removal activities.

0 125 250
SCALE IN FEET

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

HUNTER ARMY AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Summary of Benzo(k)fluoranthene Concentrations in Soil**

PIKA ARCADIS a joint venture

FIGURE
**6-7**

CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksinsabaugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GISProjects_ENV\HAAF_PIKA\MapDocs\H01\2017\H01 RIFS\F6-8 H01_RIFS SOIL chrysene.mxd SAVED: 6/26/2017

# DAACG Chlorinated Solvent Area (Former HAA-16)

HA01-MW-11
HA01-MW-12D
HA01-MW-12
COE-MW-05
HA01-MW-10
COE-MW-06
COE-MW-04
COE-MW-02
SB-043
10/31/2001
(0-2') ND
11/1/2001
(2-4') ND
HMW-21
SB-043A
HA01-MW-18D
SB-044
11/1/2001
(2-4') ND
(6-8') ND
HA01-MW-13
COE-MW-08
COE-MW-03
SB-030
1/5/2000
(0-2') ND
(6-8') 20
COE-MW-01
HA01-MW-07D
COE-MW-07
HMW-14R
1/5/2000
(0-2') ND
(7-9') ND
SB-046
10/31/2001
(4-6') ND
(12-14') ND
PSB-5
3/4/1992
(0-1') ND
(3.5-4') ND
SB-021
7/22/1999
(0-1.5') ND
(5.5') ND
FTASB-15
10/4/1995
(0.5-2.5') 0.75
(4.5-6.5') ND
HMW-14
7/28/1999
(0-1.5') ND
(7.5') 1.9
FTASB-04
8/23/1995
(0.5-1') ND
(9-10.5') 0.12 J
HA01-MW-14D
HA01-MW-14
PSB-3
3/4/1992
(0-1') 5.3
(3.5-4.5') ND
FTASB-14
10/4/1995
(0.5-2.5') 1.0
(4.5-6.5') 0.2 JQ
HMW-13
10/3/1995
(2-4') 0.072 JQ
(8-10') ND
HA01-MW-16
SB-020
7/22/1999
(0-1.5') ND
(5.5') ND
SB-040
HMW-20
HMW-15
7/28/1999
(0-1.5') ND
(7.5') ND
SB-022
7/22/1999
(0-1.5') ND
(5.5') ND
PSB-4
3/4/1992
(5.5-6.5') ND
HMW-02
HMW-01
Wash Rack
SB-023
7/29/1999
(0-1.5') 0.56
(6.5') ND
SB-039
HA01SB001
11/3/2009
(8-10') ND
PSB-2
3/3/1992
(0-1') 0.200
(3-4') ND
PSB-7
3/4/1992
(6-7') ND
SB-019
7/22/1999
(5.5') ND
HA01SB002
11/3/2009
(6-6.5') ND
HMW-04
HA01-MW-17
HMW-03
PSB-6
3/3/1992
(7.5-8.5') ND
FTASB-10
8/24/1995
(9-10.4') ND
BH-11
BH-12
BH-10
SB-041
1/31/2000
(0-2') ND
11/1/2001
(2-4') ND
SB-024
7/29/1999
(0-1.5') ND
(6.5') ND
HA01SB005
FTASB-09
8/23/1995
(0.5-1') ND
(6-7') 0.055 J
Former Fire Training
Area (HAA-01)
FTASB-11
8/24/1995
(9.5-10') ND
FTASB-12
8/24/1995
(0.5-1') 0.24 J
(8-10') 0.4 JL
SB-031
HMW-10
10/3/1995
(0-2') 0.39
(2-4') ND
SB-047
HMW-23
HMW-07
HMW-24
HSB-3
2/13/1990
(6-8') ND
SB-032
FTASB-16
10/4/1995
(0.5-2.5') ND
(6.5-8.1') ND
SB-036
1/6/2000
(0-2') 8.9
(2-3') ND
FTASB-13
10/3/1995
(0.5-2.5') 0.2 JQ
(2.5-4.5') 0.11 JQ
HMW-16C
HMW-16B
PSB-1
3/3/1992
(0-1') 0.560
(3-4') ND
HSB-1
2/12/1990
(8-10') ND
SB-028
7/22/1999
(0-1.5') ND
(5.5') ND
HSB-4
2/13/1990
(2-4') ND
SB-042
1/31/2000
(0-2') ND
SB-048
SB-033
HSB-6
2/13/1990
(8-10') ND
FTASB-06
8/23/1995
(0.5-1') 0.26 J
(8.5-10') ND
HMW-06
HMW-05
SB-025
7/22/1999
(0-1.5') 7.2
(6.5-5.5') ND
HMW-16A
7/29/1999
(0-1.5') 33
(7') 12
HA01SB004
SB-026
7/22/1999
(0-1.5') 6.4
(5.5') ND
SB-016
7/22/1999
(0-1.5') ND
(6') ND
HA01SB003
11/3/2009
(8-10') ND
SB-037
1/6/2000
(0-2') ND
(2-3') ND
SB-034
HMW-18
1/6/2000
(0-2') ND
(2-3') ND
FTASB-17
10/4/1995
(0.5-2.5') 0.71
(4.5-6.5') 1.8
HSB-5
2/13/1990
(5-8') ND
HMW-11
10/3/1995
(2-4') 6.3
(6-8') 4.0
HMW-12
10/2/1995
(1.5-3') 0.83
(4.5-6') 1.1
HMW-17
7/28/1999
(0-1.5') ND
(6.5') ND
SB-038
1/4/2000
(0-2') 14
(3.5-5.5') ND
SB-035
1/6/2000
(0-2') ND
(4-6') ND
SB-027
7/22/1999
(0-1.5') 16
(5.5') ND
SB-049
10/31/2001
(0-2') ND
SB-045
10/31/2001
(0-2') ND
SB-050
10/31/2001
(0-2') ND
LIGHTNING ROAD
7920
8052

## LEGEND

- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Constituent Exceedance of Residential RSL
- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Concentrations shown in the soil excavation area are post-soil removal activities.

0 125 250
SCALE IN FEET

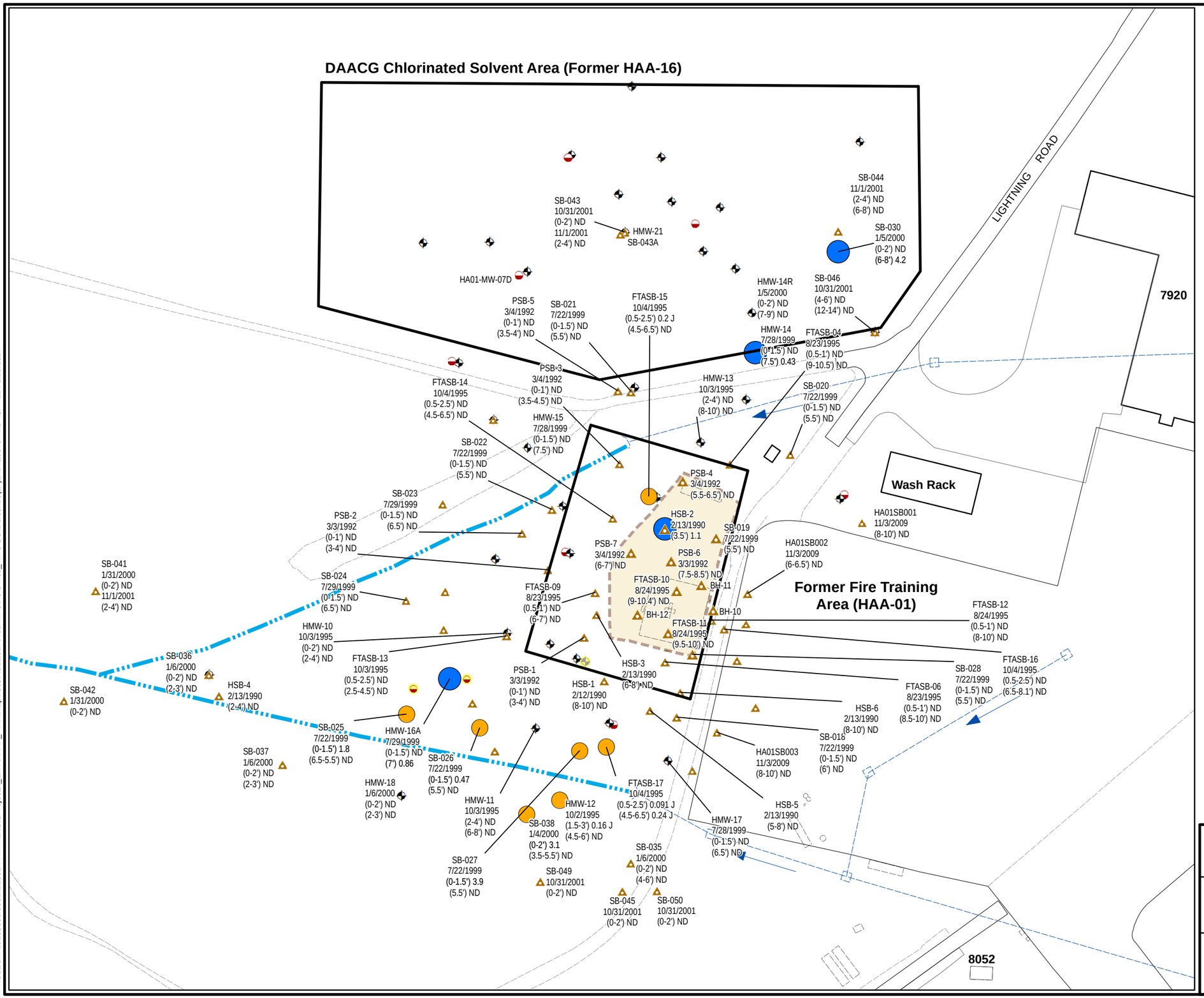
PROJECTION: NAD83 State Plane Georgia East.
AERIAL SOURCE: SAGIS (2008).

HUNTER ARMY AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Summary of Chrysene Concentrations in Soil**

PIKA ARCADIS a joint venture

FIGURE
**6-8**




## LEGEND

- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Constituent Exceedance of Residential RSL
- Constituent Exceedance of Industrial RSL
- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Concentrations shown in the soil excavation area are post-soil removal activities.

0 125 250
SCALE IN FEET

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

HUNTER ARMY AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Summary of Dibenzo(a,h)anthracene Concentrations in Soil**

PIKA ARCADIS a joint venture

FIGURE **6-9**

CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksinsabaugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GISProjects_ENVIHAAF_PIKA\MapDocs\IH01201?\H01 RIFS\F6-9 H01_RIFS SOIL dibenzo(ah)anthracene.mxd SAVED: 6/29/2017

CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksinsabaugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GISProjects_ENVHAAF_PIKAIMapDocs\H01\2017\H01 RIFS\F6-10 H01_RIFS SOIL Indeno(123)cdpyrene.mxd SAVED: 6/26/2017

# DAACG Chlorinated Solvent Area (Former HAA-16)

HA01-MW-11
HA01-MW-12D
COE-MW-05
HA01-MW-10
SB-044 11/1/2001 (2-4') ND (6-8') ND
COE-MW-06
COE-MW-04
COE-MW-02
HMW-21
SB-043A
SB-043 10/31/2001 (0-2') ND 11/1/2001 (2-4') ND
HA01-MW-18D
HA01-MW-13
COE-MW-08
COE-MW-03
SB-030 1/5/2000 (0-2') ND (6-8') 11
COE-MW-07
HA01-MW-07D
COE-MW-01
HMW-14R 1/5/2000 (0-2') ND (7-9') ND
LIGHTNING ROAD
7920
SB-021 7/22/1999 (0-1.5') ND (5.5') ND
PSB-5 3/4/1992 (0-1') ND (3.5-4') ND
SB-046 10/31/2001 (4-6') ND (12-14') ND
HMW-14 7/28/1999 (0-1.5') ND (7.5') 1.2
FTASB-14 10/4/1995 (0.5-2.5') 0.79 (4.5-6.5') ND
HMW-15 7/28/1999 (0-1.5') ND (7.5') ND
HA01-MW-14D
HA01-MW-14
PSB-3 3/4/1992 (0-1') ND (3.5-4.5') ND
HMW-13 10/3/1995 (2-4') ND (8-10') ND
HA01-MW-16
FTASB-04 8/23/1995 (0.5-1') ND (9-10.5') ND
SB-022 7/22/1999 (0-1.5') ND (5.5') ND
SB-040
FTASB-15 10/4/1995 (0.5-2.5') 0.6 (4.5-6.5')'ND
SB-020 7/22/1999 (0-1.5') ND (5.5') ND
SB-023 7/29/1999 (0-1.5') 0.52 (6.5') ND
PSB-4 3/4/1992 (5.5-6.5') ND
HMW-01
HMW-02
SB-019 7/22/1999 (5.5') ND
Wash Rack
HA01SB001 11/3/2009 (8-10') ND
SB-039
HMW-08
PSB-2 3/3/1992 (0-1') ND (3-4') ND
PSB-7 3/4/1992 (6-7') ND
PSB-6 3/3/1992 (7.5-8.5') ND
HMW-03
HMW-04
HA01-MW-17
Former Fire Training Area (HAA-01)
FTASB-09 8/23/1995 (0.5-1') ND (6-7') 0.08 J
FTASB-10 8/24/1995 (9-10.4') ND
BH-11
HA01SB002 11/3/2009 (6-6.5') ND
SB-041 1/31/2000 (0-2') ND 11/1/2001 (2-4') ND
SB-024 7/29/1999 (0-1.5') ND (6.5') ND
HA01SB005
PSB-1 3/3/1992 (0-1') ND (3-4') ND
BH-12
BH-10
FTASB-11 8/24/1995 (9.5-10') ND
SB-031
SB-036 1/6/2000 (0-2') 5.7 (2-3') ND
SB-047
HSB-3 2/13/1990 (6-8') ND
HMW-10 10/3/1995 (0-2') 0.21 JQ (2-4') ND
FTASB-13 10/3/1995 (0.5-2.5') 0.092 JQ (2.5-4.5') ND
HMW-23
HMW-24
HMW-07
SB-028
SB-032
FTASB-16 10/4/1995 (0.5-2.5') ND (6.5-8.1') ND
HMW-16C
HMW-16B
HSB-1 2/12/1990 (8-10') ND
HSB-5 2/13/1990 (5-8') ND
SB-042 1/31/2000 (0-2') ND
HSB-4 2/13/1990 (2-4') ND
SB-048
HMW-11 10/3/1995 (2-4') 2.2 (6-8') 1.3
SB-033
SB-028 7/22/1999 (0-1.5') ND (5.5') ND
HMW-06
HMW-05
SB-037 1/6/2000 (0-2') ND (2-3') ND
SB-025 7/22/1999 (0-1.5') 4.6 (6.5-5.5') ND
HA01SB004
SB-026 7/22/1999 (0-1.5') 3.5 (5.5') ND
SB-034
FTASB-06 8/23/1995 (0.5-1') 0.19 JL (8.5-10') ND
HMW-16A 7/29/1999 (0-1.5') 16 (7') 6.4
HMW-18 1/6/2000 (0-2') ND (2-3') ND
HMW-12 10/2/1995 (1.5-3') 0.44 (4.5-6') 0.58
FTASB-17 10/4/1995 (0.5-2.5') 0.52 (4.5-6.5') 0.49
HA01SB003 11/3/2009 (8-10') ND
HSB-6 2/13/1990 (8-10') ND
SB-027 7/22/1999 (0-1.5') 11 (5.5') ND
SB-038 1/4/2000 (0-2') 5.6 J (3.5-5.5') ND
SB-049 10/31/2001 (0-2') ND
SB-035 1/6/2000 (0-2') ND (4-6') ND
SB-045 10/31/2001 (0-2') ND
SB-050 10/31/2001 (0-2') ND
HMW-17 7/28/1999 (0-1.5') ND (6.5') ND
SB-018 7/22/1999 (0-1.5') ND (6') ND
8052

## LEGEND

- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Constituent Exceedance of Residential RSL
- Constituent Exceedance of Industrial RSL
- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Concentrations shown in the soil excavation area are post-soil removal activities.
6) **BOLD** Constituent detected above the PQL.

0 125 250
SCALE IN FEET

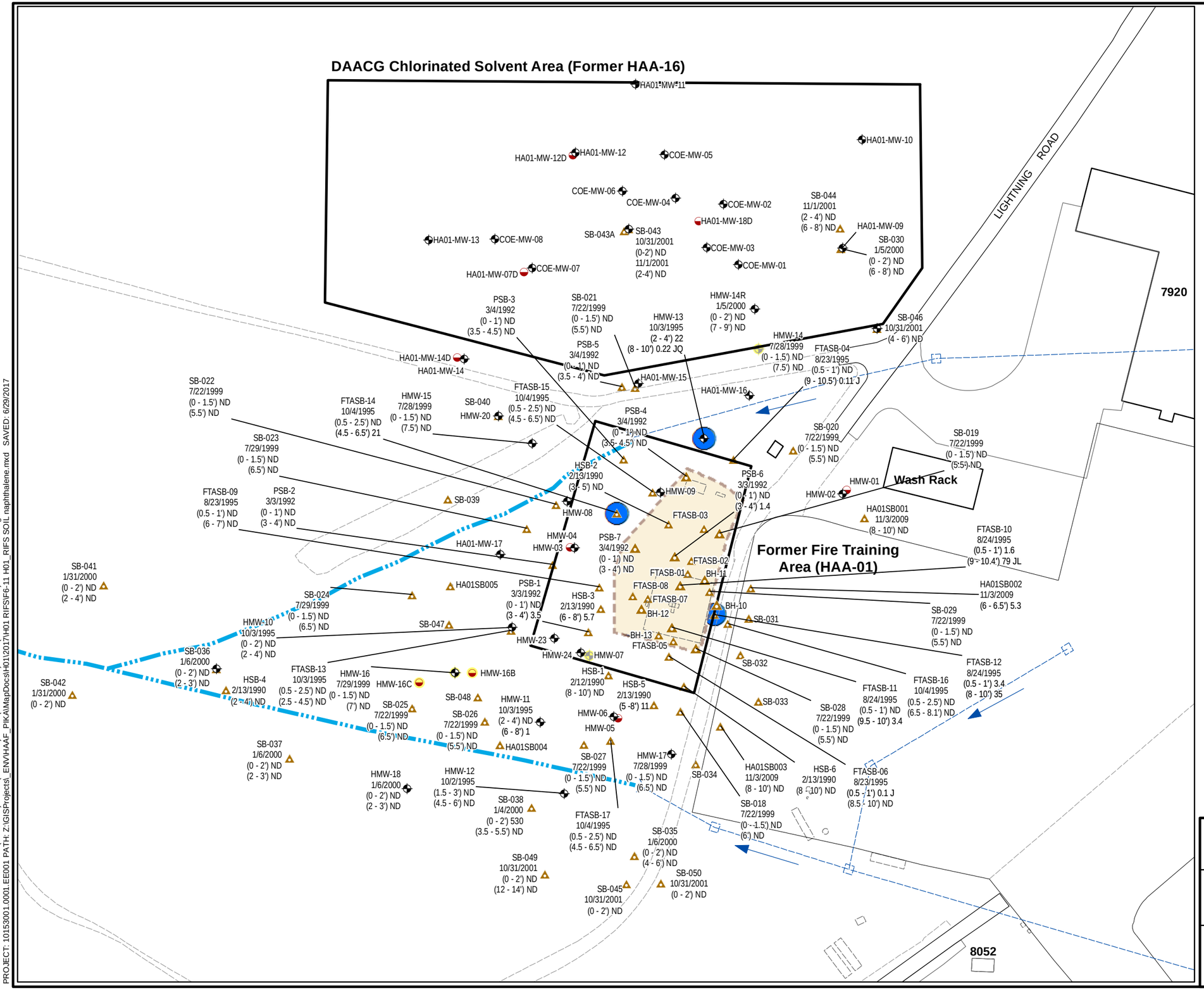
PROJECTION: NAD83 State Plane Georgia East.
AERIAL SOURCE: SAGIS (2008).

HUNTER army AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Summary of Indeno(1,2,3-cd)pyrene Concentrations in Soil**

PIKA ARCADIS a joint venture

FIGURE **6-10**




CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksinsabaugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GISProjects_ENV\HAAF_PIKA\MapDocs\H01201?H01 RIFS\F6-11 H01_RIFS SOIL naphthalene.mxd SAVED: 6/29/2017

## LEGEND

- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Constituent Exceedance of Industrial RSL
- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Concentrations shown in the soil excavation area are post-soil removal activities.
6) **BOLD** Constituent detected above the PQL.

0 125 250
SCALE IN FEET

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

HUNTER ARMY AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

# Summary of Naphthalene Concentrations in Soil

PIKA ARCADIS a joint venture

FIGURE **6-11**

CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksinsabaugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GISProjects\ENVIHAAF- PIKAMapDocs\HI01\20170401 RFS\HF6-12-H01_RFS SOIL Metals Dsize.mxd SAVED: 6/28/2017

# DAACG Chlorinated Solvent Area (Former HAA-16)

## Former Fire Training Area (HAA-01)

## EXCAVATION AREA

**Wash Rack**

**8052**

**HA01-MW-11** 11/9/2009

| | 1 - 2 | 2 - 3 |
|---|---|---|
| As | **0.3 J** | **0.46 J** |
| Ba | **8.2** | **13** |
| Cd | ND | ND |
| Ch | **3.2** | **6** |
| Pb | **4.5** | **6.5** |
| Hg | **0.025 J** | **0.06 J** |
| Se | ND | ND |
| Ag | **0.095 J** | **0.22 J** |

**HA01-MW-12** 11/6/2009

| | 3 - 4 |
|---|---|
| As | **0.48 J** |
| Ba | **6.3** |
| Cd | ND |
| Ch | **2.2** |
| Pb | **3.2** |
| Hg | **0.027 J** |
| Se | ND |
| Ag | ND |

**HA01-MW-13** 11/10/2009 11/9/2009

| | 1 - 2 | 4 - 5 |
|---|---|---|
| As | **0.29 J** | **0.29 J** |
| Ba | **2.4** | **23** |
| Cd | ND | ND |
| Ch | **0.91** | **9.9** |
| Pb | **2.1** | **5.2** |
| Hg | ND | **0.042 J** |
| Se | ND | ND |
| Ag | ND | ND |

**HA01-MW-14** 11/6/2009

| | 1 - 2 | 3 - 4 |
|---|---|---|
| As | **1.7** | **0.47 J** |
| Ba | **25** | **3.1** |
| Cd | **0.02 J** | **0.025 J** |
| Ch | **8.6** | **1.4** |
| Pb | **6.8** | **2** |
| Hg | **0.013 J** | **0.018 J** |
| Se | ND | ND |
| Ag | ND | **1.1** |

**HA01-MW-10** 11/9/2009

| | 1 - 2 | 3 - 4 |
|---|---|---|
| As | **1** | **0.47 J** |
| Ba | **10** | **8.7** |
| Cd | ND | ND |
| Ch | **2** | **2.3** |
| Pb | **6** | **2.2** |
| Hg | **0.035 J** | **0.027 J** |
| Se | ND | **0.23 J** |
| Ag | ND | ND |

**SB-043** 10/31/2001 11/1/2001

| | 0 - 2 | 2 - 4 | 2 - 6 |
|---|---|---|---|
| Ch | **2.4** | **2.6** | |

**SB-044** 11/1/2001

| | 2 - 4 | 6 - 8 |
|---|---|---|
| Ch | **2.7** | **4.3** |

**HA01-MW-09** 11/4/2009

| | 1 - 2 | 9 - 10 |
|---|---|---|
| As | **0.67** | **0.92** |
| Ba | **23** | **17** |
| Cd | ND | **0.016 J** |
| Ch | **4** | **4** |
| Pb | **3.8** | **5.9** |
| Hg | **0.017 J** | **0.014 J** |
| Se | ND | ND |
| Ag | ND | ND |

**HA01-MW-15** 11/5/2009

| | 1 - 2 | 5 - 6 |
|---|---|---|
| As | **1.4** | **0.72** |
| Ba | **13** | **9** |
| Cd | ND | **0.012 J** |
| Ch | **6.8** | **1** |
| Pb | **3.6** | **1.8** |
| Hg | **0.028 J** | **0.015 J** |
| Se | ND | ND |
| Ag | ND | ND |

**HA01-MW-16** 11/4/2009

| | 1 - 2 | 10 - 11 |
|---|---|---|
| As | **0.57** | **0.65** |
| Ba | **3.6** | **25** |
| Cd | **0.017 J** | ND |
| Ch | **3** | **6.3** |
| Pb | **2.9** | **4.2** |
| Hg | **0.03 J** | **0.028 J** |
| Se | ND | ND |
| Ag | **0.2 J** | **0.42** |

**SB-046** 10/31/2001

| | 4 - 6 | 12 - 14 |
|---|---|---|
| Ch | **1.9** | **3.9** |

**FTASB-15** 10/4/1995

| | 0.5 - 2.5 | 4.5 - 6.5 |
|---|---|---|
| As | **1.95** | **0.61 JQ** |
| Ba | **18** | **7.27 JQ** |
| Cd | **2.2** | ND |
| Ch | **4.1** | **2.6 JQ** |
| Pb | **13.9** | **5.4** |
| Hg | **0.026** | **0.045** |
| Se | **1.1** | **0.16** |
| Ag | **2.2** | ND |

**PSB-4** 3/4/1992

| | 0 - 1 | 3.5 - 4.5 | 5.5 - 6.5 |
|---|---|---|---|
| As | **0.33** | **0.54** | **0.59** |
| Ba | **9.6** | **14.7** | **17.7** |
| Cd | ND | ND | ND |
| Ch | **3.02** | **2.44** | **2.22** |
| Pb | ND | ND | ND |
| Hg | ND | ND | ND |
| Se | ND | ND | ND |
| Ag | ND | ND | ND |

**FTASB-04** 8/23/1995

| | 0.5 - 1 | 9 - 10.5 |
|---|---|---|
| As | **0.82** | **0.66 J** |
| Ba | **11** | **12** |
| Cd | **2.2** | ND |
| Ch | **3** | **2.4 J** |
| Pb | **2.7** | **3.5** |
| Hg | **0.02** | **0.022 J** |
| Se | **0.35** | **0.17 J** |
| Ag | **2.2** | ND |

**HSB-2** 2/13/1990

| | 3 - 5 |
|---|---|
| As | ND |
| Ba | **5.97** |
| Cd | ND |
| Ch | **3.49** |
| Pb | ND |
| Hg | ND |
| Se | ND |
| Ag | ND |

**HA01SB001** 11/3/2009 11/10/2009

| | 8 - 10 | 8 - 10 |
|---|---|---|
| As | **0.5 J** | **2.3** |
| Ba | **14** | **20** |
| Cd | ND | ND |
| Ch | **4.2** | **6.9** |
| Pb | **2** | **4.2** |
| Hg | **0.02 J** | ND |
| Se | ND | ND |
| Ag | **0.12 J** | ND |

**BH-11** 1/1/1987

| | 0 - 1 | 7.5 - 8.5 |
|---|---|---|
| As | **13.9** | **3.88** |
| Ba | **33.5** | **18.1** |
| Cd | **1.99** | ND |
| Ch | **4.16** | ND |
| Pb | **1,160** | ND |
| Hg | **0.38** | **0.38** |
| Se | ND | ND |
| Ag | ND | ND |

**BH-10** 1/1/1987

| | 0.5 - 8.5 | 0 - 1 |
|---|---|---|
| As | **2** | **5.99** |
| Ba | **9.19** | **64.4** |
| Cd | ND | ND |
| Ch | ND | **12.8** |
| Pb | **35.9** | **645** |
| Hg | **0.39** | **0.4** |
| Se | ND | ND |
| Ag | ND | ND |

**FTASB-12** 8/24/1995

| | 0.5 - 1 | 0.8 J |
|---|---|---|
| As | **1.07** | **0.8 J** |
| Ba | **9.3** | **15** |
| Cd | **2.4** | ND |
| Ch | **4.6** | **2.5 J** |
| Pb | **11.4** | **11.3** |
| Hg | **0.042** | **0.02 J** |
| Se | **0.27** | **0.18 J** |
| Ag | **2.4** | ND |

**FTASB-16** 10/4/1995

| | 0.5 - 2.5 | 6.5 - 8.1 |
|---|---|---|
| As | **1.43** | **1.29 JQ** |
| Ba | **11** | **10.7 J** |
| Cd | **2.1** | ND |
| Ch | **5.4** | **3.7 JQ** |
| Pb | **3.4** | **3.1** |
| Hg | **0.019** | **0.031** |
| Se | **1.1** | **1.2** |
| Ag | **2.1** | ND |

**FTASB-11** 8/24/1995

| | 0.5 - 1 | 9.5 - 10 |
|---|---|---|
| As | **0.86** | **0.38 J** |
| Ba | **69** | **10.6 J** |
| Cd | **2.2** | ND |
| Ch | **4.8** | **2.7 J** |
| Pb | **15** | **6.2** |
| Hg | **0.034** | ND |
| Se | **0.28** | **0.13 J** |
| Ag | **2.2** | ND |

**FTASB-06** 8/23/1995

| | 0.5 - 1 | 8.5 - 10 |
|---|---|---|
| As | **0.56** | **0.74 J** |
| Ba | **7.45** | **11.7 J** |
| Cd | **2.1** | ND |
| Ch | **5.1** | **2.2 J** |
| Pb | **15** | **2.4** |
| Hg | **0.035** | ND |
| Se | **0.438** | **0.15 J** |
| Ag | **2.1** | ND |

**PSB-5** 3/4/1992

| | 0 - 1 | 3.5 - 4 |
|---|---|---|
| As | **0.61** | **0.56** |
| Ba | **16.2** | **19.1** |
| Cd | ND | ND |
| Ch | **3.68** | **3.98** |
| Pb | ND | ND |
| Hg | ND | ND |
| Se | ND | ND |
| Ag | ND | ND |

**PSB-3** 3/4/1992

| | 0 - 1 | 3.5 - 4.5 |
|---|---|---|
| As | **0.51** | **0.33** |
| Ba | **10.3** | **13.9** |
| Cd | ND | ND |
| Ch | **3.55** | **2.16** |
| Pb | **7.39** | ND |
| Hg | ND | ND |
| Se | ND | ND |
| Ag | ND | ND |

**PSB-6** 3/3/1992

| | 0 - 1 | 3 - 4 | 7.5 - 8.5 |
|---|---|---|---|
| As | **0.5** | **0.93** | **0.37** |
| Ba | **23.7** | **15** | **17.1** |
| Cd | ND | ND | ND |
| Ch | **4.97** | **2.8** | **1.94** |
| Pb | **23.9** | **8.83** | ND |
| Hg | ND | ND | ND |
| Se | ND | ND | ND |
| Ag | ND | ND | ND |

**PSB-7** 3/4/1992

| | 0 - 1 | 3 - 4 | 6 - 7 |
|---|---|---|---|
| As | **1.61** | **1.18** | **0.85** |
| Ba | **47.6** | **38.4** | **17.6** |
| Cd | ND | ND | ND |
| Ch | **5.29** | **6.1** | **2.86** |
| Pb | **13.8** | **107** | ND |
| Hg | ND | ND | ND |
| Se | ND | ND | ND |
| Ag | ND | ND | ND |

**FTASB-14** 10/4/1995

| | 0.5 - 2.5 | 4.5 - 6.5 |
|---|---|---|
| As | **1.28** | **0.73 JQ** |
| Ba | **12** | **8.77 JQ** |
| Cd | **2.2** | ND |
| Ch | **4.4** | **4.7** |
| Pb | **11.4** | **8.6** |
| Hg | **0.032** | **0.041 JQ** |
| Se | **1.1** | **0.17** |
| Ag | **2.2** | ND |

**FTASB-10** 8/24/1995

| | 0.5 - 1 | 9 - 10.4 |
|---|---|---|
| As | **1.82** | **0.67 J** |
| Ba | **34** | **14** |
| Cd | **0.66** | ND |
| Ch | **14.7** | **2.2** |
| Pb | **111** | **11.1** |
| Hg | **0.042** | **0.033 J** |
| Se | **0.32** | **0.14 J** |
| Ag | **2.3** | ND |

**PSB-2** 3/3/1992

| | 0 - 1 | 3 - 4 |
|---|---|---|
| As | **1.32** | **2.44** |
| Ba | **19.1** | **23.6** |
| Cd | ND | ND |
| Ch | **6.64** | **6.03** |
| Pb | **17.3** | **7.58** |
| Hg | ND | ND |
| Se | ND | ND |
| Ag | ND | ND |

**HA01-MW-17** 11/4/2009

| | 1 - 2 | 6 - 7 |
|---|---|---|
| As | **0.73** | ND |
| Ba | **3.6** | **17** |
| Cd | **0.017 J** | **0.082 J** |
| Ch | **1.8** | **9.3** |
| Pb | **2.3** | **5.2** |
| Hg | **0.032 J** | **0.023 J** |
| Se | ND | ND |
| Ag | **0.054 J** | ND |

**FTASB-09** 8/23/1995

| | 0.5 - 1 | 6 - 7 |
|---|---|---|
| As | **0.66** | **1.07 J** |
| Ba | **11** | **15** |
| Cd | **2.5** | ND |
| Ch | **2.4** | **5.5** |
| Pb | **4.7** | **59** |
| Hg | **0.025** | **0.033 J** |
| Se | **0.59** | **0.43 J** |
| Ag | **2.5** | ND |

**HSB-3** 2/13/1990

| | 6 - 8 |
|---|---|
| As | ND |
| Ba | **6.21** |
| Cd | ND |
| Ch | **3.85** |
| Pb | ND |
| Hg | ND |
| Se | ND |
| Ag | ND |

**HA01SB005** 11/3/2009

| | 0 - 2 |
|---|---|
| Ch | **2.6** |
| Hg | **0.021 J** |

**SB-047** 10/31/2001

| | 2 - 4 | 6 - 8 |
|---|---|---|
| Ba | **6.5** | |

**HMW-10** 10/3/1995

| | 0 - 2 | 2 - 4 |
|---|---|---|
| As | **1.64** | **0.26 JQ** |
| Ba | **16** | **6.25 JQ** |
| Cd | **2.3** | ND |
| Ch | **7.7** | **3.3 JQ** |
| Pb | **17** | **11.8** |
| Hg | **0.046** | **0.033** |
| Se | **0.2** | **0.22** |
| Ag | **2.3** | ND |

**BH-12** 1/1/1987

| | 0 - 1 | 6.5 - 7.5 |
|---|---|---|
| As | **4** | ND |
| Ba | **7.19** | **8.12** |
| Cd | ND | ND |
| Ch | **5.19** | ND |
| Pb | **102** | **19.3** |
| Hg | **0.4** | **0.38** |
| Se | **0.79** | **0.6** |
| Ag | ND | ND |

**SB-048** 10/31/2001

| | 2 - 4 | 2 - 5 |
|---|---|---|
| Ch | **3.9** | |

**HA01SB004** 11/3/2009

| | 2 - 4 |
|---|---|
| Ch | **4.9** |
| Hg | **0.044 J** |

**FTASB-13** 10/3/1995

| | 0.5 - 2.5 | 2.5 - 4.5 |
|---|---|---|
| As | **1.56** | **1.62 JQ** |
| Ba | **12** | **33** |
| Cd | **2.2** | ND |
| Ch | **5.7** | **4.4 J** |
| Pb | **7.7** | **22** |
| Hg | **0.045** | **0.071 JQ** |
| Se | **0.17** | **0.31 JQ** |
| Ag | **2.2** | ND |

**HSB-4** 2/13/1990

| | 2 - 4 |
|---|---|
| As | **0.65** |
| Ba | **4.44** |
| Cd | ND |
| Ch | **5.87** |
| Pb | ND |
| Hg | ND |
| Se | ND |
| Ag | ND |

**PSB-1** 3/3/1992

| | 0 - 1 | 3 - 4 |
|---|---|---|
| As | **1.02** | **0.63** |
| Ba | **11.4** | **12.8** |
| Cd | ND | ND |
| Ch | **5.61** | **2.81** |
| Pb | **28** | ND |
| Hg | ND | ND |
| Se | ND | ND |
| Ag | ND | ND |

**HMW-11** 10/3/1995

| | 2 - 4 | 6 - 8 |
|---|---|---|
| As | **0.84 JQ** | **0.75 JQ** |
| Ba | **11.7 J** | **7.37 JQ** |
| Cd | ND | ND |
| Ch | **8.1** | **7.5** |
| Pb | **2.7** | **2.2** |
| Hg | **0.034** | **0.032** |
| Se | **0.25** | **0.37** |
| Ag | ND | ND |

**HSB-1** 2/12/1990

| | 8 - 10 |
|---|---|
| As | ND |
| Ba | **3.63** |
| Cd | ND |
| Ch | **0.78** |
| Pb | ND |
| Hg | ND |
| Se | ND |
| Ag | ND |

**BH-13** 1/1/1987

| | 0 - 1 | 6.5 - 7.5 |
|---|---|---|
| As | **12** | **3.94** |
| Ba | **27.1** | **8.28** |
| Cd | **3.87** | ND |
| Ch | **9.1** | ND |
| Pb | **1,180** | **13.6** |
| Hg | **0.79** | **0.39** |
| Se | **0.33** | ND |
| Ag | ND | ND |

**HMW-12** 10/2/1995

| | 1.5 - 3 | 4.5 - 6 |
|---|---|---|
| As | **0.51 JQ** | **1.04 JQ** |
| Ba | **5.96 JQ** | **5.68 JQ** |
| Cd | ND | ND |
| Ch | **3.6 JQ** | **4.6 J** |
| Pb | **2.5** | **2** |
| Hg | **0.035** | **0.032** |
| Se | **0.23** | **0.54** |
| Ag | ND | ND |

**HMW-09** 10/3/1995

| | 0 - 2 | 2 - 4 |
|---|---|---|
| As | **0.29 JQ** | **0.26 JQ** |
| Ba | **6.3** | **5.8** |
| Cd | ND | ND |
| Ch | **2.2** | **2.1** |
| Pb | **3.2** | **3.2** |
| Hg | **0.027 J** | ND |
| Se | ND | ND |
| Ag | ND | ND |

**EW-E6-b** 2/26/1998

| | 3.67 |
|---|---|
| Ba | **12** |
| Cd | **1.2** |
| Ch | ND |
| Pb | **22** |

**EW-E7-a** 2/26/1998

| | 3.5 |
|---|---|
| Ba | **15** |
| Cd | ND |
| Ch | ND |
| Pb | **6.2** |

**EW-F5** 2/26/1998

| | 3.07 |
|---|---|
| Ba | **10** |
| Cd | **0.9** |
| Ch | ND |
| Pb | **18** |

**EB-F6** 2/26/1998

| | 8.32 |
|---|---|
| Ba | **11** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-E6** 2/26/1998

| | 6.54 |
|---|---|
| Ba | **14** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-E7** 2/26/1998

| | 6.95 |
|---|---|
| Ba | **10** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EW-E6-a** 2/26/1998

| | 3.5 |
|---|---|
| Ba | **12** |
| Cd | **1.3** |
| Ch | ND |
| Pb | **15** |

**EB-E8-a** 2/26/1998

| | 3 |
|---|---|
| Ba | **11** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-E8** 2/26/1998

| | 5.8 |
|---|---|
| Ba | **11** |
| Cd | **0.6** |
| Ch | ND |
| Pb | **15** |

**EW-G5-a** 2/26/1998

| | 2.78 |
|---|---|
| Ba | **9.5** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EW-F5** 2/26/1998

| | 6.54 |
|---|---|
| Ba | **11** |
| Cd | ND |
| Ch | ND |
| Pb | **5.5** |

**EB-G5** 2/26/1998

| | 6.35 |
|---|---|
| Ba | **8.1** |
| Cd | **0.6** |
| Ch | ND |
| Pb | ND |

**EW-G5-b** 2/26/1998

| | 2.66 |
|---|---|
| Ba | **10** |
| Cd | **1** |
| Ch | ND |
| Pb | **16** |

**EW-H4** 3/3/1998

| | 3.16 |
|---|---|
| Ba | **7.8** |
| Cd | ND |
| Ch | ND |
| Pb | **5.6** |

**EB-G6** 2/26/1998

| | 5.77 |
|---|---|
| Ba | **9.7** |
| Cd | **0.6** |
| Ch | ND |
| Pb | **15** |

**EB-F8** 2/26/1998

| | 6.04 |
|---|---|
| Ba | **13** |
| Cd | ND |
| Ch | ND |
| Pb | **7.2** |

**EW-E8-b** 2/26/1998

| | 3.17 |
|---|---|
| Ba | **13** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-H5** 2/26/1998

| | 5.43 |
|---|---|
| Ba | **6.5** |
| Cd | **0.9** |
| Ch | ND |
| Pb | **16** |

**EB-H6** 2/26/1998

| | 5.43 |
|---|---|
| Ba | **10** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-F7** 2/26/1998

| | 7.7 |
|---|---|
| Ba | **10** |
| Cd | **0.9** |
| Ch | ND |
| Pb | **23** |

**EB-H4** 3/3/1998

| | 5.5 |
|---|---|
| Ba | **7.8** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EW-I4-a** 3/3/1998

| | 2.58 |
|---|---|
| Ba | **7.1** |
| Cd | ND |
| Ch | ND |
| Pb | **8.9** |

**EB-H7** 2/26/1998

| | 5.43 |
|---|---|
| Ba | **14** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-I5** 2/26/1998

| | 5.43 |
|---|---|
| Ba | **6.8** |
| Cd | **0.9** |
| Ch | ND |
| Pb | **13** |

**EB-G8** 2/26/1998

| | 5.5 |
|---|---|
| Ba | **13** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-G7** 2/26/1998

| | 6.26 |
|---|---|
| Ba | **11** |
| Cd | ND |
| Ch | ND |
| Pb | **12** |

**EB-H8** 2/26/1998

| | 5.43 |
|---|---|
| Ba | **15** |
| Cd | **1** |
| Ch | ND |
| Pb | **20** |

**EB-I4** 3/3/1998

| | 6.18 |
|---|---|
| Ba | **7.2** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EW-I4-b** 3/3/1998

| | 2.67 |
|---|---|
| Ba | **9.2** |
| Cd | ND |
| Ch | **9.4** |
| Pb | **5.1** |

**EW-J4** 3/3/1998

| | 3.05 |
|---|---|
| Ba | **9.4** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-J4** 3/3/1998

| | 6.1 |
|---|---|
| Ba | **10** |
| Cd | ND |
| Ch | ND |
| Pb | **10** |

**EB-I6** 2/26/1998

| | 5.43 |
|---|---|
| Ba | **11** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-I8** 2/26/1998

| | 6.29 |
|---|---|
| Ba | **9.4** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-J5** 3/3/1998

| | 5.41 |
|---|---|
| Ba | **7.9** |
| Cd | ND |
| Ch | ND |
| Pb | **5.8** |

**EB-J6** 3/3/1998

| | 7.89 |
|---|---|
| Ba | **13** |
| Cd | ND |
| Ch | ND |
| Pb | **6.3** |

**EB-J7** 3/3/1998

| | 8.33 |
|---|---|
| Ba | **13** |
| Cd | ND |
| Ch | ND |
| Pb | **6.4** |

**EB-J8** 3/3/1998

| | 7.32 |
|---|---|
| Ba | **21** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-K4** 3/3/1998

| | 5.68 |
|---|---|
| Ba | **15** |
| Cd | ND |
| Ch | ND |
| Pb | **49** |

**EW-K4** 3/3/1998

| | 2.5 |
|---|---|
| Ba | **15** |
| Cd | ND |
| Ch | ND |
| Pb | **53** |

**EB-K6** 3/3/1998

| | 7.89 |
|---|---|
| Ba | **14** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-K7** 3/3/1998

| | 8.11 |
|---|---|
| Ba | **18** |
| Cd | ND |
| Ch | ND |
| Pb | **7.8** |

**EB-K8** 3/3/1998

| | 7.05 |
|---|---|
| Ba | **11** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-L8** 3/3/1998

| | 7.59 |
|---|---|
| Ba | **10** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EW-K5** 3/3/1998

| | 4.94 |
|---|---|
| Ba | **11** |
| Cd | ND |
| Ch | **5.8** |
| Pb | **11** |

**EW-L4** 3/3/1998

| | 2.29 |
|---|---|
| Ba | **8.9** |
| Cd | ND |
| Ch | ND |
| Pb | **10** |

**EW-L7** 3/3/1998

| | 3.31 |
|---|---|
| Ba | **9.4** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EW-L8-a** 3/3/1998

| | 3.32 |
|---|---|
| Ba | **14** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EW-L8-B** 3/3/1998

| | 3.8 |
|---|---|
| Ba | **12** |
| Cd | ND |
| Ch | ND |
| Pb | **11** |

**EW-L5-a** 3/3/1998

| | 2.59 |
|---|---|
| Ba | **12** |
| Cd | ND |
| Ch | ND |
| Pb | **16** |

**EB-L5** 3/3/1998

| | 5.43 |
|---|---|
| Ba | **9.9** |
| Cd | ND |
| Ch | ND |
| Pb | **9.7** |

**EW-L5-b** 3/3/1998

| | 2.49 |
|---|---|
| Ba | **11** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-L6** 3/3/1998

| | 7.78 |
|---|---|
| Ba | **11** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EW-L6** 3/3/1998

| | 3.42 |
|---|---|
| Ba | **13** |
| Cd | ND |
| Ch | ND |
| Pb | ND |

**EB-L7** 3/3/1998

| | 7.29 |
|---|---|
| Ba | **13** |
| Cd | ND |
| Ch | ND |
| Pb | **16** |

0 80 160 240 320

SCALE IN FEET

0 30 60 90 120

SCALE IN FEET

PROJECTION: NAD83 State Plane Georgia East.

**LEGEND**

- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)
- Arsenic Exceedance of Residential RSL
- Arsenic Exceedance of Industrial RSL
- Monitor Well (shallow)
- Monitor Well (deep)
- Soil Boring (1987-2009)
- Confirmation Soil Sample (November 1997)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Q values exceed quality control.
6) Concentrations shown in the soil excavation area are post-soil removal activities.
7) **BOLD** - Constituent detected above method detection limit.

**FTASB-12** 8/24/1995

| | 0.5 - 1 | 8 - 10 |
|---|---|---|
| As | **1.07** | **0.8 J** |
| Ba | **9.3** | **15** |
| Cd | **2.4** | ND |
| Ch | **4.6** | **2.5 J** |
| Pb | **11.4** | **11.3** |
| Hg | **0.042** | **0.02 J** |
| Se | **0.27** | **0.18 J** |
| Ag | **2.4** | ND |

Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver — Result

Sample Location
Sample Date
Sample Depth

HUNTER ARMY AIRFIELD, GEORGIA

**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

## Extent of Metals in Soil

PIKA ARCADIS a joint venture

FIGURE **6-12**

CITY: Citrix DIVISION/GROUP: IM/DV LD: K. Sinsabaugh PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksinsabaugh
PROJECT: 10153001.0001.N80R1 PATH: Z:\GISProjects_ENVIPIKA\PIKAMapDocs\H01207\H01 RIFS\F6-13 H01_RIFS SOIL Pesticides Dsire.mxd SAVED: 4/3/2018

DAACG Chlorinated Solvent Area (Former HAA-16)

Former Fire Training Area (HAA-01)

Wash Rack

LIGHTNING ROAD

1997 Excavation Area (5' Depth)

1997 Excavation Area (7' Depth)

EXCAVATION AREA

SCALE IN FEET

PROJECTION: NAD83 State Plane Georgia East.

**LEGEND**

- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)
- Dieldrin Exceedance of Residential RSL
- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Confirmation Soil Sample (November 1997)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Concentrations shown in the soil excavation area are post-soil removal activities.
6) **BOLD** - Constituent detected above method detection limit.
7) All results are mg/kg - milligrams per kilogram.

| EB-L5 | Sample Location |
|---|---|
| 3/3/1998 | Sample Date |
| 5.43 | Sample Depth |
| A-1254 ND | |
| DDD **0.015** | Result |
| DDE **0.024** | |
| DDT NA | |
| Diel ND | Not Analyzed |

Aroclor 1254
DDD
DDE, p,p'-
DDT
Dieldrin

HUNTER army AIRFIELD, GEORGIA

# HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

## Extent of Pesticides in Soil

PIKA ARCADIS a joint venture

FIGURE **6-13**

CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksinsataugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GISProjects_ENV\HAAF_PIKA\MapDocs\H01\2017\H01 RIFS\IF6-14 H01_RIFS SOIL VOCs Dsize.mxd SAVED: 6/27/2017

DAACG Chlorinated Solvent Area (HAA-16)

Former Fire Training Area (HAA-01)

Former Fire Training Area (HAA-01)

EXCAVATION AREA

1997 Excavation Area (5' Depth)

1997 Excavation Area (7' Depth)

LIGHTNING ROAD

8052

SCALE IN FEET

0 80 160 240 320

0 30 60 90 120

PROJECTION: NAD83 State Plane Georgia East.

**LEGEND**

- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)
- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Confirmation Soil Sample (November 1997)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Q values exceed quality control.
6) Concentrations shown in the soil excavation area are post-soil removal activities.
7) **BOLD** - Constituent detected above method detection limit.

| PSB-2 | |
|---|---|
| 3/3/1992 | |
| 0 - 1 | 3 - 4 |
| CFC-11 **0.012** | **0.012** |
| MC ND | ND |
| Tol ND | ND |

CFC-11
Methylene chloride
Toluene

Sample Location
Sample Date
Sample Depth
Result

HUNTER ARMY AIRFIELD, GEORGIA

# HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

## Extent of VOCs in Soil

PIKA ARCADIS a joint venture

FIGURE **6-14**

CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: ksinsabaugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GISProjects_ENVHAAF_PIKAIMapDocs\H01\2017\H01 RIFS\F6-15 H01_RIFS SOIL SVOC PAH Dsize.mxd SAVED: 6/26/2017

## DAACG Chlorinated Solvent Area (Former HAA-16)

## Former Fire Training Area (HAA-01)

## EXCAVATION AREA

1997 Excavation Area (5' Depth)

1997 Excavation Area (7' Depth)

| PSB-5 | |
|---|---|
| 3/4/1992 | |
| 0 - 1 | 3.5 - 4 |
| Ac ND | ND |
| An ND | ND |
| B(ghi) ND | ND |
| D(a,h) ND | ND |
| Flu ND | ND |
| Flo ND | ND |
| Ph ND | ND |
| Py ND | ND |

| SB-043 | | |
|---|---|---|
| 10/31/2000 | 11/1/2001 | |
| 0 - 2 | 2 - 4 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| FTASB-14 | | |
|---|---|---|
| 10/4/1995 | | |
| 0.5 - 2.5 | 4.5 - 6.5 | |
| Ac | **0.15 JQ** | ND |
| An | **0.13 JQ** | **0.094 JQ** |
| B(ghi) | **0.93** | **0.08 JQ** |
| D(a,h) | ND | ND |
| Flu | **0.73** | **0.53** |
| Flo | ND | **0.82** |
| Ph | **0.098 JQ** | **0.76** |
| Py | **1.2** | **0.45** |

| HMW-15 | | |
|---|---|---|
| 7/28/1999 | | |
| 0 - 1.5 | 7.5 - 7.5 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| HMW-14R | | |
|---|---|---|
| 1/5/2000 | | |
| 0 - 2 | 7 - 9 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| SB-044 | | |
|---|---|---|
| 11/1/2001 | | |
| 2 - 4 | 6 - 8 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| PSB-6 | | |
|---|---|---|
| 3/4/1992 | | |
| 0 - 1 | 3 - 4 | 7.5 - 8.5 |
| Ac ND | **0.39** | ND |
| An ND | **0.44** | ND |
| B(ghi) ND | ND | ND |
| D(a,h) ND | ND | ND |
| Flu **0.36** | **0.32** | ND |
| Flo ND | ND | ND |
| Ph **0.17** | **0.09** | ND |
| Py **0.17** | **0.23** | ND |

| SB-030 | | |
|---|---|---|
| 1/5/2000 | | |
| 0 - 2 | 6 - 8 | |
| Ac ND | **6.6** | |
| An ND | **5.7** | |
| B(ghi) ND | **12** | |
| D(a,h) ND | **4.2** | |
| Flu ND | **22** | |
| Flo ND | **3.7** | |
| Ph ND | **19** | |
| Py ND | **20 J** | |

| SB-022 | | |
|---|---|---|
| 7/27/1999 | | |
| 0 - 1.5 | 5.5 - 5.5 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| SB-021 | | |
|---|---|---|
| 7/22/1999 | | |
| 0 - 1.5 | 5.5 - 5.5 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| HMW-14 | | |
|---|---|---|
| 7/28/1999 | | |
| 0 - 1.5 | 7.5 - 7.5 | |
| Ac ND | **0.47** | |
| An ND | ND | |
| B(ghi) ND | **1.2** | |
| D(a,h) ND | **0.43** | |
| Flu ND | **2.4** | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | **2** | |

| PSB-4 | | |
|---|---|---|
| 3/4/1992 | | |
| 0 - 1 | 3.5 - 4.5 | 5.5 - 6.5 |
| Ac ND | ND | ND |
| An ND | ND | ND |
| B(ghi) ND | ND | ND |
| D(a,h) ND | ND | ND |
| Flu ND | ND | ND |
| Flo ND | ND | ND |
| Py **0.14** | ND | ND |

| SB-046 | | |
|---|---|---|
| 10/31/2001 | | |
| 4 - 6 | 12 - 14 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| PSB-7 | | |
|---|---|---|
| 3/4/1992 | | |
| 0 - 1 | 3 - 4 | 6 - 7 |
| Ac ND | **0.21** | ND |
| An ND | **0.21** | ND |
| B(ghi) ND | ND | ND |
| D(a,h) ND | ND | ND |
| Flu **0.18** | **0.98** | ND |
| Flo ND | ND | ND |
| Ph ND | **0.1** | ND |
| Py **0.11** | **0.81** | ND |

| SB-023 | | |
|---|---|---|
| 7/29/1999 | | |
| 0 - 1.5 | 6.5 - 6.5 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) **0.56** | ND | |
| D(a,h) ND | ND | |
| Flu **0.52** | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py **0.53** | ND | |

| SB-003 | | |
|---|---|---|
| 3/4/1992 | | |
| 0 - 1 | 3.5 - 4.5 | |
| Ac ND | ND | |
| An **0.67** | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu **8.1** | ND | |
| Flo ND | ND | |
| Ph **0.67** | ND | |
| Py **5.2** | ND | |

| HMW-13 | | |
|---|---|---|
| 12/3/1999 | | |
| 2 - 4 | 8 - 10 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu **0.64** | ND | |
| Flo **0.3 JQ** | ND | |
| Py **0.34 JQ** | ND | |

| FTASB-04 | | |
|---|---|---|
| 9/23/1995 | | |
| 0.5 - 1 | 8 - 10.2 | |
| Ac ND | **0.12 J** | |
| An ND | **0.15 J** | |
| B(ghi) ND | ND | |
| D(a,h) ND | **0.24 J** | |
| Flu ND | **0.19 J** | |
| Flo ND | **0.18 J** | |
| Py ND | **0.19 J** | |

| SB-020 | | |
|---|---|---|
| 7/22/1999 | | |
| 0 - 1.5 | 5.5 - 5.5 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| FTASB-10 | | |
|---|---|---|
| 9/24/1995 | | |
| 0.5 - 1 | 9 - 10.4 | |
| Ac ND | ND | |
| An **0.18 JL** | **0.3 J** | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu **0.35 JL** | **0.48 J** | |
| Flo **0.28 J** | **2.3 JL** | |
| Py **0.71 JL** | **2** | |
| Py **0.33 J** | **0.95 J** | |

| FTASB-15 | | |
|---|---|---|
| 10/4/1995 | | |
| 0.5 - 2.5 | 4.5 - 6.5 | |
| Ac | **0.26 JQ** | ND |
| An | **0.15 JQ** | ND |
| B(ghi) | **0.66** | ND |
| D(a,h) | **0.7 JQ** | ND |
| Flu | **0.67** | ND |
| Flo | ND | ND |
| Ph | **0.062 JQ** | ND |
| Py | **0.78** | ND |

| PSB-2 | | |
|---|---|---|
| 3/3/1992 | | |
| 0 - 1 | 3 - 4 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu **0.16** | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py **0.19** | ND | |

| FTASB-09 | | |
|---|---|---|
| 9/23/1995 | | |
| 0.5 - 1 | 6 - 7 | |
| Ac ND | ND | |
| An ND | **0.14 J** | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | **0.14 J** | |
| Py ND | ND | |

| HSB-2 | | |
|---|---|---|
| 2/13/1990 | | |
| 3 - 5 | | |
| Ac **0.4** | | |
| An **1.3** | | |
| B(ghi) **2.2** | | |
| D(a,h) **1.1** | | |
| Flu **13** | | |
| Flo **0.72** | | |
| Ph **8.1** | | |
| Py **9.7** | | |

| HA01SB001 | | |
|---|---|---|
| 11/1/2009 | | |
| 8 - 10 | | |
| Ac ND | | |
| An ND | | |
| B(ghi) ND | | |
| D(a,h) ND | | |
| Flu ND | | |
| Flo ND | | |
| Ph ND | | |
| Py ND | | |

| SB-029 | | |
|---|---|---|
| 7/22/1999 | | |
| 0 - 1.5 | 5.5 - 5.5 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| SB-041 | | |
|---|---|---|
| 1/31/2000 | | |
| 0 - 2 | 2 - 4 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| HMW-10 | | |
|---|---|---|
| 10/3/1995 | | |
| 0 - 2 | 2 - 4 | |
| Ac ND | ND | |
| An **0.042 JQ** | ND | |
| B(ghi) **0.21 JQ** | ND | |
| D(a,h) ND | ND | |
| Flu **0.51** | ND | |
| Flo ND | ND | |
| Ph **0.17 JQ** | ND | |
| Py **0.67** | ND | |

| HSB-3 | | |
|---|---|---|
| 2/13/1990 | | |
| 6 - 8 | | |
| Ac ND | | |
| An ND | | |
| B(ghi) ND | | |
| D(a,h) ND | | |
| Flu **0.14** | | |
| Flo ND | | |
| Ph **0.15** | | |
| Py **0.14** | | |

| SB-024 | | |
|---|---|---|
| 7/29/1999 | | |
| 0 - 1.5 | 6.5 - 6.5 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| SB-019 | | |
|---|---|---|
| 7/22/1999 | | |
| 0 - 1.5 | 5.5 - 5.5 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| BH-11 | | |
|---|---|---|
| 11/1/1987 | | |
| 0 - 1 | 7.5 - 8.5 | |
| Flo ND | ND | |
| Ph ND | ND | |

| BH-10 | | |
|---|---|---|
| 1/1/1987 | | |
| 7.5 - 8.5 | 0 - 1 | |
| Flo **0.4** | ND | |
| Ph **0.9** | ND | |

| HA01SB002 | | |
|---|---|---|
| 11/3/2009 | | |
| 6 - 6.5 | | |
| Ac ND | | |
| An ND | | |
| B(ghi) ND | | |
| D(a,h) ND | | |
| Flu **0.21** | | |
| Flo ND | | |
| Ph **0.66** | | |
| Py **0.22** | | |

| FTASB-13 | | |
|---|---|---|
| 10/3/1995 | | |
| 0.5 - 2.5 | 2.5 - 4.5 | |
| An ND | ND | |
| B(ghi) **0.095 JQ** | ND | |
| D(a,h) ND | ND | |
| Flu **0.22 JQ** | **0.13 JQ** | |
| Flo ND | ND | |
| Ph **0.049 JQ** | ND | |
| Py **0.29 JQ** | **0.13 JQ** | |

| SB-036 | | |
|---|---|---|
| 1/6/2000 | | |
| 0 - 2 | 2 - 3 | |
| Ac **0.97** | ND | |
| An **0.87** | ND | |
| B(ghi) **5.7** | ND | |
| D(a,h) ND | ND | |
| Flu **11** | ND | |
| Flo ND | ND | |
| Ph **2.4 J** | ND | |
| Py **10 J** | ND | |

| HSB-4 | | |
|---|---|---|
| 2/13/1990 | | |
| 2 - 4 | | |
| Ac ND | | |
| An ND | | |
| B(ghi) ND | | |
| D(a,h) ND | | |
| Flu ND | | |
| Flo ND | | |
| Ph ND | | |
| Py ND | | |

| BH-12 | | |
|---|---|---|
| 1/1/1987 | | |
| 0 - 1 | 6.5 - 7.5 | |
| Flo ND | **0.2** | |
| Ph ND | **0.2** | |

| FTASB-16 | | |
|---|---|---|
| 10/4/1995 | | |
| 0.5 - 2.5 | 8.5 - 8.5 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| FTASB-12 | | |
|---|---|---|
| 8/24/1995 | | |
| 0.5 - 1 | 8 - 10 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) **0.15 JL** | ND | |
| D(a,h) ND | ND | |
| Flu **0.46 JL** | **0.64 JL** | |
| Flo **0.78** | **1.4 J** | |
| Ph **1.6 JL** | **4.2 JL** | |
| Py **0.37 JH** | **1.2 J** | |

| SB-047 | | |
|---|---|---|
| 1/31/2000 | | |
| 0 - 2 | 2 - 4 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| HMW-16A | | |
|---|---|---|
| 7/28/1999 | | |
| 0 - 1.5 | 7 - 7 | |
| Ac **3.6** | **1.5** | |
| An **7.5** | **2.2** | |
| B(ghi) **14** | **5.7** | |
| D(a,h) ND | **0.86** | |
| Flu **72** | **24** | |
| Flo ND | ND | |
| Ph **32** | **10** | |
| Py **49** | **17** | |

| PSB-1 | | |
|---|---|---|
| 3/3/1992 | | |
| 0 - 1 | 3 - 4 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu **0.69** | ND | |
| Flo ND | ND | |
| Ph **0.44** | ND | |
| Py **0.58** | ND | |

| SB-037 | | |
|---|---|---|
| 1/6/2000 | | |
| 0 - 2 | 2 - 3 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| SB-025 | | |
|---|---|---|
| 7/22/1999 | | |
| 0 - 1.5 | 6.5 - 5.5 | |
| Ac **1.6** | ND | |
| An **1.5** | ND | |
| B(ghi) **3.8** | ND | |
| D(a,h) **1.8** | ND | |
| Flu **11** | ND | |
| Flo ND | ND | |
| Ph **2** | ND | |
| Py **8.5** | ND | |

| SB-026 | | |
|---|---|---|
| 7/22/1999 | | |
| 0 - 1.5 | 5.5 - 5.5 | |
| Ac **0.83** | ND | |
| An **2.2** | ND | |
| B(ghi) **3** | ND | |
| D(a,h) **0.47** | ND | |
| Flu **13** | ND | |
| Flo **0.45** | ND | |
| Ph **7.3** | ND | |
| Py **8.7** | ND | |

| HMW-18 | | |
|---|---|---|
| 1/6/2000 | | |
| 0 - 2 | 2 - 3 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| HMW-11 | | |
|---|---|---|
| 10/3/1995 | | |
| 2 - 4 | 6 - 8 | |
| Ac **0.71** | **0.59** | |
| An **1.5** | **0.72** | |
| B(ghi) **2** | **1.4** | |
| D(a,h) ND | ND | |
| Flu **19** | **5.2** | |
| Flo **0.42** | **0.63** | |
| Ph **6.3** | **3.3** | |
| Py **14** | **7.2** | |

| HSB-1 | | |
|---|---|---|
| 2/13/1990 | | |
| 8 - 10 | | |
| Ac ND | | |
| An ND | | |
| B(ghi) ND | | |
| D(a,h) ND | | |
| Flu ND | | |
| Flo ND | | |
| Ph ND | | |
| Py ND | | |

| BH-13 | | |
|---|---|---|
| 1/1/1987 | | |
| 0 - 1 | 6.5 - 7.5 | |
| Flo ND | ND | |
| Ph ND | ND | |

| FTASB-17 | | |
|---|---|---|
| 10/4/1995 | | |
| 0.5 - 2.5 | 4.5 - 6.5 | |
| Ac | **0.24 JQ** | **0.39** |
| An | **0.15 JQ** | **0.19 JQ** |
| B(ghi) | **0.58** | **0.65** |
| D(a,h) | **0.091 JQ** | **0.24 JQ** |
| Flu | **1.1** | **1.3** |
| Flo | ND | ND |
| Ph | **0.3 JQ** | **0.42** |
| Py | **1** | **2.3 JL** |

| HMW-17 | | |
|---|---|---|
| 7/28/1999 | | |
| 0 - 1.5 | 6.5 - 6.5 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| SB-035 | | |
|---|---|---|
| 1/6/2000 | | |
| 0 - 2 | 4 - 6 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu **0.5** | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| HSB-5 | | |
|---|---|---|
| 2/13/1990 | | |
| 5 - 8 | | |
| Ac ND | | |
| An ND | | |
| B(ghi) ND | | |
| D(a,h) ND | | |
| Flu **0.35** | | |
| Flo ND | | |
| Ph **0.29** | | |
| Py **0.54** | | |

| SB-018 | | |
|---|---|---|
| 7/22/1999 | | |
| 0 - 1.5 | 6 - 6 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| HA01SB003 | | |
|---|---|---|
| 11/3/2009 | | |
| 6 - 6 | | |
| Ac ND | | |
| An ND | | |
| B(ghi) ND | | |
| D(a,h) ND | | |
| Flu ND | | |
| Flo ND | | |
| Ph ND | | |
| Py ND | | |

| FTASB-11 | | |
|---|---|---|
| 9/23/1995 | | |
| 0.5 - 1 | 9.5 - 10 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) **0.26 J** | ND | |
| D(a,h) ND | ND | |
| Flu **0.26 J** | ND | |
| Flo ND | **0.21 J** | |
| Ph ND | **0.30 J** | |
| Py **0.24 JH** | ND | |

| SB-028 | | |
|---|---|---|
| 7/22/1999 | | |
| 0 - 1.5 | 5.5 - 5.5 | |
| Ac ND | ND | |
| An ND | ND | |
| B(ghi) ND | ND | |
| D(a,h) ND | ND | |
| Flu ND | ND | |
| Flo ND | ND | |
| Ph ND | ND | |
| Py ND | ND | |

| FTASB-06 | | |
|---|---|---|
| 9/23/1995 | | |
| 0.5 - 1 | 8.5 - 10 | |
| Ac ND | ND | |
| An **0.14 J** | ND | |
| B(ghi) **0.16 JL** | ND | |
| D(a,h) ND | ND | |
| Flu **0.36** | ND | |
| Flo **0.16 JL** | ND | |
| Ph **0.3 J** | ND | |
| Py **0.47** | ND | |

| SB-049 | | |
|---|---|---|
| 10/31/2001 | | |
| 0 - 2 | | |
| Ac ND | | |
| An ND | | |
| B(ghi) ND | | |
| D(a,h) ND | | |
| Flu ND | | |
| Flo ND | | |
| Ph ND | | |
| Py ND | | |

| HMW-12 | | |
|---|---|---|
| 10/2/1995 | | |
| 3.5 - 3 | 4.5 - 5 | |
| Ac **0.11 JQ** | **0.15 JQ** | |
| An **0.11 JQ** | **0.16 JQ** | |
| B(ghi) **0.44** | **0.59** | |
| D(a,h) **0.16 JQ** | ND | |
| Flu **0.87** | **1.2** | |
| Flo ND | ND | |
| Ph **0.071 JQ** | **0.12 JQ** | |
| Py **0.9** | **1.3** | |

| SB-027 | | |
|---|---|---|
| 7/20/1999 | | |
| 0 - 1.5 | 5.5 - 5.5 | |
| Ac **2.4** | ND | |
| An **2.8** | ND | |
| B(ghi) **9.5** | ND | |
| D(a,h) **3.9** | ND | |
| Flu **22** | **0.43** | |
| Flo ND | ND | |
| Ph **7.1** | ND | |
| Py **18** | **0.41** | |

| SB-045 | | |
|---|---|---|
| 10/31/2001 | | |
| 0 - 2 | | |
| Ac ND | | |
| An ND | | |
| B(ghi) ND | | |
| D(a,h) ND | | |
| Flu ND | | |
| Flo ND | | |
| Ph ND | | |
| Py ND | | |

| SB-050 | | |
|---|---|---|
| 10/31/2001 | | |
| 0 - 2 | | |
| Ac ND | | |
| An ND | | |
| B(ghi) ND | | |
| D(a,h) ND | | |
| Flu ND | | |
| Flo ND | | |
| Ph ND | | |
| Py ND | | |

| SB-038 | | |
|---|---|---|
| 1/6/2000 | | |
| 0 - 2 | 3.5 - 5.5 | |
| Ac **1.1** | ND | |
| An **7.4** | ND | |
| B(ghi) **5.5** | ND | |
| D(a,h) **3.1** | ND | |
| Flu **33** | ND | |
| Flo **3.9** | ND | |
| Ph **39** | ND | |
| Py **29.2** | ND | |

| EW-E6-b | |
|---|---|
| 2/26/1998 | |
| 3.67 | |
| Ph | ND |

| EB-E6 | |
|---|---|
| 2/26/1998 | |
| 6.54 | |
| Ph | ND |

| EW-E7-a | |
|---|---|
| 2/26/1998 | |
| 3.5 | |
| Ph | ND |

| EW-F5 | |
|---|---|
| 2/26/1998 | |
| 3.07 | |
| Ph | ND |

| EB-E7 | |
|---|---|
| 2/26/1998 | |
| 6.95 | |
| Ph | ND |

| EW-E8-a | |
|---|---|
| 2/26/1998 | |
| 3 | |
| Ph | ND |

| EW-E6-a | |
|---|---|
| 2/26/1998 | |
| 3.5 | |
| Ph | ND |

| EB-F6 | |
|---|---|
| 2/26/1998 | |
| 8.32 | |
| Ph | ND |

| EB-E8 | |
|---|---|
| 2/26/1998 | |
| 5.8 | |
| Ph | ND |

| EB-G5 | |
|---|---|
| 2/26/1998 | |
| 6.35 | |
| Ph | ND |

| EW-G5-a | |
|---|---|
| 2/26/1998 | |
| 2.78 | |
| Ph | ND |

| EB-F5 | |
|---|---|
| 2/26/1998 | |
| 6.64 | |
| Ph | ND |

| EW-E8-b | |
|---|---|
| 2/26/1998 | |
| 3.17 | |
| Ph | ND |

| EW-G5-b | |
|---|---|
| 2/26/1998 | |
| 2.66 | |
| Ph | ND |

| EB-F8 | |
|---|---|
| 2/26/1998 | |
| 6.04 | |
| Ph | ND |

| EW-H4 | |
|---|---|
| 3/3/1998 | |
| 3.16 | |
| Ph | ND |

| EB-G6 | |
|---|---|
| 2/26/1998 | |
| 5.77 | |
| Ph | ND |

| EB-H5 | |
|---|---|
| 2/26/1998 | |
| 5.43 | |
| Ph | ND |

| EB-F7 | |
|---|---|
| 2/26/1998 | |
| 7.7 | |
| Ph | ND |

| EB-H6 | |
|---|---|
| 2/26/1998 | |
| 5.43 | |
| Ph | ND |

| EB-H4 | |
|---|---|
| 3/3/1998 | |
| 5.5 | |
| Ph | ND |

| EB-G8 | |
|---|---|
| 2/26/1998 | |
| 5.5 | |
| Ph | ND |

| EW-I4-a | |
|---|---|
| 3/3/1998 | |
| 2.58 | |
| Ph | ND |

| EB-I5 | |
|---|---|
| 2/26/1998 | |
| 5.43 | |
| Ph | ND |

| EB-H7 | |
|---|---|
| 2/26/1998 | |
| 5.43 | |
| Ph | ND |

| EB-G7 | |
|---|---|
| 2/26/1998 | |
| 6.26 | |
| Ph | ND |

| EB-I4 | |
|---|---|
| 3/3/1998 | |
| 5.18 | |
| Ph | ND |

| EW-I4-b | |
|---|---|
| 3/3/1998 | |
| 2.67 | |
| Ph | ND |

| EW-J4 | |
|---|---|
| 3/3/1998 | |
| 3.05 | |
| Ph | ND |

| EB-J4 | |
|---|---|
| 3/3/1998 | |
| 6.1 | |
| Ph | ND |

| EB-I6 | |
|---|---|
| 2/26/1998 | |
| 5.43 | |
| Ph | ND |

| EB-H8 | |
|---|---|
| 2/26/1998 | |
| 5.43 | |
| Ph | ND |

| EB-I8 | |
|---|---|
| 2/26/1998 | |
| 6.29 | |
| Ph | ND |

| EB-J5 | |
|---|---|
| 3/3/1998 | |
| 5.41 | |
| Ph | ND |

| EB-J6 | |
|---|---|
| 3/3/1998 | |
| 7.89 | |
| Ph | ND |

| EB-I7 | |
|---|---|
| 2/26/1998 | |
| 6.11 | |
| Ph | ND |

| EB-K4 | |
|---|---|
| 3/3/1998 | |
| 5.68 | |
| Ph | ND |

| EB-J7 | |
|---|---|
| 3/3/1998 | |
| 8.33 | |
| Ph | ND |

| EB-J8 | |
|---|---|
| 3/3/1998 | |
| 7.32 | |
| Ph | **0.4** |

| EW-K4 | |
|---|---|
| 3/3/1998 | |
| 2.5 | |
| Ph | ND |

| EB-K6 | |
|---|---|
| 3/3/1998 | |
| 8.25 | |
| Ph | ND |

| EB-K8 | |
|---|---|
| 3/3/1998 | |
| 7.05 | |
| Ph | ND |

| EB-K5 | |
|---|---|
| 3/3/1998 | |
| 4.94 | |
| Ph | ND |

| EB-K7 | |
|---|---|
| 3/3/1998 | |
| 8.11 | |
| Ph | ND |

| EW-L4 | |
|---|---|
| 3/3/1998 | |
| 2.29 | |
| Ph | ND |

| EB-L8 | |
|---|---|
| 3/3/1998 | |
| 7.59 | |
| Ph | ND |

| EW-L5-a | |
|---|---|
| 3/3/1998 | |
| 2.59 | |
| Ph | ND |

| EW-L7 | |
|---|---|
| 3/3/1998 | |
| 3.31 | |
| Ph | ND |

| EW-L8-B | |
|---|---|
| 3/3/1998 | |
| 3.8 | |
| Ph | ND |

| EB-L5 | |
|---|---|
| 3/3/1998 | |
| 5.43 | |
| Ph | ND |

| EB-L6 | |
|---|---|
| 3/3/1998 | |
| 7.78 | |
| Ph | **0.55** |

| EW-L6 | |
|---|---|
| 3/3/1998 | |
| 3.42 | |
| Ph | ND |

| EB-L7 | |
|---|---|
| 3/3/1998 | |
| 7.28 | |
| Ph | ND |

| EW-L5-b | |
|---|---|
| 3/3/1998 | |
| 2.49 | |
| Ph | ND |

| EW-L8-a | |
|---|---|
| 3/3/1998 | |
| 3.32 | |
| Ph | ND |

0 80 160 240 320
SCALE IN FEET

0 30 60 90 120
SCALE IN FEET

PROJECTION: NAD83 State Plane Georgia East.

**LEGEND**

- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)
- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Confirmation Soil Sample (November 1997)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Q values exceed quality control.
6) Concentrations shown in the soil excavation area are post-soil removal activities.
7) **BOLD** - Constituent detected above method detection limit.

| FTASB-17 | | |
|---|---|---|
| 10/4/1995 | | |
| | 0.5 - 2.5 | 4.5 - 6.5 |
| Ac | **0.24 JQ** | **0.39** |
| An | **0.15 JQ** | **0.19 JQ** |
| B(ghi) | **0.58** | **0.65** |
| D(a,h) | **0.091 JQ** | **0.24 JQ** |
| Flu | **1.1** | **1.3** |
| Flo | ND | ND |
| Ph | **0.3 JQ** | **0.42** |
| Py | **1** | **2.3 JL** |

Acenaphthylene, Anthracene, Benzo(ghi)perylene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Phenanthrene, Pyrene

Sample Location
Sample Date
Sample Depth
Results

HUNTER ARMY AIRFIELD, GEORGIA

**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

# Extent of SVOCs (PAHs) in Soil

PIKA ARCADIS a joint venture

FIGURE **6-15**

CITY: Citrix DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: (ksinsabaugh
PROJECT: 10153001.0001.EE001 PATH: Z:\GIS\Projects_ENVHAAF_PIKA\MapDocs\HA01\2017\H01 RIFS\F6-16 H01_RIFS SOIL SVOC Dsize.mxd SAVED: 6/27/2017

## DAACG Chlorinated Solvent Area (Former HAA-16)

## Former Fire Training Area (HAA-01)

## EXCAVATION AREA

**Wash Rack**

**1997 Excavation Area** (5' Depth)

**1997 Excavation Area** (7' Depth)

**HMW-15** 7/28/1999

| | 0 - 1.5 | 7.5 - 7.5 |
|---|---|---|
| B-2 | ND | ND |

**FTASB-14** 10/4/1995

| | 0.5 - 2.5 | 4.5 - 6.5 |
|---|---|---|
| 2-M | ND | **34** |
| B-2 | ND | **0.098 JB** |
| Db | ND | **0.66** |

**SB-022** 7/22/1999

| | 0 - 1.5 | 5.5 - 5.5 |
|---|---|---|
| B-2 | ND | ND |

**SB-023** 7/29/1999

| | 0 - 1.5 | 6.5 - 6.5 |
|---|---|---|
| B-2 | ND | ND |

**FTASB-10** 8/24/1995

| | 0.5 - 1 | 9 - 10.4 |
|---|---|---|
| 2-M | **2.4** | **99 JL** |
| B-2 | **0.84 JL** | **2 JL** |
| Db | **0.21 J** | **2.3 JL** |

**FTASB-09** 8/23/1995

| | 0.5 - 1 | 6 - 7 |
|---|---|---|
| 2-M | ND | ND |
| B-2 | **0.23 J** | **0.41** |
| Db | ND | ND |

**SB-041** 1/31/2000

| | 0 - 2 | 2 - 4 |
|---|---|---|
| B-2 | ND | ND |

**HMW-10** 10/3/1995

| | 0 - 2 | 2 - 4 |
|---|---|---|
| 2-M | ND | ND |
| B-2 | **0.14 JQ** | **0.11 JQ** |
| Db | ND | ND |

**FTASB-13** 10/3/1995

| | 0.5 - 2.5 | 2.5 - 4.5 |
|---|---|---|
| 2-M | ND | ND |
| B-2 | ND | ND |
| Db | ND | ND |

**SB-042** 1/31/2000

| | 0 - 2 |
|---|---|
| B-2 | ND |

**SB-036** 1/6/2000

| | 0 - 2 | 2 - 3 |
|---|---|---|
| B-2 | ND | ND |

**HMW-16A** 7/29/1999

| | 0 - 1.5 | 7 - 7 |
|---|---|---|
| B-2 | ND | ND |

**SB-037** 1/6/2000

| | 0 - 2 | 2 - 3 |
|---|---|---|
| B-2 | ND | ND |

**SB-025** 7/22/1999

| | 0 - 1.5 | 6.5 - 5.5 |
|---|---|---|
| B-2 | ND | ND |

**SB-024** 7/29/1999

| | 0 - 1.5 | 6.5 - 6.5 |
|---|---|---|
| B-2 | ND | ND |

**SB-026** 7/22/1999

| | 0 - 1.5 | 5.5 - 5.5 |
|---|---|---|
| B-2 | ND | ND |

**BH-12** 1/1/1987

| | 0 - 1 | 6.5 - 7.5 |
|---|---|---|
| 2-M | ND | **10** |
| B-2 | ND | **0.3** |

**HMW-18** 1/6/2000

| | 0 - 2 | 2 - 3 |
|---|---|---|
| B-2 | ND | ND |

**BH-13** 1/1/1987

| | 0 - 1 | 6.5 - 7.5 |
|---|---|---|
| 2-M | ND | ND |
| B-2 | ND | ND |

**SB-038** 1/4/2000

| | 0 - 2 | 3.5 - 5.5 |
|---|---|---|
| B-2 | ND | ND |

**SB-049** 10/31/2001

| | 0 - 2 |
|---|---|
| B-2 | ND |

**HMW-12** 10/2/1995

| | 1.5 - 3 | 4.5 - 6 |
|---|---|---|
| 2-M | ND | ND |
| B-2 | **0.39 J** | **0.43** |
| Db | ND | ND |

**SB-027** 7/22/1999

| | 0 - 1.5 | 5.5 - 5.5 |
|---|---|---|
| B-2 | ND | ND |

**SB-045** 10/31/2001

| | 0 - 2 |
|---|---|
| B-2 | ND |

**SB-050** 10/31/2001

| | 0 - 2 |
|---|---|
| B-2 | ND |

**SB-035** 1/6/2000

| | 0 - 2 | 4 - 6 |
|---|---|---|
| B-2 | ND | ND |

**SB-018** 7/22/1999

| | 0 - 1.5 | 6 - 6 |
|---|---|---|
| B-2 | ND | ND |

**SB-028** 7/22/1999

| | 0 - 1.5 | 5.5 - 5.5 |
|---|---|---|
| B-2 | ND | ND |

**HA01SB003** 11/3/2009

| | 8 - 10 |
|---|---|
| 2-M | ND |
| B-2 | ND |
| Db | ND |

**FTASB-06** 8/23/1995

| | 0.5 - 1 | 8.5 - 10 |
|---|---|---|
| 2-M | ND | ND |
| B-2 | **0.16 JL** | **0.23 J** |
| Db | ND | ND |

**FTASB-16** 10/4/1995

| | 0.5 - 2.5 | 6.5 - 8.1 |
|---|---|---|
| 2-M | ND | ND |
| B-2 | ND | **0.09 JQ** |
| Db | ND | ND |

**FTASB-11** 8/24/1995

| | 0.5 - 1 | 9.5 - 10 |
|---|---|---|
| 2-M | ND | **4.5** |
| B-2 | ND | **0.24 J** |
| Db | ND | **0.15 J** |

**HMW-11** 10/3/1995

| | 2 - 4 | 6 - 8 |
|---|---|---|
| 2-M | ND | **0.64** |
| B-2 | **0.38 JQ** | **1.1** |
| Db | **0.24 JQ** | **0.082 JQ** |

**FTASB-17** 10/4/1995

| | 0.5 - 2.5 | 4.5 - 6.5 |
|---|---|---|
| 2-M | ND | ND |
| B-2 | **0.16 JQ** | **0.1 JQ** |
| Db | ND | ND |

**HMW-17** 7/28/1999

| | 0 - 1.5 | 6.5 - 6.5 |
|---|---|---|
| B-2 | ND | ND |

**FTASB-12** 8/24/1995

| | 0.5 - 1 | 8 - 10 |
|---|---|---|
| 2-M | **43** | **8.5** |
| B-2 | **1.7 JL** | **0.51** |
| Db | **0.95 J** | **0.52** |

**BH-10** 1/1/1987

| | 0 - 1 | 7.5 - 8.5 |
|---|---|---|
| 2-M | ND | **19** |
| B-2 | ND | **0.0017** |

**BH-11** 1/1/1987

| | 0 - 1 | 7.5 - 8.5 |
|---|---|---|
| 2-M | ND | **12** |
| B-2 | ND | **0.9** |

**HA01SB001** 11/3/2009

| | 8 - 10 |
|---|---|
| 2-M | ND |
| B-2 | ND |
| Db | ND |

**HA01SB002** 11/3/2009

| | 6 - 6.5 |
|---|---|
| 2-M | **16** |
| B-2 | **0.54** |
| Db | ND |

**SB-029** 7/22/1999

| | 0 - 1.5 | 5.5 - 5.5 |
|---|---|---|
| B-2 | ND | ND |

**SB-019** 7/22/1999

| | 0 - 1.5 | 5.5 - 5.5 |
|---|---|---|
| B-2 | ND | ND |

**FTASB-15** 10/4/1995

| | 0.5 - 2.5 | 4.5 - 6.5 |
|---|---|---|
| 2-M | ND | ND |
| B-2 | ND | ND |
| Db | ND | ND |

**SB-020** 7/22/1999

| | 0 - 1.5 | 5.5 - 5.5 |
|---|---|---|
| B-2 | ND | ND |

**FTASB-04** 8/23/1995

| | 0.5 - 1 | 9 - 10.5 |
|---|---|---|
| 2-M | ND | ND |
| B-2 | **0.086 J** | **0.32 J** |
| Db | ND | ND |

**HMW-13** 10/3/1995

| | 2 - 4 | 8 - 10 |
|---|---|---|
| 2-M | **32** | **0.28 JQ** |
| B-2 | **0.42** | **0.29 JQ** |
| Db | **0.66** | ND |

**HMW-14** 7/28/1999

| | 0 - 1.5 | 7.5 - 7.5 |
|---|---|---|
| B-2 | ND | ND |

**SB-046** 10/31/2001

| | 4 - 6 | 12 - 14 |
|---|---|---|
| B-2 | ND | ND |

**SB-030** 1/5/2000

| | 0 - 2 | 6 - 8 |
|---|---|---|
| B-2 | ND | ND |

**SB-044** 11/1/2001

| | 2 - 4 | 6 - 8 |
|---|---|---|
| B-2 | ND | ND |

**HMW-14R** 1/5/2000

| | 0 - 2 | 7 - 9 |
|---|---|---|
| B-2 | ND | **0.43** |

**SB-021** 7/22/1999

| | 0 - 1.5 | 5.5 - 5.5 |
|---|---|---|
| B-2 | ND | ND |

**SB-043** 10/31/2001 / 11/1/2001

| | 0 - 2 | 2 - 4 |
|---|---|---|
| B-2 | ND | ND |

**EW-E6-b** 2/26/1998

| | 3.67 |
|---|---|
| 2-M | ND |

**EW-F5** 2/26/1998

| | 3.07 |
|---|---|
| 2-M | ND |

**EB-E6** 2/26/1998

| | 6.54 |
|---|---|
| 2-M | ND |

**EW-E7-a** 2/26/1998

| | 3.5 |
|---|---|
| 2-M | **31** |

**EB-E7** 2/26/1998

| | 6.95 |
|---|---|
| 2-M | **9.6** |

**EW-E6-a** 2/26/1998

| | 3.5 |
|---|---|
| 2-M | **11** |

**EW-E8-a** 2/26/1998

| | 3 |
|---|---|
| 2-M | ND |

**EB-F6** 2/26/1998

| | 8.32 |
|---|---|
| 2-M | **6.9** |

**EB-E8** 2/26/1998

| | 5.8 |
|---|---|
| 2-M | **5.8** |

**EB-G5** 2/26/1998

| | 6.35 |
|---|---|
| 2-M | ND |

**EW-G5-a** 2/26/1998

| | 2.78 |
|---|---|
| 2-M | ND |

**EB-F5** 2/26/1998

| | 6.64 |
|---|---|
| 2-M | ND |

**EW-E8-b** 2/26/1998

| | 3.17 |
|---|---|
| 2-M | ND |

**EW-G5-b** 2/26/1998

| | 2.66 |
|---|---|
| 2-M | ND |

**EB-F8** 2/26/1998

| | 6.04 |
|---|---|
| 2-M | ND |

**EB-H5** 2/26/1998

| | 5.43 |
|---|---|
| 2-M | **12** |

**EW-H4** 3/3/1998

| | 3.16 |
|---|---|
| 2-M | ND |

**EB-G6** 2/26/1998

| | 5.77 |
|---|---|
| 2-M | **9.2** |

**EB-F7** 2/26/1998

| | 7.7 |
|---|---|
| 2-M | **25** |

**EB-H6** 2/26/1998

| | 5.43 |
|---|---|
| 2-M | **11** |

**EB-H4** 3/3/1998

| | 5.5 |
|---|---|
| 2-M | ND |

**EW-I4-a** 3/3/1998

| | 2.58 |
|---|---|
| 2-M | **11** |

**EB-G8** 2/26/1998

| | 5.5 |
|---|---|
| 2-M | **9.5** |

**EB-I5** 2/26/1998

| | 5.43 |
|---|---|
| 2-M | ND |

**EB-G7** 2/26/1998

| | 6.26 |
|---|---|
| 2-M | **15** |

**EB-H8** 2/26/1998

| | 5.43 |
|---|---|
| 2-M | **7.5** |

**EB-I4** 3/3/1998

| | 6.18 |
|---|---|
| 2-M | ND |

**EB-H7** 2/26/1998

| | 5.43 |
|---|---|
| 2-M | **8.7** |

**EW-I4-b** 3/3/1998

| | 2.67 |
|---|---|
| 2-M | ND |

**EB-I8** 2/26/1998

| | 6.29 |
|---|---|
| 2-M | **7.2** |

**EW-J4** 3/3/1998

| | 3.05 |
|---|---|
| 2-M | ND |

**EB-J4** 3/3/1998

| | 6.1 |
|---|---|
| 2-M | ND |

**EB-I6** 2/26/1998

| | 5.43 |
|---|---|
| 2-M | **39** |

**EB-J5** 3/3/1998

| | 5.41 |
|---|---|
| 2-M | ND |

**EB-I7** 2/26/1998

| | 6.11 |
|---|---|
| 2-M | **15** |

**EB-K4** 3/3/1998

| | 5.68 |
|---|---|
| 2-M | **22** |

**EB-J6** 3/3/1998

| | 7.89 |
|---|---|
| 2-M | **27** |

**EB-J8** 3/3/1998

| | 7.32 |
|---|---|
| 2-M | **0.56** |

**EW-K4** 3/3/1998

| | 2.5 |
|---|---|
| 2-M | ND |

**EB-K6** 3/3/1998

| | 8.25 |
|---|---|
| 2-M | ND |

**EB-K7** 3/3/1998

| | 8.11 |
|---|---|
| 2-M | **26** |

**EB-J7** 3/3/1998

| | 8.33 |
|---|---|
| 2-M | **8.1** |

**EB-K8** 3/3/1998

| | 7.05 |
|---|---|
| 2-M | **5.4** |

**EB-K5** 3/3/1998

| | 4.94 |
|---|---|
| 2-M | ND |

**EW-L4** 3/3/1998

| | 2.29 |
|---|---|
| 2-M | ND |

**EB-L8** 3/3/1998

| | 7.59 |
|---|---|
| 2-M | **16** |

**EW-L7** 3/3/1998

| | 3.31 |
|---|---|
| 2-M | ND |

**EW-L5-a** 3/3/1998

| | 2.59 |
|---|---|
| 2-M | ND |

**EW-L8-B** 3/3/1998

| | 3.8 |
|---|---|
| 2-M | **50** |

**EB-L5** 3/3/1998

| | 5.43 |
|---|---|
| 2-M | **47** |

**EB-L6** 3/3/1998

| | 7.78 |
|---|---|
| 2-M | **11** |

**EW-L5-b** 3/3/1998

| | 2.49 |
|---|---|
| 2-M | ND |

**EW-L6** 3/3/1998

| | 3.42 |
|---|---|
| 2-M | ND |

**EB-L7** 3/3/1998

| | 7.28 |
|---|---|
| 2-M | **21** |

**EW-L8-a** 3/3/1998

| | 3.32 |
|---|---|
| 2-M | ND |

8052

0 80 160 240 320
SCALE IN FEET

0 30 60 90 120
SCALE IN FEET

PROJECTION: NAD83 State Plane Georgia East.

**LEGEND**

- Storm Water Drainage System
- Drainage Flow Direction
- Storm Water Drainage Canal
- Approximate Excavation Area (1997)
- Monitor Well (shallow)
- Monitor Well (deep)
- Destroyed/Abandoned Monitor Well (shallow)
- Destroyed/Abandoned Monitor Well (deep)
- Soil Boring (1987-2009)
- Confirmation Soil Sample (November 1997)

NOTES:
1) All soil concentrations reported in milligrams per kilogram (mg/kg).
2) If no laboratory analytical result is listed, the designated compound was not analyzed for.
3) ND - Not detected above the method detection limit.
4) J - constituent concentration is estimated.
5) Q values exceed quality control.
6) Concentrations shown in the soil excavation area are post-soil removal activities.
7) **BOLD** - Constituent detected above method detection limit.

**FTASB-12** 8/24/1995

| | 0.5 - 1 | 8 - 10 |
|---|---|---|
| 2-M | **43** | **8.5** |
| B-2 | **1.7 JL** | **0.51** |
| Db | **0.95 J** | **0.52** |

2-Methylnaphthalene
Bis(2-ethylhexyl)phthalate
Dibenzofuran

Sample Location
Sample Date
Sample Depth
Result

HUNTER ARMY AIRFIELD, GEORGIA

# HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

## Extent of SVOCs in Soil

PIKA ARCADIS a joint venture

FIGURE **6-16**

CITY: CITRIX DIV/GROUP: IM/DV LD: K. SINSABAUGH PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: KSINSABAUGH
PROJECT: 10153001.0001.NB0R1 PATH: Z:\GISPROJECTS_ENV\PIKA\HAAF_PIKA\MAPDOCS\H01\2017\H01 RIFS\F6-17 H01_RIFS GW 2014 COCS DSIZE.MXD SAVED: 4/3/2018

| COE-MW-07 | 12/19/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 10 |
| Benzene | < 10 |
| cis-1,2-Dichloroethene | **1,500** |
| Ethylbenzene | < 10 |
| Vinyl chloride | < 10 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha- | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | -- |
| Lead | -- |

| COE-MW-08 | 12/19/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 20 |
| Benzene | < 20 |
| cis-1,2-Dichloroethene | **110** |
| Ethylbenzene | < 20 |
| Vinyl chloride | < 20 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha- | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | < 5.0 |
| Lead | **5.7 J** |

| HA01-MW-13 | 12/19/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | < 5.0 |
| Lead | **7 J** |

| HA01-MW-14D | 12/19/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | -- |
| Lead | -- |

| HA01-MW-14 | 12/16/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 [< 1.0] |
| Benzene | < 1.0 [< 1.0] |
| cis-1,2-Dichloroethene | < 1.0 [< 1.0] |
| Ethylbenzene | < 1.0 [< 1.0] |
| Vinyl chloride | < 1.0 [< 1.0] |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- [--] |
| **Pesticides (µg/L)** | |
| Aldrin | < 0.025 [< 0.025] |
| Dieldrin | < 0.025 [< 0.025] |
| Heptachlor epoxide | < 0.025 [< 0.025] |
| Hexachlorocyclohexane, Alpha- | < 0.025 [ 0.001 UB] |
| Hexachlorocyclohexane, Beta- | < 0.025 **[ 0.0046 J]** |
| **Metals (µg/L)** | |
| Chromium | **10 J [ 250 J]** |
| Lead | **12 [ 23 ]** |

| HA01-MW-17 | 12/16/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |

| HA01-MW-12D | 12/19/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha- | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | -- |
| Lead | -- |

| HA01-MW-12 | 12/19/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha- | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | < 5.0 |
| Lead | **5.4 J** |

| COE-MW-06 | 12/19/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 10 |
| Benzene | < 10 |
| cis-1,2-Dichloroethene | **850** |
| Ethylbenzene | < 10 |
| Vinyl chloride | **2.1 J** |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha- | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | < 5.0 |
| Lead | **5.5 J** |

| HA01-MW-11 | 12/22/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha- | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | -- |
| Lead | -- |

| COE-MW-05 | 12/19/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | **0.46 J** |
| cis-1,2-Dichloroethene | **180** |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | **9.6** |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha- | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | < 5.0 |
| Lead | **5.9 J** |

| COE-MW-04 | 12/19/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 20 |
| Benzene | < 20 |
| cis-1,2-Dichloroethene | **1,400** |
| Ethylbenzene | < 20 |
| Vinyl chloride | **59** |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | < 5.0 |
| Lead | **4.4 J** |

| HA01-MW-10 | 12/22/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha- | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | -- |
| Lead | -- |

| COE-MW-02 | 12/23/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | **0.99 J** |
| cis-1,2-Dichloroethene | **51** |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | **0.31 J** |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | **0.0065 J** |
| Dieldrin | < 0.025 |
| Heptachlor epoxide | < 0.025 |
| Hexachlorocyclohexane, Alpha- | **0.0032 J** |
| Hexachlorocyclohexane, Beta- | **0.02 J** |
| **Metals (µg/L)** | |
| Chromium | -- |
| Lead | -- |

| COE-MW-03 | 12/23/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 20 |
| Benzene | **3.1 J** |
| cis-1,2-Dichloroethene | **1,900** |
| Ethylbenzene | < 20 |
| Vinyl chloride | **120** |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha- | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | **4.3 J** |
| Lead | < 10 |

| HA01-MW-09 | 12/23/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | < 0.025 |
| Dieldrin | **0.0032 J** |
| Heptachlor epoxide | < 0.025 |
| Hexachlorocyclohexane, Alpha- | **0.021 J** |
| Hexachlorocyclohexane, Beta- | **0.079** |
| **Metals (µg/L)** | |
| Chromium | -- |
| Lead | -- |

| COE-MW-01 | 12/22/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | **2.5** |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | **0.008 J** |
| Dieldrin | **0.0015 J** |
| Heptachlor epoxide | **0.0043 J** |
| Hexachlorocyclohexane, Alpha- | **0.0031 J** |
| Hexachlorocyclohexane, Beta- | **0.018 J** |
| **Metals (µg/L)** | |
| Chromium | -- |
| Lead | -- |

| HMW-08 | 12/23/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |

| HMW-02 | 12/16/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |

| HMW-21 | 12/19/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 20 U |
| Benzene | < 20 U |
| cis-1,2-Dichloroethene | **2,300** |
| Ethylbenzene | < 20 U |
| Vinyl chloride | **20** |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha- | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | **4.3 J** |
| Lead | **10** |

| HMW-14R | 12/23/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | **27** |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | **0.0018 J** |
| Dieldrin | < 0.025 |
| Heptachlor epoxide | **0.0023 J** |
| Hexachlorocyclohexane, Alpha- | < 0.025 |
| Hexachlorocyclohexane, Beta- | **0.0058 J** |
| **Metals (µg/L)** | |
| Chromium | -- |
| Lead | -- |

| HMW-10 | 12/17/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | **19** |
| cis-1,2-Dichloroethene | **0.54 J** |
| Ethylbenzene | **0.42 J** |
| Vinyl chloride | **0.23 J** |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |

| HMW-13 | 12/16/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | **0.34 J [< 1.0]** |
| Benzene | **30 [ 29 ]** |
| cis-1,2-Dichloroethene | < 1.0 [< 1.0] |
| Ethylbenzene | **27 [ 26 ]** |
| Vinyl chloride | < 1.0 [< 1.0] |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | **88 [ 120 ]** |

| HMW-23 | 12/17/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | **1.1** |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | **3.0** |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | **9 J** |

| HMW-24 | 12/17/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | **6.1** |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | **5.6** |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | < 10 |

| HMW-09 | 12/23/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | **0.44 J** |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | **0.83 J** |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | **4.1** |

| HA01-MW-15 | 12/17/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | **2.6** |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |
| **Pesticides (µg/L)** | |
| Aldrin | -- |
| Dieldrin | -- |
| Heptachlor epoxide | -- |
| Hexachlorocyclohexane, Alpha- | -- |
| Hexachlorocyclohexane, Beta- | -- |
| **Metals (µg/L)** | |
| Chromium | < 5.0 |
| Lead | **6.1 J** |

| HMW-11 | 12/16/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | **0.16 J** |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |

| HMW-04 | 12/16/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | < 1.0 |
| cis-1,2-Dichloroethene | < 1.0 |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | < 1.0 |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | -- |

| HMW-06 | 12/16/2014 |
|---|---|
| **Volatile Organic Compounds (µg/L)** | |
| 1,1,2,2-Tetrachloroethane | < 1.0 |
| Benzene | **0.87 J** |
| cis-1,2-Dichloroethene | **0.39 J** |
| Ethylbenzene | < 1.0 |
| Vinyl chloride | **0.34 J** |
| **Semi-Volatile Organic Compounds (µg/L)** | |
| Naphthalene | < 1.0 |

| Constituent | Tapwater RSL | MCL |
|---|---|---|
| **Volatile Organic Compounds (µg/L)** | | |
| 1,1,2,2-Tetrachloroethane | 0.076 | -- |
| Benzene | 0.45 | 5 |
| cis-1,2-Dichloroethene | 36 | 70 |
| Ethylbenzene | 1.5 | 700 |
| Vinyl chloride | 0.019 | 2 |
| **Semi-Volatile Organic Compounds (µg/L)** | | |
| Naphthalene | 0.17 | -- |
| **Pesticides (µg/L)** | | |
| Aldrin | 0.0046 | -- |
| Dieldrin | 0.0017 | -- |
| Heptachlor epoxide | 0.0038 | 0.2 |
| Hexachlorocyclohexane, Alpha- | 0.0071 | -- |
| Hexachlorocyclohexane, Beta- | 0.025 | -- |
| **Metals (µg/L)** | | |
| Chromium | -- | 100 |
| Lead | 15 | 15 |

DAACG Chlorinated Solvent Area (Former HAA-16)

Former Fire Training Area (HAA-01)

Former ASTs (approximate location)

Former FTA (approximate location - diked)

HA01-MW-11, HA01-MW-10, HA01-MW-12, COE-MW-05, COE-MW-06, COE-MW-04, COE-MW-02, HMW-21, HA01-MW-18D, HA01-MW-13, COE-MW-08, HA01-OW-03, COE-MW-03, HA01-OW-01, HA01-OW-02, HA01-MW-09, HA01-BSP-01, HA01-MW-07D, COE-MW-07, COE-MW-01, HMW-14R, HMW-22, HA01-MW-14, HA01-MW-14D, HA01-MW-15, HA01-MW-16, HMW-20, HMW-13, HMW-08, HMW-09, HMW-02, HMW-01, HMW-03, HMW-04, HA01-MW-17, HMW-10, HMW-23, HMW-24, HMW-16A, HMW-06, HMW-05, HMW-11, HMW-17, HMW-18, HMW-12

8024, 8052, Wash Rack

0 90 180 270 360
SCALE IN FEET

PROJECTION: NAD83 StatePlane Georgia East Feet
AERIAL SOURCE: SAGIS (2008).

## LEGEND

- Storm Water Drainage Canal
- Monitoring Well (shallow)
- Monitoring Well (deep)
- Injection Well
- Observation Well

NOTES:
1) **BOLD** – Constituent detected in sample.
2) **BOLD** – Indicates result exceeds the tapwater regional screening level (RSL).
3) **BOLD** – Indicates result exceeds the maximum contaminant level (MCL).
4) DAACG Chlorinated Solvent area wells analyzed for volatile organic compounds, semi-volatile organic compounds, metals, and/or pesticides.
5) Former FTA wells analyzed for volatile organic compounds and/or semi-volatile organic compounds.
6) -- Indicates compound not analyzed.
7) < Indicates compound not detected above the laboratory practical quantification limit.
8) [ ] Indicates duplicate sample concentration.
9) J values are estimated.

HUNTER ARMY AIRFIELD, GEORGIA

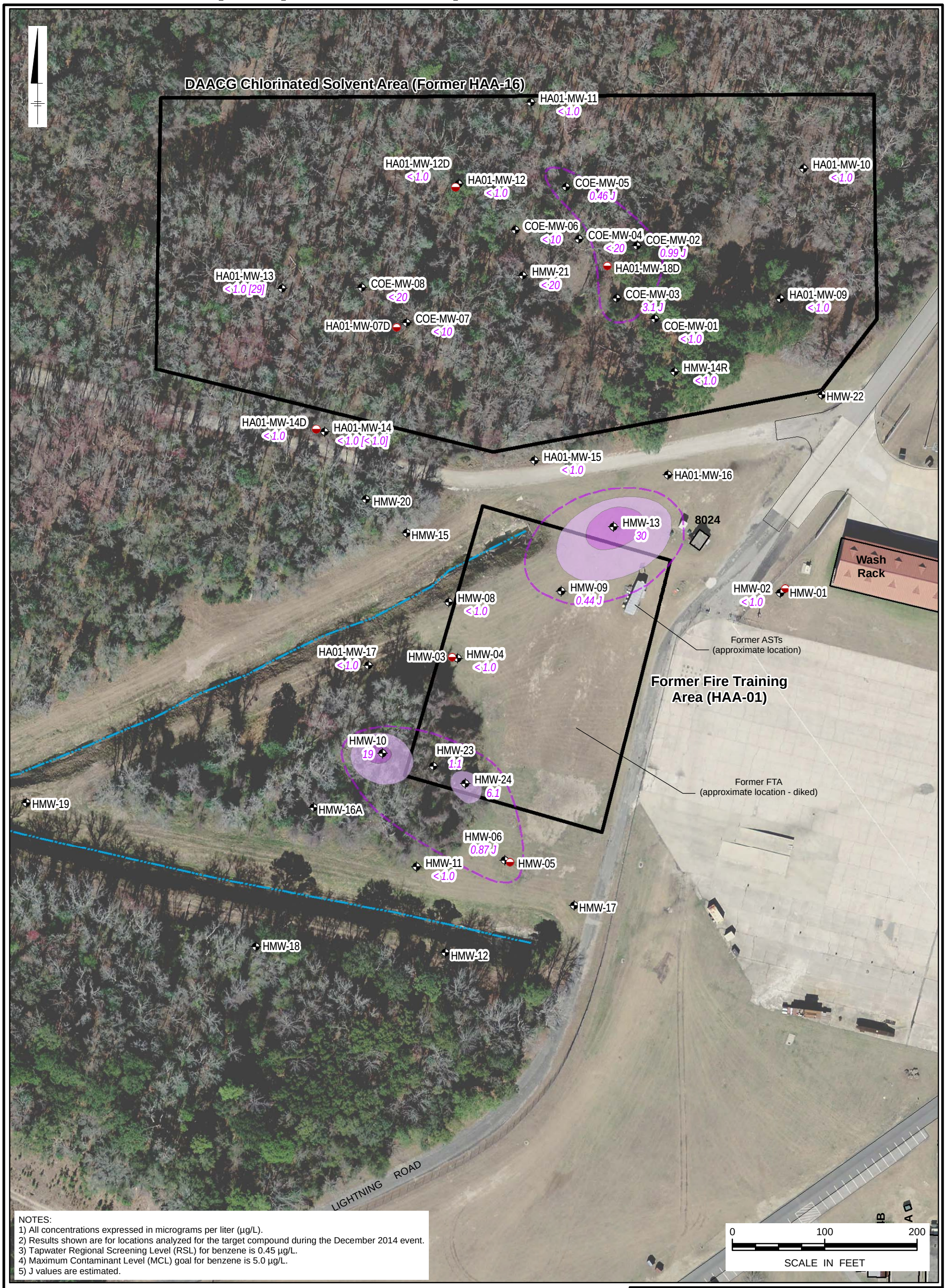
# HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY

## Summary of Constituents of Concern in Groundwater (December 2014)

PIKA
ARCADIS
a joint venture

FIGURE
**6-17**

CITY: CITRIX DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: KSINSABAUGH
PROJECT: 10153001.0001.EE001 PATH: Z:\GISPROJECTS_ENV\PIKA\HAAF_PIKA\MAPDOCS\H01\2017\H01 RIFS\F6-18 H01_RIFS GW 2014 BENZ.MXD SAVED: 4/12/2018




NOTES:
1) All concentrations expressed in micrograms per liter (µg/L).
2) Results shown are for locations analyzed for the target compound during the December 2014 event.
3) Tapwater Regional Screening Level (RSL) for benzene is 0.45 µg/L.
4) Maximum Contaminant Level (MCL) goal for benzene is 5.0 µg/L.
5) J values are estimated.

PROJECTION: NAD83 StatePlane Georgia East Feet
AERIAL SOURCE: SAGIS (2008).

**LEGEND**

- Storm Water Drainage Canal
- Monitoring Well (shallow)
- Monitoring Well (deep)
- 30 Benzene Concentration
- [29] Duplicate Sample Concentration

Benzene Isocontour
- 0.45 - 4.9 µg/L (RSL - 0.45 µg/L)
- 5.0 - 10 µg/L (MCL - 5.0 µg/L)
- >10 µg/L

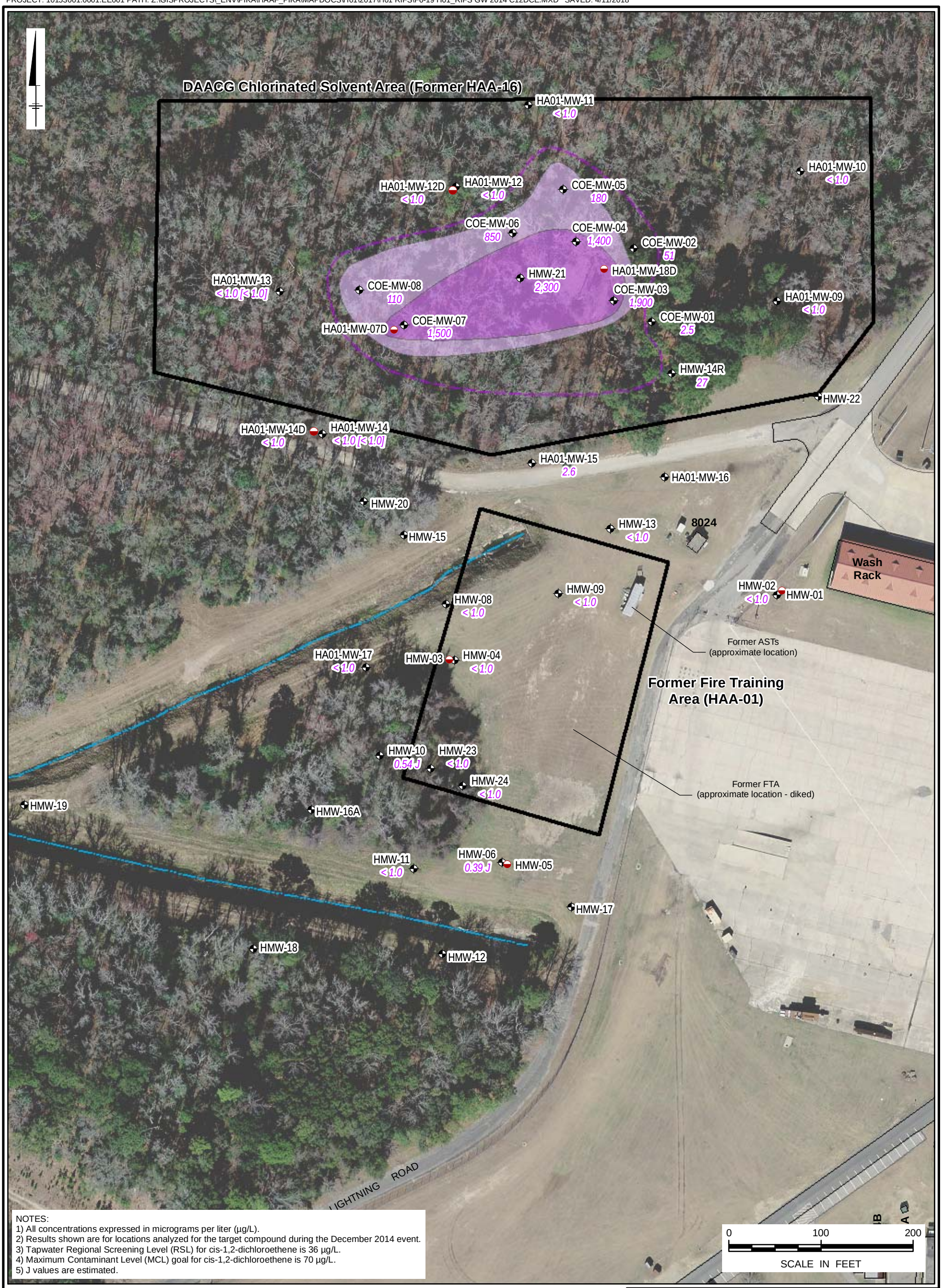
HUNTER army AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**Benzene Concentrations in Groundwater (December 2014)**

PIKA ARCADIS a joint venture

FIGURE **6-18**

CITY: CITRIX DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: KSINSABAUGH
PROJECT: 10153001.0001.EE001 PATH: Z:\GISPROJECTS_ENV\PIKA\HAAF_PIKA\MAPDOCS\H01\2017\H01 RIFS\F6-19 H01_RIFS GW 2014 C12DCE.MXD SAVED: 4/11/2018




NOTES:
1) All concentrations expressed in micrograms per liter (µg/L).
2) Results shown are for locations analyzed for the target compound during the December 2014 event.
3) Tapwater Regional Screening Level (RSL) for cis-1,2-dichloroethene is 36 µg/L.
4) Maximum Contaminant Level (MCL) goal for cis-1,2-dichloroethene is 70 µg/L.
5) J values are estimated.

PROJECTION: NAD83 StatePlane Georgia East Feet
AERIAL SOURCE: SAGIS (2008).

**LEGEND**

- Storm Water Drainage Canal
- Monitoring Well (shallow)
- Monitoring Well (deep)
- *110* cis-1,2-Dichloroethene Concentration
- *[< 1.0]* Duplicate Sample Concentration

cis-1,2-Dichloroethene Isocontour
- 36 -69.9 µg/L (RSL - 36 µg/L)
- 70 - 999 µg/L (MCL - 70 µg/L)
- >1,000 µg/L

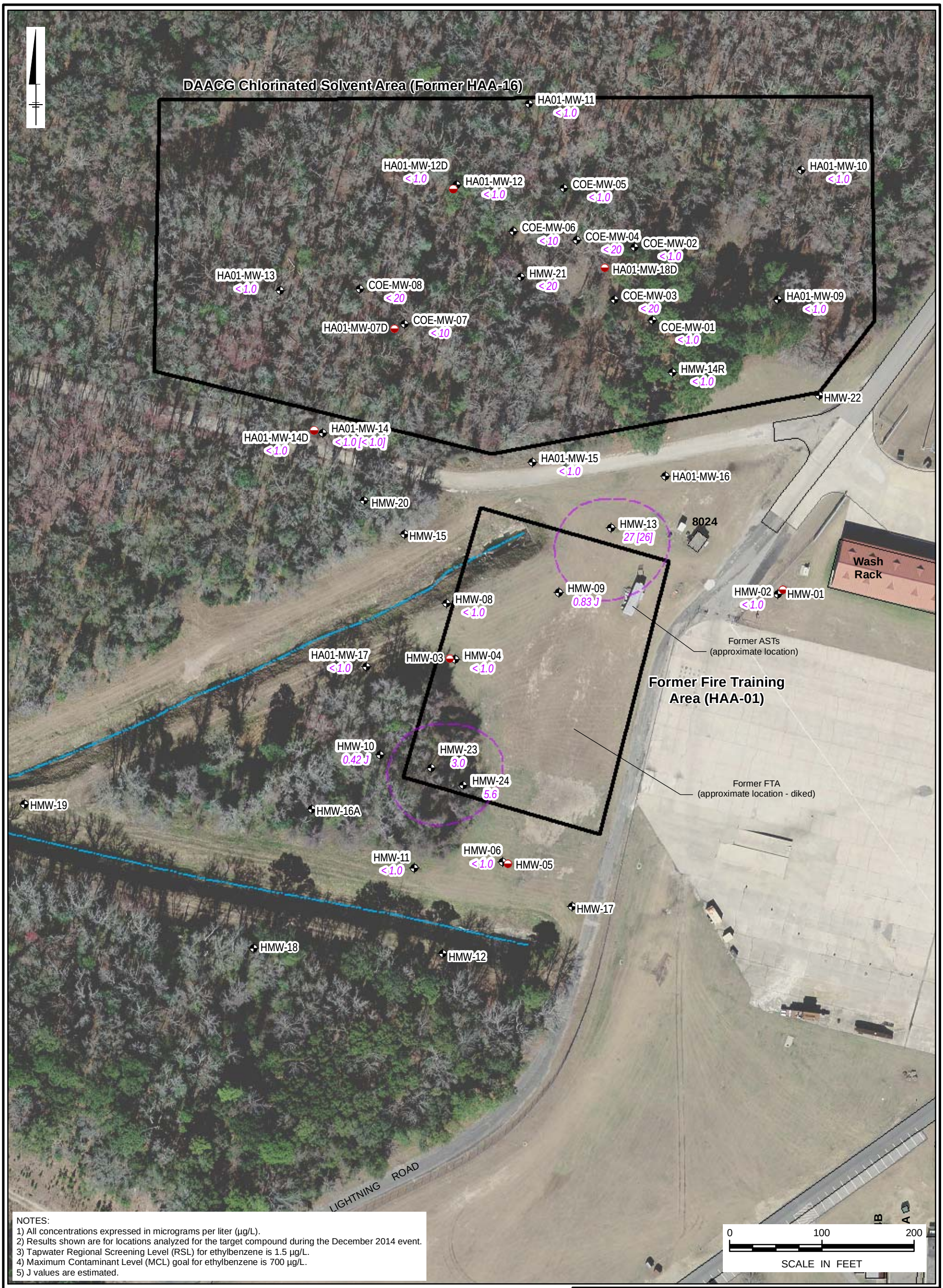
HUNTER army AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

**cis-1,2-Dichloroethene Concentrations in Groundwater (December 2014)**

PIKA ARCADIS a joint venture

FIGURE **6-19**

CITY: CITRIX DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: KSINSABAUGH
PROJECT: 10153001.0001.EE001 PATH: Z:\GISPROJECTS_ENV\HAAF_PIKA\MAPDOCS\H01\2017\H01 RIFS\F6-20 H01_RIFS GW 2014 EBENZ.MXD SAVED: 6/26/2017




NOTES:
1) All concentrations expressed in micrograms per liter (µg/L).
2) Results shown are for locations analyzed for the target compound during the December 2014 event.
3) Tapwater Regional Screening Level (RSL) for ethylbenzene is 1.5 µg/L.
4) Maximum Contaminant Level (MCL) goal for ethylbenzene is 700 µg/L.
5) J values are estimated.

PROJECTION: NAD83 StatePlane Georgia East Feet
AERIAL SOURCE: SAGIS (2008).

**LEGEND**

- Storm Water Drainage Canal
- Monitoring Well (shallow)
- Monitoring Well (deep)
- 27 Ethylbenzene Concentration
- (26) Duplicate Sample Concentration
- Ethylbenzene Isocontour >1.5 µg/L (RSL - 1.5 µg/L)

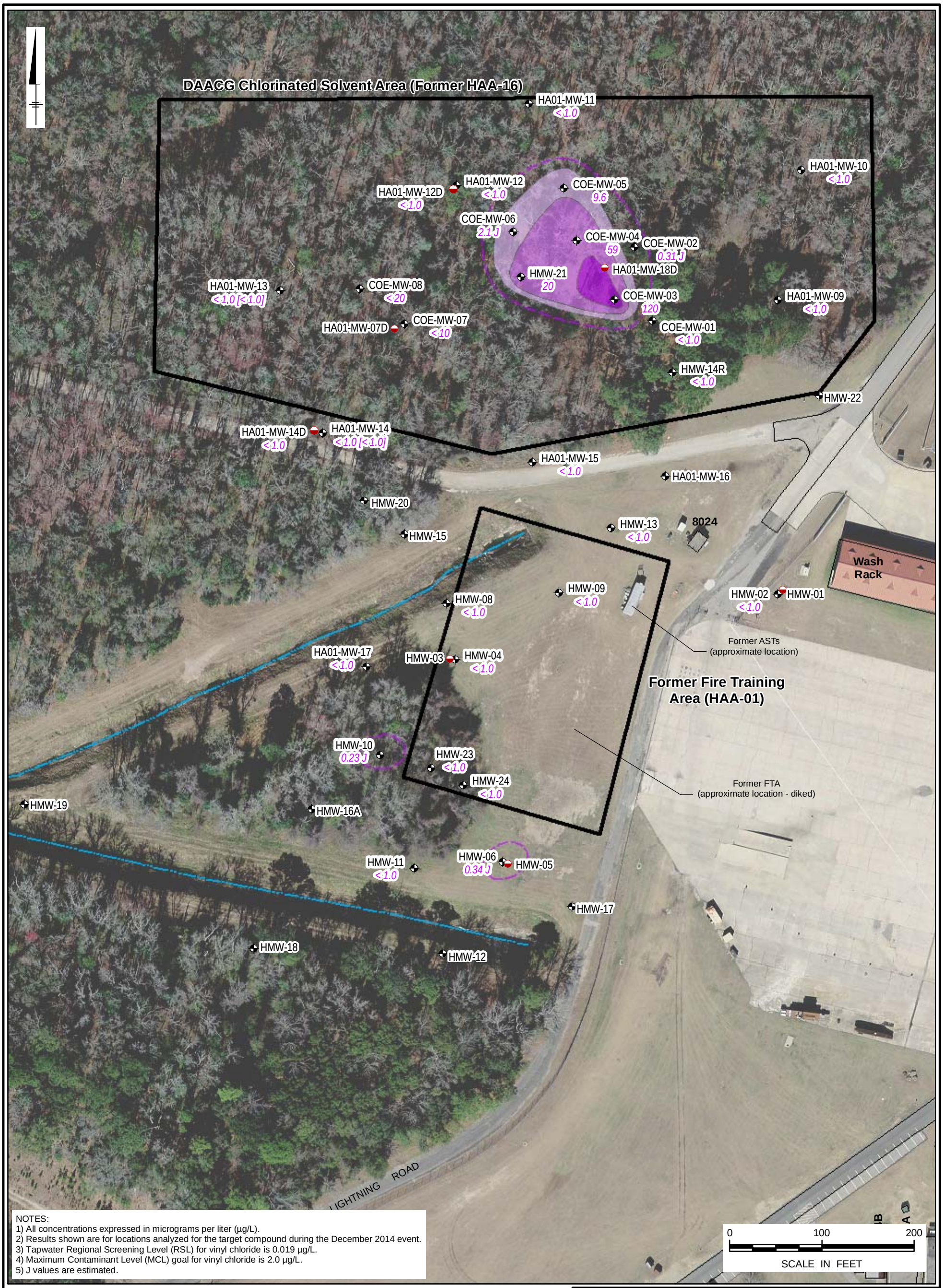
HUNTER ARMY AIRFIELD, GEORGIA (HAA-01)
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

# Ethylbenzene Concentrations in Groundwater (December 2014)

PIKA ARCADIS a joint venture

FIGURE
**6-20**

CITY: CITRIX DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: KSINSABAUGH
PROJECT: 10153001.0001.EE001 PATH: Z:\GISPROJECTS_ENV\PIKA\HAAF_PIKA\MAPDOCS\H01\2017\H01 RIFS\F6-21 H01_RIFS GW 2014 VC.MXD SAVED: 4/11/2018




NOTES:
1) All concentrations expressed in micrograms per liter (µg/L).
2) Results shown are for locations analyzed for the target compound during the December 2014 event.
3) Tapwater Regional Screening Level (RSL) for vinyl chloride is 0.019 µg/L.
4) Maximum Contaminant Level (MCL) goal for vinyl chloride is 2.0 µg/L.
5) J values are estimated.

PROJECTION: NAD83 StatePlane Georgia East Feet
AERIAL SOURCE: SAGIS (2008).

**LEGEND**

- Storm Water Drainage Canal
- Monitoring Well (shallow)
- Monitoring Well (deep)
- 20 Vinyl Chloride Concentration
- [< 1.0] Duplicate Sample Concentration

Vinyl Chloride Isocontour
- 0.019 - 1.9 µg/L (RSL - 0.019 µg/L)
- 2.0 - 9.9 µg/L (MCL - 2.0 µg/L)
- 10 - 100 µg/L
- >100 µg/L

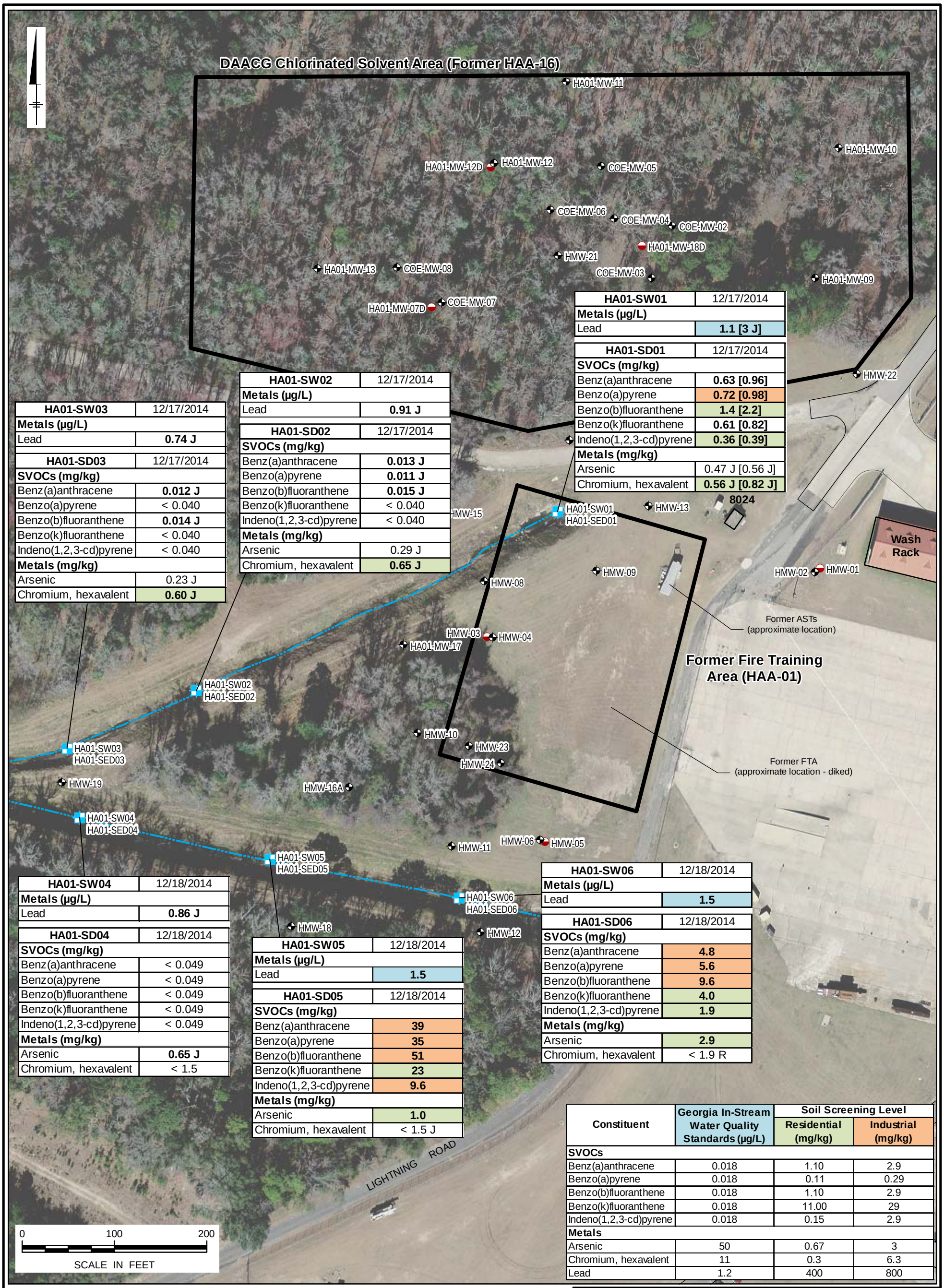
HUNTER ARMY AIRFIELD, GEORGIA (HAA-01)
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

# Vinyl Chloride Concentrations in Groundwater (December 2014)

PIKA ARCADIS a joint venture

FIGURE
**6-21**

CITY: CITRIX DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: KSINSABAUGH
PROJECT: 10153001.0001.EE001 PATH: Z:\GISPROJECTS_ENV\PIKA\HAAF_PIKA\MAPDOCS\H01\2017\H01 RIFS\F6-23 H01_RIFS SW SED 2014 COCS.MXD SAVED: 11/12/2018




| HA01-SW01 | 12/17/2014 |
|---|---|
| **Metals (µg/L)** | |
| Lead | **1.1 [3 J]** |

| HA01-SD01 | 12/17/2014 |
|---|---|
| **SVOCs (mg/kg)** | |
| Benz(a)anthracene | **0.63 [0.96]** |
| Benzo(a)pyrene | **0.72 [0.98]** |
| Benzo(b)fluoranthene | **1.4 [2.2]** |
| Benzo(k)fluoranthene | **0.61 [0.82]** |
| Indeno(1,2,3-cd)pyrene | **0.36 [0.39]** |
| **Metals (mg/kg)** | |
| Arsenic | 0.47 J [0.56 J] |
| Chromium, hexavalent | **0.56 J [0.82 J]** |

| HA01-SW02 | 12/17/2014 |
|---|---|
| **Metals (µg/L)** | |
| Lead | **0.91 J** |

| HA01-SD02 | 12/17/2014 |
|---|---|
| **SVOCs (mg/kg)** | |
| Benz(a)anthracene | **0.013 J** |
| Benzo(a)pyrene | **0.011 J** |
| Benzo(b)fluoranthene | **0.015 J** |
| Benzo(k)fluoranthene | < 0.040 |
| Indeno(1,2,3-cd)pyrene | < 0.040 |
| **Metals (mg/kg)** | |
| Arsenic | 0.29 J |
| Chromium, hexavalent | **0.65 J** |

| HA01-SW03 | 12/17/2014 |
|---|---|
| **Metals (µg/L)** | |
| Lead | **0.74 J** |

| HA01-SD03 | 12/17/2014 |
|---|---|
| **SVOCs (mg/kg)** | |
| Benz(a)anthracene | **0.012 J** |
| Benzo(a)pyrene | < 0.040 |
| Benzo(b)fluoranthene | **0.014 J** |
| Benzo(k)fluoranthene | < 0.040 |
| Indeno(1,2,3-cd)pyrene | < 0.040 |
| **Metals (mg/kg)** | |
| Arsenic | 0.23 J |
| Chromium, hexavalent | **0.60 J** |

| HA01-SW04 | 12/18/2014 |
|---|---|
| **Metals (µg/L)** | |
| Lead | **0.86 J** |

| HA01-SD04 | 12/18/2014 |
|---|---|
| **SVOCs (mg/kg)** | |
| Benz(a)anthracene | < 0.049 |
| Benzo(a)pyrene | < 0.049 |
| Benzo(b)fluoranthene | < 0.049 |
| Benzo(k)fluoranthene | < 0.049 |
| Indeno(1,2,3-cd)pyrene | < 0.049 |
| **Metals (mg/kg)** | |
| Arsenic | **0.65 J** |
| Chromium, hexavalent | < 1.5 |

| HA01-SW05 | 12/18/2014 |
|---|---|
| **Metals (µg/L)** | |
| Lead | **1.5** |

| HA01-SD05 | 12/18/2014 |
|---|---|
| **SVOCs (mg/kg)** | |
| Benz(a)anthracene | **39** |
| Benzo(a)pyrene | **35** |
| Benzo(b)fluoranthene | **51** |
| Benzo(k)fluoranthene | **23** |
| Indeno(1,2,3-cd)pyrene | **9.6** |
| **Metals (mg/kg)** | |
| Arsenic | **1.0** |
| Chromium, hexavalent | < 1.5 J |

| HA01-SW06 | 12/18/2014 |
|---|---|
| **Metals (µg/L)** | |
| Lead | **1.5** |

| HA01-SD06 | 12/18/2014 |
|---|---|
| **SVOCs (mg/kg)** | |
| Benz(a)anthracene | **4.8** |
| Benzo(a)pyrene | **5.6** |
| Benzo(b)fluoranthene | **9.6** |
| Benzo(k)fluoranthene | **4.0** |
| Indeno(1,2,3-cd)pyrene | **1.9** |
| **Metals (mg/kg)** | |
| Arsenic | **2.9** |
| Chromium, hexavalent | < 1.9 R |

| Constituent | Georgia In-Stream Water Quality Standards (µg/L) | Soil Screening Level | |
|---|---|---|---|
| | | Residential (mg/kg) | Industrial (mg/kg) |
| **SVOCs** | | | |
| Benz(a)anthracene | 0.018 | 1.10 | 2.9 |
| Benzo(a)pyrene | 0.018 | 0.11 | 0.29 |
| Benzo(b)fluoranthene | 0.018 | 1.10 | 2.9 |
| Benzo(k)fluoranthene | 0.018 | 11.00 | 29 |
| Indeno(1,2,3-cd)pyrene | 0.018 | 0.15 | 2.9 |
| **Metals** | | | |
| Arsenic | 50 | 0.67 | 3 |
| Chromium, hexavalent | 11 | 0.3 | 6.3 |
| Lead | 1.2 | 400 | 800 |

PROJECTION: NAD83 StatePlane Georgia East Feet
AERIAL SOURCE: SAGIS (2008).

**LEGEND**

- Storm Water Drainage Canal
- Monitoring Well (shallow)
- Monitoring Well (deep)
- Surface Water/Sediment Sample (December 2014)

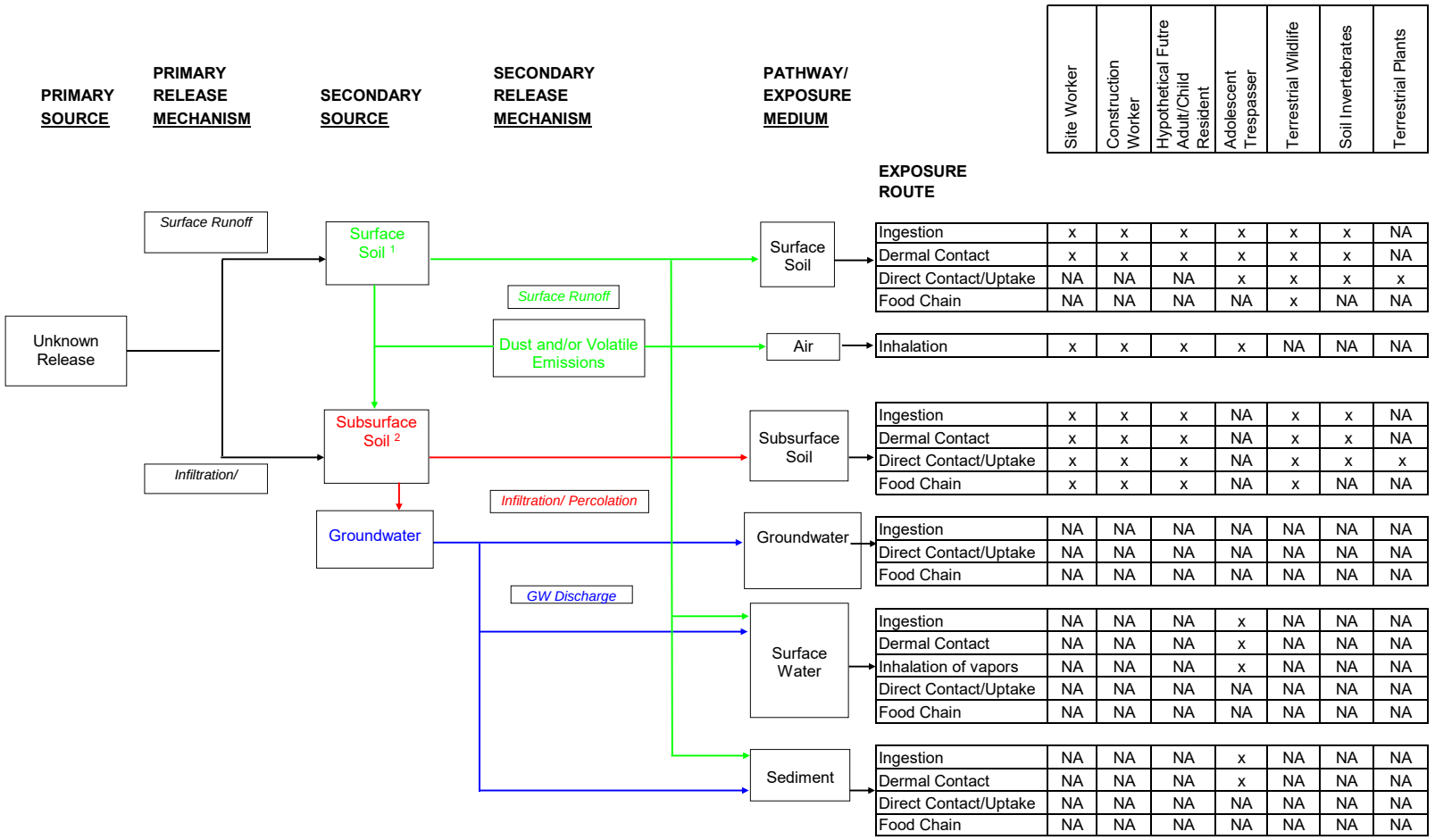
NOTES:
1) Surface water and sediment samples analyzed for volatile organic compounds, semi-volatile organic compounds (SVOCs), metals, and pesticides.
2) Results shown for compounds that exceeded their respective criteria at one or more samples collected during the December 2014 sampling event.
3) < - Indicates compound not detected above the laboratory practical quantification limit.
4) **BOLD** – Constituent detected in sample.
5) **BOLD** – Indicates result exceeds the Georgia In-Stream Water Quality Standards.
6) **BOLD** – Indicates result exceeds the residential soil screening level (RSL).
7) **BOLD** – Indicates result exceeds the industrial soil screening level (RSL).
8) [ ] – Indicates duplicate sample concentration.
9) J values are estimated.
10) R - Data rejected during ARCADIS data validation due to poor recovery of matrix spike/matrix spike duplicate (MS/MSD) samples.

HUNTER ARMY AIRFIELD, GEORGIA
**HAA-01 FORMER FIRE TRAINING/DAACG AREAS REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

# Summary of Constituents of Concern in Surface Water and Sediment (December 2014)

PIKA ARCADIS a joint venture

FIGURE
**6-22**



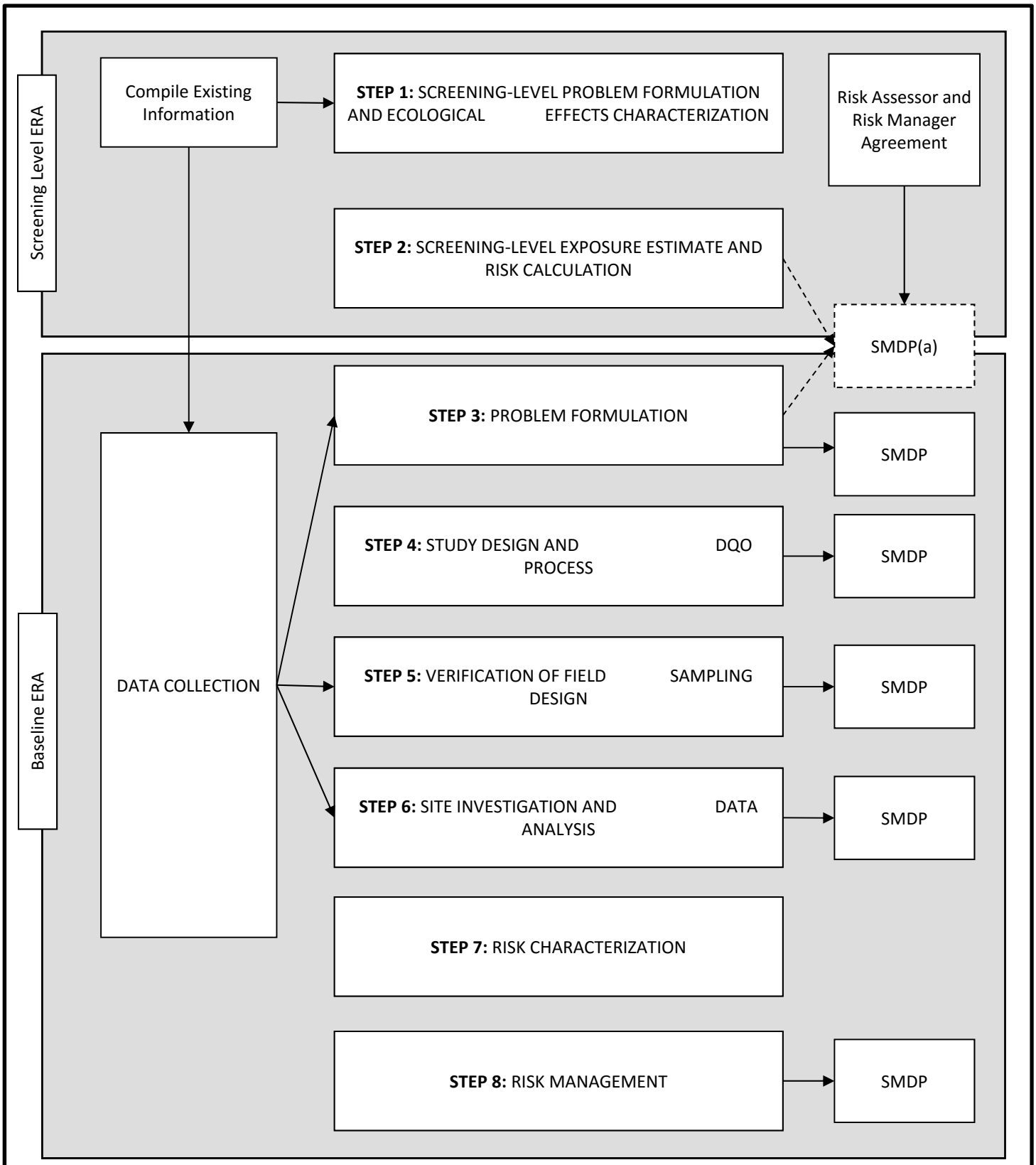

[1] Surface soil is defined as soil in the top 2 feet of the soil column for human receptors and in the top 1 foot of the soil column for non-burrowing ecological receptors.
[2] Combined surface and subsurface soil is defined as 0 to 10 feet for human receptors, while 0 to 4 feet is used for evaluation of potential exposure by burrowing animals and plants.

NA Pathway not applicable.
x Potential pathway.

ARCADIS

**Conceptual Site Model for Potential Human and Ecological Receptors**
**HAA-01 (Former Fire Training Area and DAACG Chlorinated Solvent Area)**
**Hunter Army Airfield - Savannah, Georgia**

**Figure 8-1**




NOTES:

(a) SMDP occurs EITHER after Step 2 or after Step 3a
ERA Ecological Risk Assessment
SMDP Scientific Management Decision Point

SOURCE:

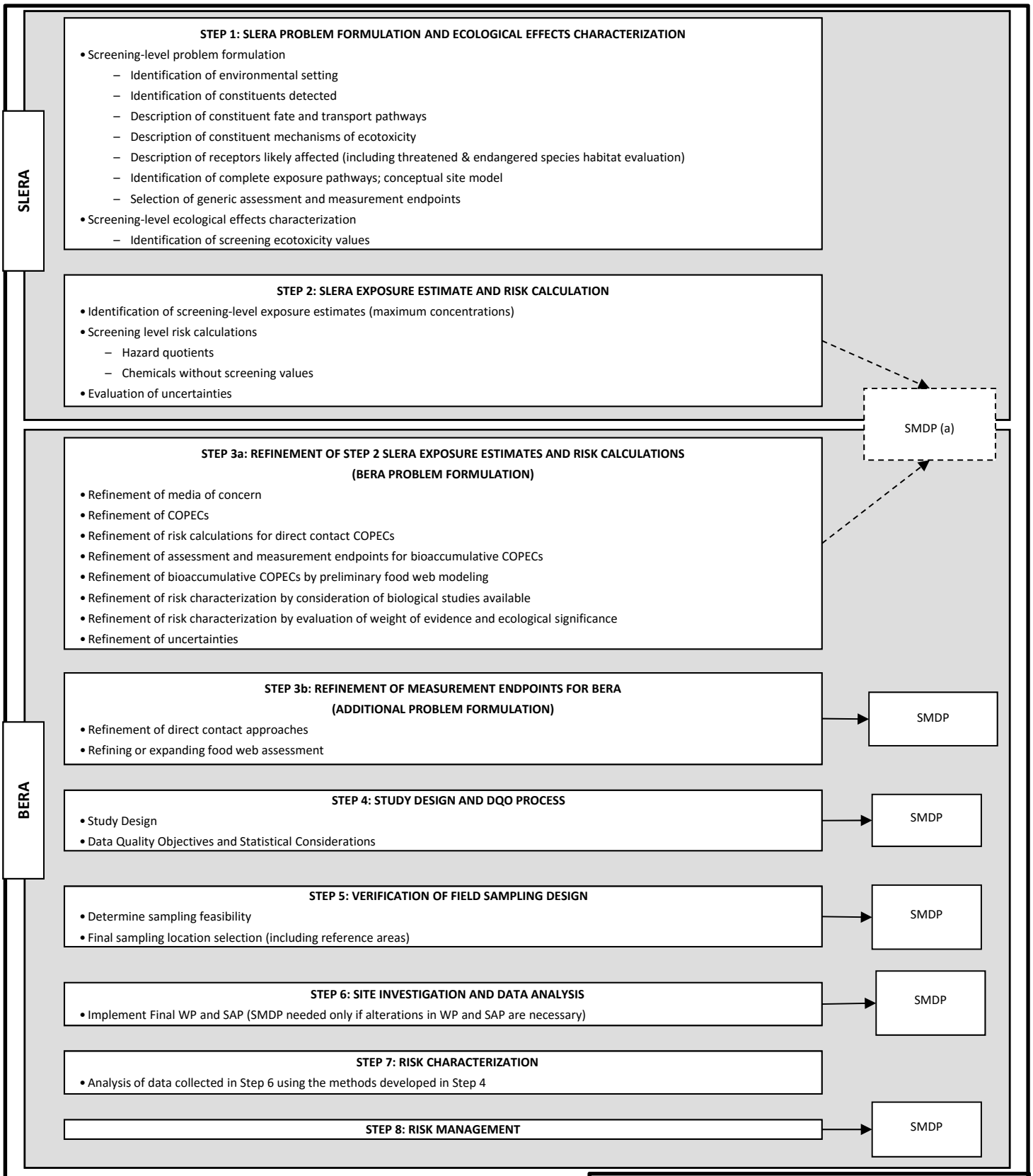
Adapted from USEPA 1997USEPA 1997. Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments. June.

HAA-01
**Hunter Army Airfield, Savannah, Georgia**

**Eight-Step Ecological Risk Assessment Process**

ARCADIS

FIGURE
**9-1**




NOTES:

| | |
|---|---|
| (a) | SMDP occurs EITHER after Step 2 or after Step 3a |
| BERA | Baseline Ecological Risk Assessment |
| COPEC | Constituent of Potential Ecological Concern |
| DQO | Data Quality Objectives |
| SAP | Sampling and Analysis Plan |
| SMDP | Scientific Management Decision Point |
| WP | Workplan |

SOURCE:
Adapted from USEPA 1997. Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments. June.

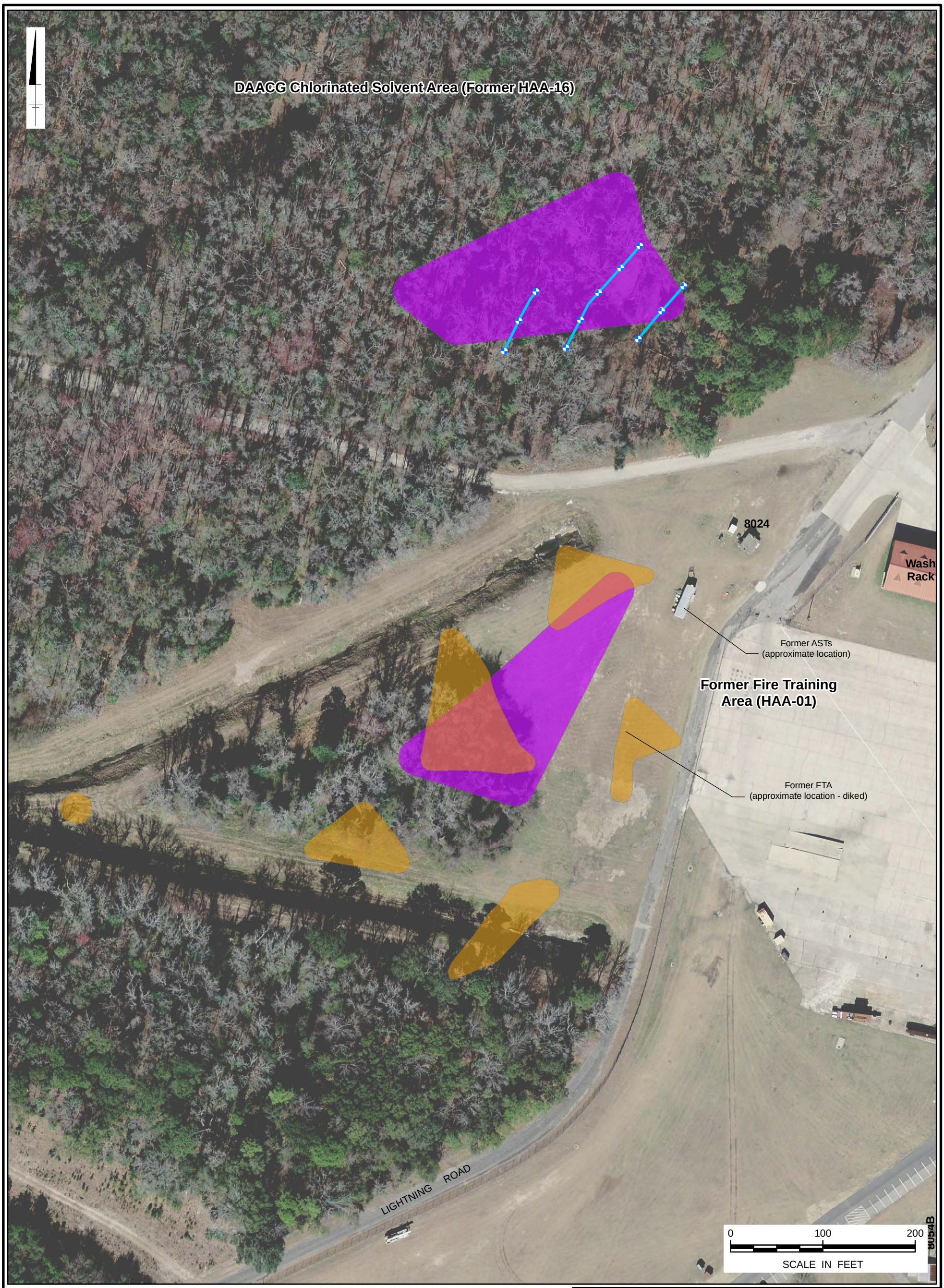
HAA-01
**Hunter Army Airfield, Savannah, Georgia**

# Expanded Eight-Step Ecological Risk Assessment Process

ARCADIS

FIGURE
**9-2**

CITY: CITRIX DIV/GROUP: IM/DV LD: (B.ALTOM) PIC: (T.TALELE) PM: (S.GIBBONS) TM: (M.SACCENTE) BY: KIVES
PROJECT: 10153001.0001.EE001 PATH: Z:\GISPROJECTS_ENV\PIKA\HAAF_PIKA\MAPDOCS\H01\2017\H01 RIFS\F10-1 H01_MAXEXTENTHORIZONTALCOCS.MXD SAVED: 9/22/2017




PROJECTION: NAD83 StatePlane Georgia East Feet
AERIAL SOURCE: SAGIS (2008).

**LEGEND**

- Proposed Injection Well
- Proposed In-Situ Injection Line

Maximum Horizontal Extent of COCs

- Groundwater
- Soil

HUNTER army AIRFIELD, GEORGIA (HAA-01)

**HAA-01 FORMER FIRE TRAINING/DAACG AREAS**
**REMEDIAL INVESTIGATION/FEASIBILITY STUDY**

# Maximum Horizontal Extent of COCs

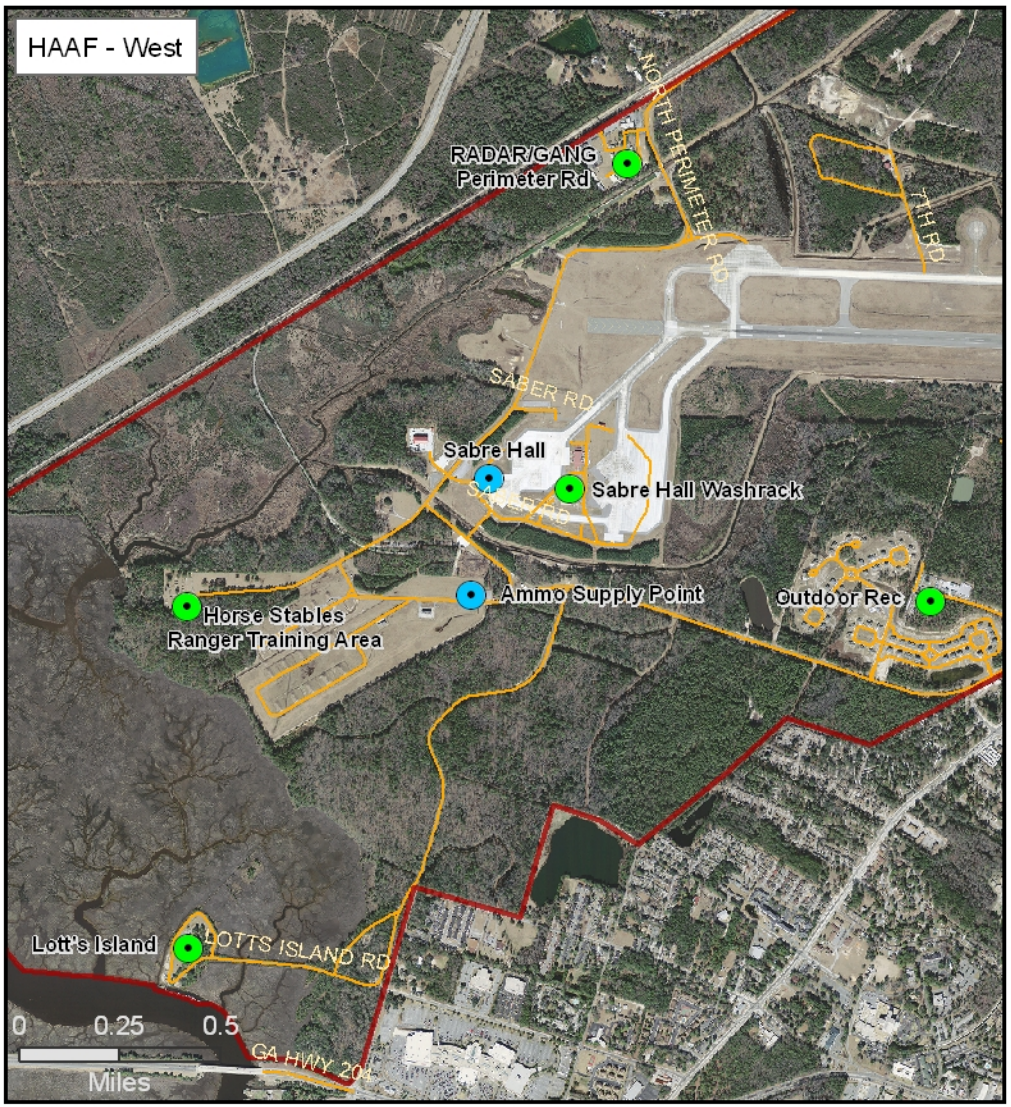
PIKA
ARCADIS
a joint venture

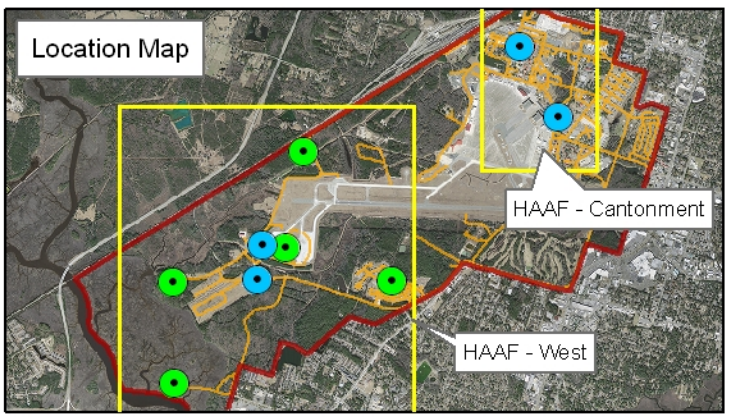
FIGURE
**10-1**

# APPENDIX A

## Potable Well Information

# Hunter Army Airfield (HAAF) - Water Supply Locations






Legend

- Community
- Non-Community
- Installation Boundary
- Roads

# GEORGIA DEPARTMENT OF NATURAL RESOURCES
# ENVIRONMENTAL PROTECTION DIVISION

5804 Peachtree Corners East, Norcross, GA 30092-3403
(678) 248-7383

## LABORATORY REPORT

TO: Mr. ROBERT BAUMGARDT
1587 FRANK COCHRAN DR
FORT STEWART, GA 31314

| | |
|---|---|
| Sample ID: | AH34126 |
| Facility Name: | usa-hunter army airfield - mai 302 |
| Site ID: | 0510107 |
| Location ID: | 302 |
| Location Descr: | WELL #2 PLANT |

| | |
|---|---|
| Date Collected: | 7/13/2011 |
| Time Collected: | 10:50 |
| Sample Collector: | N. WILLIAMS |
| Chlorination: | Yes |
| Sample Type: | Routine |
| Received By: | JHM |
| Date Received: | 7/14/2011 |
| Time Received: | 10:24 AM |
| Project: | VOC |
| Reporting Date: | 7/28/2011 |
| Received Temperature: | 0.0 °C |

| ANALYTE | PARAMETER CODE | EPA NOTE | METHOD | RESULT | QUALIFIER | UNITS | RL | ANALYST | ANALYSIS DATE | MCL or QC Range |
|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS Volatiles in DW QC Batch 127692** | | | | | | | | | | |
| Vinyl Chloride | 39175 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 2 |
| 1,1-Dichloroethylene | 34501 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 7 |
| Dichloromethane | 34423 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| trans-1,2-Dichloroethylene | 34546 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 100 |
| cis-1,2-Dichloroethylene | 77093 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 70 |
| 1,1,1-Trichloroethane | 34506 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 200 |
| Carbon tetrachloride | 32102 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| Benzene | 34030 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| 1,2-Dichloroethane | 32103 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| Trichloroethylene | 39180 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| 1,2-Dichloropropane | 34541 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| Toluene | 34010 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 1000 |
| 1,1,2-Trichloroethane | 34511 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| Tetrachloroethylene | 34475 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| Chlorobenzene | 34301 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 100 |
| Ethylbenzene | 34371 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 700 |
| Total Xylenes | 34020 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 1000 |
| Styrene | 77128 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 100 |
| p-Dichlorobenzene | 34571 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 75 |
| o-Dichlorobenzene | 34536 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 600 |
| 1,2,4-Trichlorobenzene | 34551 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 70 |
| 4-Bromofluorobenzene(Surrogate QC Std.) | | | EPA 524.2 | 5.6 | | ug/L | 0.50 | RC1 | 7/14/2011 | *3.5 to 6.1* |
| 1,2-Dichlorobenzene(Surrogate QC Std.) | | | EPA 524.2 | 5.7 | | ug/L | 0.50 | RC1 | 7/14/2011 | *3.5 to 6.3* |
| Dichlorodifluoromethane | 34668 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |

ug/L: micrograms/liter
mg/L: milligrams/liter
mg/kg: milligrams/kilogram
ug/kg: micrograms/kilogram
ug/g: micrograms/gram
ppm: parts per million
ppb: parts per billion
org/L: organisms/liter

<: less than
MCL: Maximum Contaminant Level
RL: Reporting Limit
LSPC: result less than lower specification
USPC: result greater than upper specification
TIE: Tentatively Identified or Estimated
VIOL: Violation (result exceeds MCL)

**Laboratory Contacts:**

| | | |
|---|---|---|
| Inorganics: | Kristy Hrehor | 678-248-7450 |
| Metals: | Mark Tolbert | 678-248-7440 |
| Organics: | Carmen Jones | 678-248-7420 |
| GC Mass Spec: | Ralph Schulz | 678-248-7410 |
| Microbiology: | Avionne Fortner | 678-248-7400 |

| ANALYTE | PARAMETER CODE | NOTE | EPA METHOD | RESULT | QUALIFIER UNITS | RL | ANALYST | ANALYSIS DATE | MCL or QC Range |
|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | 34418 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Bromomethane | 34413 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Chloroethane | 34311 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Fluorotrichloromethane | 34488 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,1-Dichloroethane | 34496 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 2,2 -Dichloropropane | 77170 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Bromochloromethane | 77297 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Chloroform | 32106 | | EPA 524.2 | 0.51 | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,1-Dichloropropene | 77168 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Dibromomethane | 77596 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Bromodichloromethane | 32101 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| cis-1,3-Dichloropropene | 34704 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| trans-1,3-Dichloropropene | 34699 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,3-Dichloropropane | 77173 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Chlorodibromomethane | 34306 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,2-Dibromoethane | 81522 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,1,1,2-Tetrachloroethane | 77562 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Bromoform | 32104 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Isopropylbenzene | 77223 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,1,2,2-Tetrachloroethane | 34516 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Bromobenzene | 81555 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,2,3-Trichloropropane | 77443 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| n-Propylbenzene | 77224 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| o-Chlorotoluene | 77275 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,3,5-Trimethylbenzene | 77226 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| p-Chlorotoluene | 77277 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| tert-Butylbenzene | 77353 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,2,4-Trimethylbenzene | 77222 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| sec-Butylbenzene | 77350 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| p-Isopropyltoluene | 77356 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| m-Dichlorobenzene | 34566 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| n-Butylbenzene | 77342 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,2-Dibromo-3-chloropropane | 38760 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Hexachlorobutadiene | 38702 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Naphthalene | 34696 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,2,3-Trichlorobenzene | 77613 | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 2-Methoxy-2-methyl-propane | | | EPA 524.2 | Not Detected | ug/L | 0.50 | RC1 | 7/14/2011 | |

ug/L: micrograms/liter
mg/L: milligrams/liter
mg/kg: milligrams/kilogram
ug/kg: micrograms/kilogram
ug/g: micrograms/gram
ppm: parts per million
ppb: parts per billion
org/L: organisms/liter

<: less than
MCL: Maximum Contaminant Level
RL: Reporting Limit
LSPC: result less than lower specification
USPC: result greater than upper specification
TIE: Tentatively Identified or Estimated
VIOL: Violation (result exceeds MCL)

**Laboratory Contacts:**

| | | |
|---|---|---|
| Inorganics: | Kristy Hrehor | 678-248-7450 |
| Metals: | Mark Tolbert | 678-248-7440 |
| Organics: | Carmen Jones | 678-248-7420 |
| GC Mass Spec: | Ralph Schulz | 678-248-7410 |
| Microbiology: | Avionne Fortner | 678-248-7400 |

# WATER RESOURCES MANAGEMENT BRANCH WELL DATA SHEET

Georgia Department of Natural Resources
Environmental Protection Division
(Form To Be Completed By Licensed Water Well Contractor)

Water System Name: Hunter Army Airfield - Main County: Chatham
System ID. No. 302522176 System Permit No. CG1790024 System Well No. 2
System Type: community: X non-community: ___ non-community non-transient: ___ non-public: ___

Owner: U.S. Army
Address: 1550 Frank Cochran Drive
City/State/Zip: Fort Stewart, GA 31314
Phone No: ( 912 ) 767-2010

Driller: _____
Address: _____
City/State/Zip: _____
Phone No: ( ) _____

Well Location Bldg 1205 at the corner of Neal Street and Strachan Road
Ground Elevation: _____ ft. MSL., Longitude: W _____, Latitude: N _____

## WELL DESCRIPTION

Date Drilled: 1942
Total Depth: 600 ft.
Static Water Level (SWL): _____ ft.
Date SWL Measured: _____
**DRILLING METHOD (Indicate)**
Rotary: ___ Percussion: ___ Other: ___
**HOLE DIAMETER**
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
**CASING RECORD**
Type Material: cast iron
Wall Thickness: 12" SDR: _____
Weight/Foot: _____
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
(Use Additional Sheets If Necessary)

## WELL SCREEN

Type Of Material: _____
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
Thickness Of Gravel Packing: _____

## GROUTING

Type Grout: _____
Applied By Pressure: Yes: ____ No: ____
From: _____ ft., To: _____ ft.
From: _____ ft., To: _____ ft.

## PUMPING TEST DATA

Date Tested: _____
Test Pump Rated: _____ gpm, _____ hp
Total Continuous Hrs. Tested: _____
Water Level Stabilized: YES: ____ NO: ____
Hrs. Before Stabilization: _____
Sustained Well Yield: _____ gpm
Static Water Level : _____ ft.
Total Drawdown: _____ ft.
Specific Capacity: _____ gpm/ft.
Pumping Water Level: _____ ft.
No. Minutes Well To Recover: _____
Developed Well: Yes: _____ No: _____
Disinfected Well: Yes: _____ No: _____
(Attach Time And Drawdown Measurements)

## PERMANENT PUMP DATA

(Completed By Contractor Or Owner)
Pump Type: electric Layne turbine
Diameter: _____ in., Outlet Size: _____ in.
Motor hp: 100 Motor rpm: _____
Total Dynamic Head: _____ ft.
Pump Set At: _____ ft.
Pump Disinfected: Yes: X No: ____
Deep Well Air Line Length: _____ ft.
Access Port Diameter: _____ in.
Casing Vent Installed: Yes: X No: ____
Sample Tap Installed: Yes: ____ No: ____
Meter Installed: Yes: X No: _____
Meter Size: _____ in. 1300 gpm

SEND FORM TO : Drinking Water Program, 205 Butler St., S.E., Rm. 1066, Atlanta, Ga. 30334

This well was drilled and constructed in accordance with the Georgia Department of Natural Resources' Rules for Safe Drinking Water, Chapter 391-3-5, and/or the Rules and Regulations for Groundwater Use, Chapter 391-3-2. I certify that the information on both sides of this form is correct and true to the best of my knowledge.

Well Contractor's Signature: _____ License No.: _____

Well Contractor's Name: _____ Date: _____

EPD-WS1.1(1989) COMPLETE WELL LOG ON THE REVERSE SIDE

WELL DATA

| From Feet | To Feet | Type Material Encountered | Remarks | Water Bearing |
|---|---|---|---|---|
| | | Not known | | |
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(If More Space Is Required, Use Additional Sheets)

## DEPARTMENT USE ONLY

Microbiological Analysis Results:_____
Inorganic Analysis Results:_____
Pesticides Analysis Results:_____
VOC Analysis Results:_____
SOC Analysis Results:_____

RADIOLOGICAL ANALYSIS RESULTS

WS#_____ Gross Alpha:_____
Ra226:_____ Ra228:_____ Uran

# WATER RESOURCES MANAGEMENT BRANCH WELL DATA SHEET

Georgia Department of Natural Resources
Environmental Protection Division
(Form To Be Completed By Licensed Water Well Contractor)

Water System Name: Hunter Army Airfield - Main County: Chatham
System ID. No. 302522176 System Permit No. CG1790024 System Well No. 1
System Type: community: X non-community: ___ non-community non-transient: ___ non-public: ___

Owner: U.S. Army
Address: 1550 Frank Cochran Drive
City/State/Zip: Fort Stewart, GA 31314
Phone No: ( 912 ) 767-2010

Driller: _____
Address: _____
City/State/Zip: _____
Phone No: ( ) _____

Well Location Bldg 711 at the corner of Moore Road and Douglas Street
Ground Elevation: _____ ft. MSL., Longitude: W _____, Latitude: N _____

## WELL DESCRIPTION

Date Drilled: 1940
Total Depth: 550 ft.
Static Water Level (SWL): _____ ft.
Date SWL Measured: _____
**DRILLING METHOD (Indicate)**
Rotary: ___ Percussion: ___ Other: ___
**HOLE DIAMETER**
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
**CASING RECORD**
Type Material: cast iron
Wall Thickness: 12" SDR: _____
Weight/Foot: _____
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
(Use Additional Sheets If Necessary)

## WELL SCREEN

Type Of Material: _____
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
Size: _____ in., From: _____ ft., To: _____ ft.
Thickness Of Gravel Packing: _____

## GROUTING

Type Grout: _____
Applied By Pressure: Yes: ____ No: ____
From: _____ ft., To: _____ ft.
From: _____ ft., To: _____ ft.

## PUMPING TEST DATA

Date Tested: _____
Test Pump Rated: _____ gpm, _____ hp
Total Continuous Hrs. Tested: _____
Water Level Stabilized: YES: ____ NO: ____
Hrs. Before Stabilization: _____
Sustained Well Yield: _____ gpm
Static Water Level : _____ ft.
Total Drawdown: _____ ft.
Specific Capacity: _____ gpm/ft.
Pumping Water Level: _____ ft.
No. Minutes Well To Recover: _____
Developed Well: Yes: _____ No: _____
Disinfected Well: Yes: _____ No: _____
(Attach Time And Drawdown Measurements)

## PERMANENT PUMP DATA

(Completed By Contractor Or Owner)
Pump Type: electric Layne turbine
Diameter: _____ in., Outlet Size: _____ in.
Motor hp: 100 Motor rpm: _____
Total Dynamic Head: _____ ft.
Pump Set At: _____ ft.
Pump Disinfected: Yes: X No: ____
Deep Well Air Line Length: _____ ft.
Access Port Diameter: _____ in.
Casing Vent Installed: Yes: X No: ____
Sample Tap Installed: Yes: ____ No: ____
Meter Installed: Yes: X No: _____
Meter Size: _____ in. 1300 gpm

SEND FORM TO : Drinking Water Program, 205 Butler St., S.E., Rm. 1066, Atlanta, Ga. 30334

This well was drilled and constructed in accordance with the Georgia Department of Natural Resources' Rules for Safe Drinking Water, Chapter 391-3-5, and/or the Rules and Regulations for Groundwater Use, Chapter 391-3-2. I certify that the information on both sides of this form is correct and true to the best of my knowledge.

Well Contractor's Signature: _____ License No.: _____

Well Contractor's Name: _____ Date: _____

EPD-WSL1 (1989) **COMPLETE WELL LOG ON THE REVERSE SIDE**

## WELL DATA

| From Feet | To Feet | Type Material Encountered | Remarks | Water Bearing |
|---|---|---|---|---|
| 288 | 623 | BROWN AND WHITE LIMESTONE | Large cavitys from 300' to 400'. per video | YES |
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(If More Space Is Required, Use Additional Sheets)

## DEPARTMENT USE ONLY

Microbiological Analysis Results:_____
Inorganic Analysis Results:_____
Pesticides Analysis Results:_____
VOC Analysis Results:_____
SOC Analysis Results:_____
Organic Analysis Results:_____

RADIOLOGICAL ANALYSIS RESULTS

WS#_____ Gross Alpha:_____
Ra226:_____ Ra228:_____ U238:_____
Radon:_____ Composite:_____

# GEORGIA DEPARTMENT OF NATURAL RESOURCES
# ENVIRONMENTAL PROTECTION DIVISION

5804 Peachtree Corners East, Norcross, GA 30092-3403
(678) 248-7383

## LABORATORY REPORT

TO: Mr. ROBERT BAUMGARDT
1587 FRANK COCHRAN DR
FORT STEWART, GA 31314

| | |
|---|---|
| Date Collected: | 7/13/2011 |
| Time Collected: | 10:30 |
| Sample Collector: | N. WILLIAMS |
| Chlorination: | Yes |
| Sample Type: | Routine |
| Received By: | JHM |
| Date Received: | 7/14/2011 |
| Time Received: | 10:24 AM |
| Project: | VOC |
| Reporting Date: | 7/28/2011 |
| Received Temperature: | 0.0 °C |

| | |
|---|---|
| Sample ID: | AH34125 |
| Facility Name: | usa-hunter army airfield - mai 301 |
| Site ID: | 0510107 |
| Location ID: | 301 |
| Location Descr: | WELL #1 PLANT |

| ANALYTE | PARAMETER CODE | EPA NOTE | METHOD | RESULT | QUALIFIER | UNITS | RL | ANALYST | ANALYSIS DATE | MCL or QC Range |
|---|---|---|---|---|---|---|---|---|---|---|
| **GC/MS Volatiles in DW QC Batch 127692** | | | | | | | | | | |
| Vinyl Chloride | 39175 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 2 |
| 1,1-Dichloroethylene | 34501 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 7 |
| Dichloromethane | 34423 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| trans-1,2-Dichloroethylene | 34546 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 100 |
| cis-1,2-Dichloroethylene | 77093 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 70 |
| 1,1,1-Trichloroethane | 34506 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 200 |
| Carbon tetrachloride | 32102 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| Benzene | 34030 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| 1,2-Dichloroethane | 32103 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| Trichloroethylene | 39180 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| 1,2-Dichloropropane | 34541 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| Toluene | 34010 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 1000 |
| 1,1,2-Trichloroethane | 34511 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| Tetrachloroethylene | 34475 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 5 |
| Chlorobenzene | 34301 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 100 |
| Ethylbenzene | 34371 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 700 |
| Total Xylenes | 34020 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 1000 |
| Styrene | 77128 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 100 |
| p-Dichlorobenzene | 34571 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 75 |
| o-Dichlorobenzene | 34536 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 600 |
| 1,2,4-Trichlorobenzene | 34551 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | 70 |
| 4-Bromofluorobenzene(Surrogate QC Std.) | | | EPA 524.2 | 5.5 | | ug/L | 0.50 | RC1 | 7/14/2011 | *3.5 to 6.1* |
| 1,2-Dichlorobenzene(Surrogate QC Std.) | | | EPA 524.2 | 5.4 | | ug/L | 0.50 | RC1 | 7/14/2011 | *3.5 to 6.3* |
| Dichlorodifluoromethane | 34668 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |

ug/L: micrograms/liter
mg/L: milligrams/liter
mg/kg: milligrams/kilogram
ug/kg: micrograms/kilogram
ug/g: micrograms/gram
ppm: parts per million
ppb: parts per billion
org/L: organisms/liter

<: less than
MCL: Maximum Contaminant Level
RL: Reporting Limit
LSPC: result less than lower specification
USPC: result greater than upper specification
TIE: Tentatively Identified or Estimated
VIOL: Violation (result exceeds MCL)

**Laboratory Contacts:**

| | | |
|---|---|---|
| Inorganics: | Kristy Hrehor | 678-248-7450 |
| Metals: | Mark Tolbert | 678-248-7440 |
| Organics: | Carmen Jones | 678-248-7420 |
| GC Mass Spec: | Ralph Schulz | 678-248-7410 |
| Microbiology: | Avionne Fortner | 678-248-7400 |

| ANALYTE | PARAMETER CODE | NOTE | EPA METHOD | RESULT | QUALIFIER | UNITS | RL | ANALYST | ANALYSIS DATE | MCL or QC Range |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | 34418 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Bromomethane | 34413 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Chloroethane | 34311 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Fluorotrichloromethane | 34488 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,1-Dichloroethane | 34496 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 2,2 -Dichloropropane | 77170 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Bromochloromethane | 77297 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Chloroform | 32106 | | EPA 524.2 | 0.84 | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,1-Dichloropropene | 77168 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Dibromomethane | 77596 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Bromodichloromethane | 32101 | | EPA 524.2 | 0.84 | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| cis-1,3-Dichloropropene | 34704 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| trans-1,3-Dichloropropene | 34699 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,3-Dichloropropane | 77173 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Chlorodibromomethane | 34306 | | EPA 524.2 | 0.85 | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,2-Dibromoethane | 81522 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,1,1,2-Tetrachloroethane | 77562 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Bromoform | 32104 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Isopropylbenzene | 77223 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,1,2,2-Tetrachloroethane | 34516 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Bromobenzene | 81555 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,2,3-Trichloropropane | 77443 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| n-Propylbenzene | 77224 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| o-Chlorotoluene | 77275 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,3,5-Trimethylbenzene | 77226 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| p-Chlorotoluene | 77277 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| tert-Butylbenzene | 77353 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,2,4-Trimethylbenzene | 77222 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| sec-Butylbenzene | 77350 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| p-Isopropyltoluene | 77356 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| m-Dichlorobenzene | 34566 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| n-Butylbenzene | 77342 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,2-Dibromo-3-chloropropane | 38760 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Hexachlorobutadiene | 38702 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| Naphthalene | 34696 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 1,2,3-Trichlorobenzene | 77613 | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |
| 2-Methoxy-2-methyl-propane | | | EPA 524.2 | Not Detected | | ug/L | 0.50 | RC1 | 7/14/2011 | |

ug/L: micrograms/liter
mg/L: milligrams/liter
mg/kg: milligrams/kilogram
ug/kg: micrograms/kilogram
ug/g: micrograms/gram
ppm: parts per million
ppb: parts per billion
org/L: organisms/liter

<: less than
MCL: Maximum Contaminant Level
RL: Reporting Limit
LSPC: result less than lower specification
USPC: result greater than upper specification
TIE: Tentatively Identified or Estimated
VIOL: Violation (result exceeds MCL)

**Laboratory Contacts:**

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|---|---|---|
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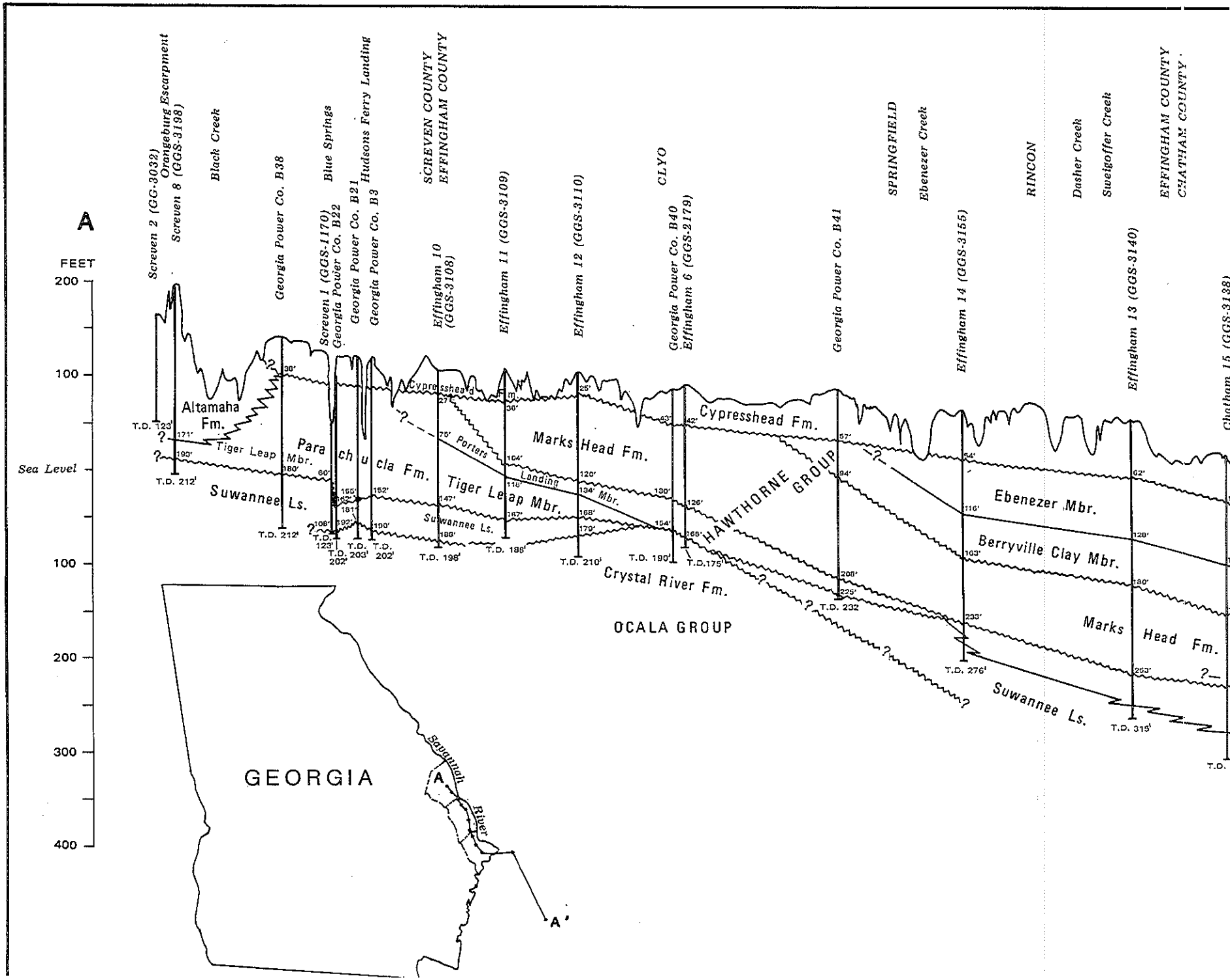
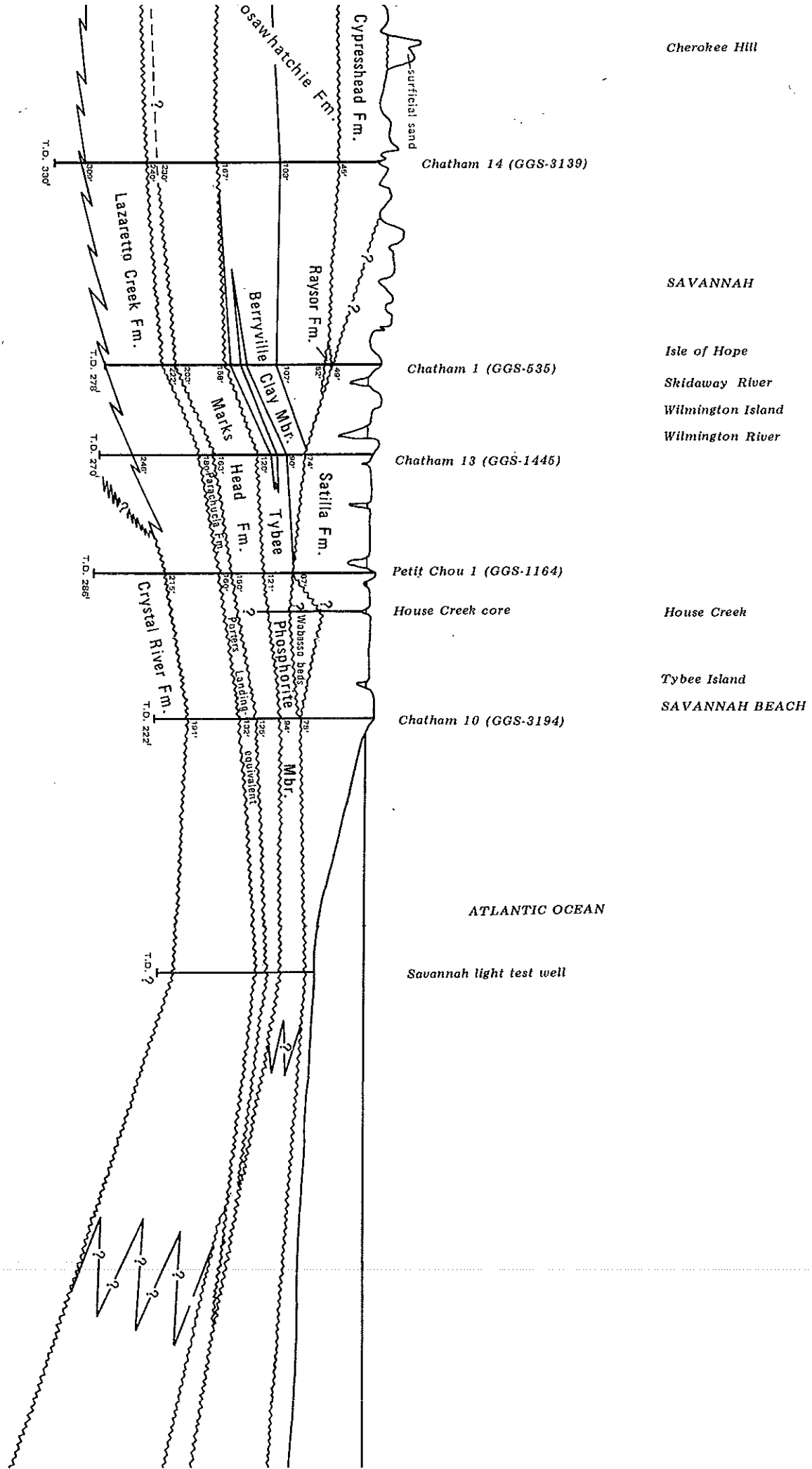
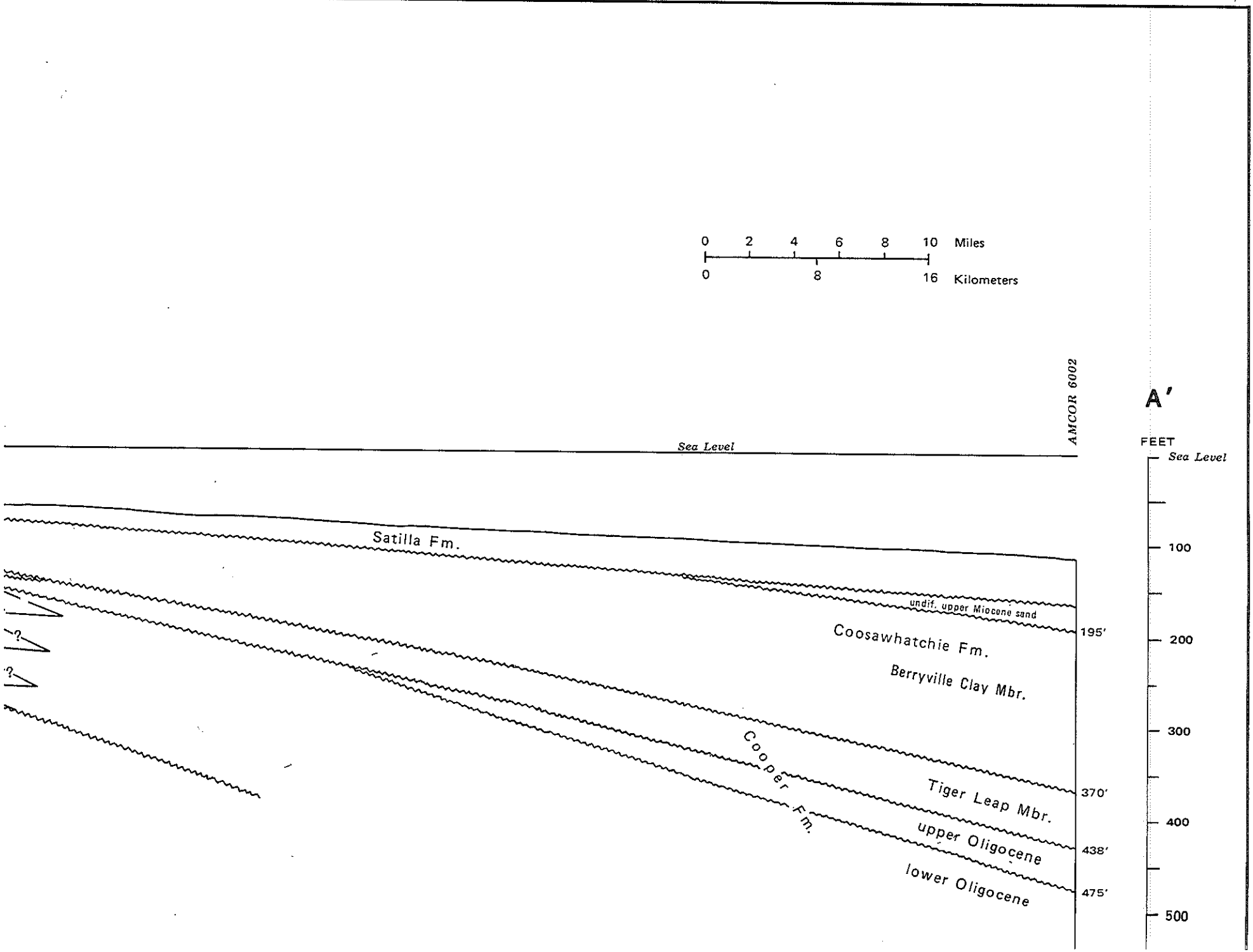
| Organics: | Carmen Jones | 678-248-7420 |
| GC Mass Spec: | Ralph Schulz | 678-248-7410 |
| Microbiology: | Avionne Fortner | 678-248-7400 |

# APPENDIX B

## Huddlestun (1988) Cross Section A-A and Historical 1951 Aerial Image


A
FEET
200
100
Sea Level
100
200
300
400
Screven 2 (GG-3032)
Orangeburg Escarpment
Screven 8 (GGS-3198)
Black Creek
Georgia Power Co. B38
Screven 1 (GGS-1170)
Georgia Power Co. B22
Blue Springs
Georgia Power Co. B21
Georgia Power Co. B3
Hudsons Ferry Landing
SCREVEN COUNTY
EFFINGHAM COUNTY
Effingham 10 (GGS-3108)
Effingham 11 (GGS-3109)
Effingham 12 (GGS-3110)
CLYO
Georgia Power Co. B40
Effingham 6 (GGS-2179)
Georgia Power Co. B41
SPRINGFIELD
Ebenezer Creek
Effingham 14 (GGS-3155)
RINCON
Dasher Creek
Sweigoffer Creek
Effingham 13 (GGS-3140)
EFFINGHAM COUNTY
CHATHAM COUNTY
Chatham 15 (GGS-3138)
Altamaha Fm.
Tiger Leap
Paracha ucla Fm.
Suwannee Ls.
Cypresshead Fm.
Porters
Landing
Marks Head Fm.
Tiger Leap Mbr.
HAWTHORNE GROUP
Ebenezer Mbr.
Berryville Clay Mbr.
Crystal River Fm.
OCALA GROUP
T.D. 212'
T.D. 123'
T.D. 202'
T.D. 203'
T.D. 198'
T.D. 188'
T.D. 210'
T.D. 190'
T.D. 175'
T.D. 232'
T.D. 276'
T.D. 315'
GEORGIA
Savannah River
A
A'


Cypresshead Fm.
Osawhatchie Fm.
surficial sand
Cherokee Hill
Chatham 14 (GGS-3139)
T.D. 330'
Lazaretto Creek Fm.
Berryville Clay Mbr.
Raysor Fm.
SAVANNAH
Isle of Hope
Chatham 1 (GGS-535)
T.D. 278'
Skidaway River
Wilmington Island
Wilmington River
Marks Head Fm.
Tybee
Satilla Fm.
Chatham 13 (GGS-1445)
T.D. 270'
Pinehurst Fm.
Petit Chou 1 (GGS-1164)
T.D. 286'
House Creek core
House Creek
Crystal River Fm.
Porters Landing
Phosphorite Mbr.
Wabasso beds
Tybee Island
SAVANNAH BEACH
Chatham 10 (GGS-3194)
T.D. 222'
equivalent
ATLANTIC OCEAN
Savannah light test well
T.D. ?


0 2 4 6 8 10 Miles
0 8 16 Kilometers
AMCOR 6002
A'
FEET
Sea Level
Sea Level
Satilla Fm.
undif. upper Miocene sand
195'
Coosawhatchie Fm.
Berryville Clay Mbr.
Cooper Fm.
Tiger Leap Mbr.
370'
upper Oligocene
438'
lower Oligocene
475'
100
200
300
400
500

# APPENDIX C

## Historical Field Procedures, Field Forms, and Field Logs (1990 – 2001)

**CSR Field Procedures**

Extracted from 2002 CSR prepared by Law Engineering and Environmental Services, Inc.

# APPENDIX C

## C1.0 SOIL BORING AND WELL CONSTRUCTION PROCEDURES

The procedures used to advance the soil borings, install the temporary piezometers, and install and develop the monitoring wells at the former FTA at HAAF are described below.

## C1.1 SOIL BORINGS

Soil borings were advanced using Geoprobe®, hand auger, and standard soil penetration testing procedures. These procedures are described below.

### C1.1.1 Geoprobe® Procedures

Twenty-nine soil borings were advanced and samples were collected using a Geoprobe® sampling device. Soil samples were collected in four-foot intervals beginning at the ground surface, as shown on Tables 3.1 and 3.2. Sampling continued until ground water was encountered. The soil samples were logged in the field in accordance with the Unified Soil Classification System (USCS). Soil borings were filled with bentonite/cement grout or bentonite chips upon completion of soil sampling.

Soil samples obtained with the Geoprobe® were collected with a 1.4 inch inside diameter (I.D.), 2-inch outside diameter (O.D.) acetate-lined tube sampler. Sampling techniques are described in Section C2.2.

The soil samples collected from soil borings SB-30 through SB-40, HMW-14R, and HMW-18 were screened in the field using a Photovac Microtip photoionization detector (PID). Soil samples collected from soil borings SB-18 through SB-29, HMW-14, HMW-15, HMW-16, and HMW-17 were not screened. The PID was calibrated on a daily basis with 100 ppm isobutylene in air calibration gas according to manufacturer's instructions. Appendix D provides the soil boring logs and Appendix C-1 provides Field Sampling Reports (FSRs) of these soil borings.

The Geoprobe® equipment was steam-cleaned or washed with tap water and phosphate-free (Alconox™) soap and rinsed with pesticide-grade methanol and organic-free water prior to use and between each boring to reduce the potential for cross contamination.

### C1.1.2 Hand Auger Procedures

Eight soil borings were advanced using a stainless steel hand auger. Surface grass/debris were removed and the hand auger bucket was inserted into the ground and advanced to the desired depth. Once the bucket was extracted, the soil was placed into a decontaminated stainless steel bowl and homogenized. Sampling procedures are described in Section C2.2.

The hand auger was washed with tap water and phosphate-free (Alconox™) soap and rinsed with pesticide-grade methanol and organic-free water prior to use and between each boring to reduce the potential for cross contamination.

### C1.1.3 Split-Spoon Soil Sampling Procedures

Three soil borings were advanced using a truck-mounted drill rig equipped with hollow-stem augers and split-spoon soil samplers. Soil samples collected with a split-spoon sampling device were collected in accordance with ASTM Method D1686-84. Soil samples were collected on continuous basis from ground surface to boring termination using the following procedures. At each sample interval, the split-spoon sampler measuring 1.4-inch I.D., 2-inch O.D. was inserted into the boring. The sampler was seated 6 inches to penetrate any loose cuttings and then driven an additional foot with blows of a 140-pound hammer falling 30 inches. The number of hammer blow required to drive the sampler the final foot was recorded and designated the "standard penetration resistance". The penetration resistance when properly evaluated is an index to engineering properties of the soil. After each interval was sampled the boring was advanced to the next sample interval with the hollow stem augers. Soil samples collected using a split-spoon sampler were collected for lithologic description, field screening for qualitative VOCs using a PID, and laboratory analysis. A small portion of each soil sample was removed from the split-spoon and placed in a "zip-lock" bag, sealed and set aside to allow for volatilization. These soil screening samples ("zip-lock" bag sample) were screened in the field for qualitative volatile organic compounds (VOCs) using a PID, and inspected for staining and odor. The lithology of each soil sample was classified in accordance with the Unified Soil Classification System (USCS). The PID was calibrated on a daily basis with isobutylene in air calibration gas according to the manufacturer's instructions. Soil samples were selected for laboratory analysis based on the field screening results where the PID indicated the presence of VOCs in the soils. Sampling procedures are described in Section C2.2.

### C1.2 Temporary Piezometer Installation and Sampling

Eight temporary piezometers were installed to determine placement of the permanent monitoring wells. The piezometers were constructed of a 1.0 inch diameter PVC screen and casing and were installed into the soil boring that was advanced using the Geoprobe®. The screen was ten feet in length with a slot size of 0.010-inch. Select piezometer locations were converted to monitoring wells. For those locations the temporary piezometer was removed, the soil boring was overdrilled, and a monitoring well was installed. Locations that were not designated to be converted to a monitoring well were abandoned using a bentonite/cement grout or bentonite chips to ground surface after the casing and screen were removed.

### C1.3 TYPE II MONITORING WELL INSTALLATION

Ten Type II (single cased) groundwater monitoring wells (HMW-14, HMW-14R, HMW-15, HMW-16, HMW-17, HMW-18, HMW-19, HMW-20, HMW-21, and HMW-22) were installed at the site. The borings were drilled by a truck-mounted drill rig using continuous flight hollow stem augers. Monitoring wells were installed in accordance with guidance set forth in U.S. Army Corps of Engineers document EM1110-1-4000, *Monitor Well Design, Installation, and Documentation at Hazardous and/or Toxic Waste Sites*. Wells were designed to screen the uppermost water-bearing zone in the soil at the site. Appendix D provides well construction information for the Type II monitoring wells.

Monitoring wells HMW-14 through HMW-17 were constructed of two-inch I.D. flush joint, threaded schedule 40 PVC pipe with ten feet of 0.010-inch machine slotted screen. Well borings were advanced using a 4.25-inch hollow-stem auger. Clean No. 1 sand of 20/40 gradation was placed into the annulus between the well screen and the borehole using a tremie pipe. Monitoring wells HMW-14R, HMW-18, HMW-19, HMW-20, HMW-21, and HMW-22 are constructed of two-inch I.D. flush joint, threaded schedule 40 PVC pipe with ten feet of 0.006-inch machine slotted screen. Well borings were advanced using a 6.25-inch hollow-stem auger. Clean silica sand of 30/60 gradation was placed into the annulus between the well screen and the borehole using a tremie pipe.

The sand filter pack was installed to approximately two to three feet above the screen and was capped with a bentonite seal approximately 0.5 to 1.5 feet thick. Clean potable water was used to set the sand pack. The volume of water used was recorded on the monitoring well installation diagram (presented in Appendix D). Proper placement of the filter sand was confirmed by taped measurements. Cement-bentonite grout was

installed in the annular space from the top of the bentonite seal to within approximately six inches to a foot of the ground surface using a tremie pipe. A waterproof cap was installed on the riser pipe and an above-grade lockable protective cover and concrete well pad was placed around each well.

## C1.4 WELL DEVELOPMENT

Upon completion of monitoring well installation activities, each newly installed well was developed. The purpose of well development is to remove excess sediment, recover any water lost during drilling, clear formational pathways which may have been blocked during drilling, and draw representative groundwater into the screen. Monitoring wells were developed in accordance with guidance set forth in U.S. Army Corps of Engineers document EM1110-1-4000, *Monitor Well Design, Installation, and Documentation at Hazardous and/or Toxic Waste Sites*. The monitoring wells were developed using the pump and surge technique by using a QED purge pump equipped with surge rings or a surge block and submersible pump. The development process was accomplished by causing the groundwater within the well to move vigorously through the screen while removing the water and sediment from the well. The purge pump was raised and lowered through the well screen section producing an agitation action.

Well development was completed at least 48 hours before sampling of each new monitoring well. The monitoring wells were developed using an air driven displacement pump. Development continued until a minimum of five well volumes had been removed, less than 0.1 foot. of sediment remained at the bottom of the monitoring well, and pH, specific conductance, and temperature measurements were stabilized. During well development, pH, temperature, and specific conductivity (SC) were measured to evaluate the effectiveness of the development activities. Measurements were performed with a QED Purge Saver FC-4000 in-line meter or a Horiba™ multi-meter. The meter was calibrated on a daily basis according to manufacturer's instructions. The well was considered developed after five well volumes were removed and the water quality indicator parameters had stabilized. Stabilization of parameters is defined as 10% between two consecutive readings.

In addition, the wells were to be developed to below 5 nephelometric turbidity units (NTUs). The turbidity of the water was measured with a DRT-15C turbidimeter calibrated daily per manufacturer's instructions. Development parameters are summarized in Table C.1.

A photograph of the ground water taken from the developed monitoring well was made of at least a one liter clear glass sample container of the water, using 35 mm color print film, a suitable back-light and background, and close enough to show the clarity of the water. Photographs are presented in Appendix C-2.

## C1.5 MONITORING WELL ABANDONMENT

Monitoring well HMW-14 was abandoned because the well was determined to not be representative of groundwater conditions at the site due to turbidity and incorrect well screen placement. HMW-14 was abandoned by removing the bottom well plug and filling the annular space with grout (injected through a tremie pipe) while removing the polyvinyl chloride (PVC) well screen and risers. Once the annular space was filled with grout, the location was completed to ground surface with concrete. Well abandonment procedures were conducted in accordance with guidance set forth in U.S. Army Corps of Engineers document EM1110-1-4000, *Monitor Well Design, Installation, and Documentation at Hazardous and/or Toxic Waste Sites* and Georgia Water Well Standards.

## C1.6 SITE SURVEY

The monitoring wells and soil sampling locations were surveyed for horizontal location and elevation. The horizontal locations of monitoring wells and sampling locations were surveyed to a horizontal accuracy of 1.0 foot. The top-of-casing elevations were surveyed to the nearest 0.01 foot. Coordinate values used were Georgia State Plane, East Zone, North American Datum of 1983 (NAD). Ground surface elevations for monitoring wells and soil sampling locations were surveyed to the nearest 0.1 foot. The National Geodetic Vertical Datum (NGVD) of 1929 was used as the reference datum for elevations. Existing monitoring wells that were sampled were surveyed for horizontal location and top-of-casing elevation. The survey was conducted by Donaldson, Garrett & Associates, Inc., a licensed State of Georgia land surveyor.

## C2.0 SAMPLING PROCEDURES

The sampling procedures conducted at the former FTA located at HAAF are described below.

## C2.1 SAMPLE CONTAINERS AND SAMPLE IDENTIFICATION

Sample containers and preservatives were supplied by the laboratory in accordance with Table C.2. Field personnel identified the location of the sample collected; the date upon which it was obtained; the type of sample; whether or not a preservative was used, and if so, what type; and the respective project number. This information was documented in the Field Sampling Report (FSR). This same information was then placed on the sample identification label, which in turn was affixed to the sample container. Sample labels were filled out with indelible ink.

## C2.2 SOIL SAMPLING

Soil samples were collected from a Geoprobe® sampler and/or hand augers and/or split-spoon sampler. Soil samples obtained with the Geoprobe® were collected with a 1.4 inch inside diameter (I.D.), 2-inch outside diameter (O.D.) acetate-lined tube sampler. The acetate liner was split and the soil sample was immediately collected for volatile organic compounds (VOCs) using three Encore® samplers. The remaining soil from the selected interval was placed into a decontaminated stainless steel bowl and homogenized. The homogenized soil was placed into two, 4-ounce (oz) glass jars for semi-volatile organics (SVOCs), and/or pesticides/PCBs, and moisture content.

Soil sample collection procedures from a stainless steel hand auger were performed in the following manner: Surface grass/debris were removed and the hand auger bucket was inserted into the ground and advanced to the desired depth. Once the bucket was extracted, the soil was placed into a decontaminated stainless steel bowl and homogenized. The homogenized soil was placed into one, 4-oz glass jar for SVOCs and moisture content. The samples were individually placed in water-tight zip-lock bags and packed in a cooler with bags of ice in order to maintain sample integrity. Soil samples and QA splits were submitted to the following laboratories for the analyses shown on Table 3.2:

Soil samples were collected with a 1.4-inch I.D., 2-inch O.D. 2-foot in length split-spoon sampler. At each sample interval, the split-spoon sampler was inserted into the boring and seated 6 inches to

penetrate any loose cuttings and then driven an additional foot with blows of a 140-pound hammer falling 30 inches. Soil samples from split-tube samplers were gently removed from the split-tube and placed on clean aluminum foil and securely wrapped and sealed with the aluminum foil and placed on ice pending the results of the headspace gas analysis and completion of visual inspection. A small portion of each soil sample will be placed in a self-sealing plastic bag and placed to the side to allow for volatilization. A photoionization detector (PID) was used to analyze the headspace gas in the bag. The PID gives a relative response to the presence of VOCs, but do not identify individual VOC constituents. The soil samples were also inspected for visual evidence of contamination, e.g., free-phase product and/or staining. The results of the field screening were used to select samples for laboratory analysis. Soil samples for VOC analysis were collected from the soil core from the split-spoon prior to homogenizing. The soil was placed into a decontaminated stainless steel bowl and homogenized. Soil samples for SVOCs and metals analysis were then collected from the homogenized soil.

Soil samples collected from soil borings SB-18 through SB-29, and SB-43 to SB-50, and HMW-14 through HMW-17 were sent to:

Severn Trent Labatories (STL) – Savannah
5102 LaRouche Avenue
Savannah, GA 31404

Because STL-Savannah could not provide data on a 48 hour turn-around time at the scheduled sampling event, the soil samples collected from soil borings SB-30 through SB-42 and HMW-14R, and HMW-18 were sent to:

Analytical Services Inc. (ASI)
110 Technology Parkway
Norcross, GA 30092

QA Split Samples:

Accura Analytical Laboratory, Inc.

6017 Financial Drive
Norcross, GA 30071

## C2.3 GROUNDWATER SAMPLING

Groundwater samples were collected from monitoring wells and temporary piezometers. The procedures used to collect the samples are described below.

### C2.3.1 Preliminary Observations

Prior to sampling, each monitoring well was inspected for damage and usability. The well cover was carefully opened to limit the potential for foreign material to enter the well. Upon opening the well, both a tri-gas monitor and a PID measurement were collected and entered into the logbook. Prior to purging and sampling, the depth to groundwater and total depth of the well were measured in each well with an electrical water level indicator.

### C2.3.2 Groundwater Level Measurement

Each well was marked with an easily identifiable permanent reference survey point that was located on the highest point of the well casing. The depth to groundwater and total depth of the well was measured using an electrical water-level indicator. The instruments used were a electronic water-level meter and product probe. The water-level/product probe indicator was washed with an Alconox™ and water mixture and rinsed with potable water prior to each use. The depth to groundwater was measured and recorded in the field notebook.

### C2.3.3 Well Purging

Monitoring wells were purged prior to sampling to provide fresh formation water for sampling. Purging was conducted in accordance with procedures set forth in U.S. Army Corps of Engineers guidance document EM200-1-3, *Requirements for the Preparation of Sampling and Analysis Plans.* Monitoring wells were purged with a QED stainless steel and Teflon bladder pump or a peristaltic pump and dedicated Teflon tubing until a minimum of 3 well volumes had been removed, and pH, specific conductance, and temperature had stabilized. In addition, the wells were to be purged to 5 NTUs. A pair of new gloves were used during the purging and sampling of each well.

The water quality parameters of temperature, pH, and specific conductance were measured with a Purge Saver FC-4000 in-line meter or a Horiba™ multi-meter. The meter was calibrated on a daily basis according to manufacturer's instructions. The physical appearance of the groundwater removed during purging was also recorded. Purging was considered complete when the water quality parameters stabilized. Stabilization of parameters is defined as: variation of pH less than 0.2 pH units between two consecutive readings, variation of temperature less than 0.5 degrees Celsius between two consecutive readings, and less than 10% variation of specific conductance between two consecutive readings. The turbidity of the water was measured with a DRT-15C turbidimeter and calibrated daily per manufacturer's instructions. Table C.3 presents the final well stablization parameters.

The formula used to calculate the volume of standing water in the well casing and filter pack based on the initial water level is presented below:

$$V = \pi ((r_1^2 - r_2^2)\,\phi + r_2^2) \times H \times 7.48$$

| | | | |
|---|---|---|---|
| Where: V | = | volume, in gallons | |
| | H | = | height of water in well screen and filter pack in feet |
| | $r_1$ | = | radius of borehole in feet |
| | $r_2$ | = | radius of well in feet |
| | $\phi$ | = | porosity of filter pack, assumes 30 percent |
| | $\pi$ | = | 3.14 |
| | 7.48 | = | conversion factor for cubic feet to gallons |

The value of V was then multiplied by 3 (or 5 for development) to obtain the minimum well bore volume required to remove from the well.

### C2.3.4 Groundwater Sample Collection

Monitoring Wells

Plastic sheeting was placed on the ground surface in the vicinity of the well to be sampled. Groundwater samples were obtained from each well as soon as the well recovered after purging. The groundwater samples were obtained with a QED stainless steel and Teflon bladder pump or a peristaltic pump with Teflon tubing utilizing low-flow sampling techniques. The flow rate on the pump was lowered to 100 milliliters (mls) +/- 20 mls per minute (as recommended by the EPA) for the collection of VOCs. Groundwater samples for VOC analysis were collected by pulling water into the Teflon tubing and

stopping the peristaltic pump, manually pinching the tubing closed and then removing the tubing pulled from the well with the water retained in the tubing. The pinch was removed from the tubing allowing the column of water to drain from the tubing into the sample container without passing through the pump's roller mechanism. Three 40-ml VOA vials were filled allowing no headspace for VOCs. After the VOCs were collected, the SVOCs and metals containers were filled. The SVOC samples were collected using a Teflon bailer and clean nylon rope. The SVOCs were collected in two, 1-liter amber glass bottles and the metals were collected in a 500 ml polyethylene bottle pre-preserved with nitric acid. The samples were individually placed in water-tight zip-lock bags and packed in a cooler with bags of ice in order to maintain sample integrity. Groundwater samples and QA splits were submitted to the following laboratories for the analyses shown on Table 3.2:

Groundwater Samples:

Analytical Services Inc. (ASI)
110 Technology Parkway
Norcross, GA 30092

Severn Trent Labatories (STL) – Savannah
5102 LaRouche Avenue
Savannah, GA 31404

QA Split Samples:

Accura Analytical Laboratory, Inc.
6017 Financial Drive
Norcross, GA 30071

Temporary Piezometers

The temporary piezometers were sampled within hours after installation with a peristaltic pump. The VOCs were collected by pulling up the tubing and reversing the pump to allow the VOA vials to be filled from the bottom end of the tubing with water that had not been through the pump head. Three, 40-ml VOA vials were filled allowing no headspace for VOCs. After the VOCs were collected, the SVOCs containers were filled (for piezometer samples SB-38 and SB-40). The SVOCs were collected in two, 1-liter amber glass bottles. The samples were individually placed in water-tight zip-lock bags and packed in a cooler with bags of ice in order to maintain sample integrity. The piezometer groundwater samples were submitted to the following laboratories for the analyses shown on Table 3.2:

Piezometer samples collected from locations HMW-14, HMW-15, HMW-16A, HMW-16B, HMW-16C and HMW-17 were sent to:

Severn Trent Laboratories (STL) – Savannah
5102 LaRoche Avenue
Savannah, Georgia 31404

Because STL-Savannah could not provide data on a 48 hour turn-around time, samples collected from piezometer locations SB-38 and SB-40 were sent to:

Analytical Services Inc. (ASI)
110 Technology Parkway
Norcross, GA 30092

## C3.0 FIELD SAMPLE RECORD KEEPING AND CUSTODY PROCEDURES

Field documentation and custody procedures used at HAAF are described below.

### C3.1 FIELD DOCUMENTATION

Field activities were documented in the field notebook and summarized by the Site Manager on a Daily Quality Control Report (DQCR). To provide for proper identification in the field and proper tracking in the laboratory, samples were labeled in a clear and consistent fashion. Field personnel maintained a permanently bound field notebook. This notebook was water resistant with sequentially numbered pages. Field activities were recorded with a waterproof permanent marker.

### C3.2 CHAIN OF CUSTODY

Sample custody was initiated at the time of sample collection by placing the labeled sample into an iced cooler in the possession of the sampling personnel. A line item on the chain-of-custody record was filled out by the sampling personnel. The chain-of-custody record was used to track custody of samples during transport and shipping. Prior to sample shipping, the field representative signed, dated, and listed the time and confirmed the completeness of descriptive information contained on the form. The chain-of-custody form accompanied the samples. Each individual who subsequently assumed responsibility for the samples signed the chain-of-custody record. The field chain-of-custody record terminated upon laboratory receipt of samples. All entries were recorded in ink. Each sample had a corresponding entry on a chain-of-custody record. The chain-of-custody form included:

- Site name
- The unique sample I.D. name or number
- Sample type
- Date and time of the collection
- Number of containers
- Signature of sampler(s)
- Signature of persons involved in the chain of custody and inclusive dates and times of possession

## C4.0 GENERAL DECONTAMINATION PROCEDURE

Decontamination was performed in accordance with the following standard operating procedures.

## C4.1 GENERAL DECONTAMINATION PROCEDURE

Equipment that came in contact with potentially contaminated materials, soil, or water was cleaned prior to each use on this project. Decontamination consisted of a combination of steam cleaning and/or Alconox™ soap wash and potable water rinse.

## C4.2 DRILLING EQUIPMENT

Drilling rigs and downhole equipment were cleaned and decontaminated at a designated decontamination station before each boring or well was installed. Equipment was inspected before use to determine if fluids (oils, lubricants, hydraulic fluids, etc.) were leaking. Drilling equipment was decontaminated as follows:

- The entire rig was steam cleaned upon arrival on-site.
- The back of the rig, including the jacks, mast, kelly bar, platform, hoists, spindles, cathead, etc., was steam cleaned between borings, as necessary.

Downhole drilling and sampling tools were decontaminated before each boring or well installation as described below:

- Steam clean
- Clean with tap water and laboratory grade, phosphate free detergent, with a brush.
- Rinse with tap water.
- Rinse with pesticide-grade methanol.
- Flush with organic-free water and allow to air dry as long as possible.

## C4.3 SAMPLING EQUIPMENT

The following cleaning procedures were used for preparing sampling equipment prior to field use:

- Clean with tap water and Alconox™ soap using a brush if necessary to remove particulate matter and surface films.
- Rinse thoroughly with tap water.

- Rinse thoroughly with organic-free water.
- Rinse with pesticide-grade methanol.
- Rinse thoroughly with organic-free water and allow to air dry as long as possible.
- The equipment was wrapped with aluminum foil, if appropriate, to prevent contamination if the equipment was stored or transported.

**TABLE C.1**

**Summary of Monitoring Well Development Parameters**

| Well Name | Development Date | pH | Specific Conductance | Temperature (°C) | Turbidity (NTU) |
|---|---|---|---|---|---|
| HMW-14 | 8/25/1999 | 6.46 | 0.028 (mS/cm) | 26.3 | 1062 |
| HMW-14R | 1/11/2000 | 5.49 | 158 (umhos/cm) | 20.7 | 15.8 |
| HMW-15 | 8/26/1999 | 5.87 | 0.063 (mS/cm) | 22.4 | 452 |
| HMW-16 | 9/2/1999 | 5.77 | 0.106 (mS/cm) | 25.0 | 19.1 |
| HMW-17 | 9/1/1999 | 5.94 | 0.08 (mS/cm) | 25.9 | 23.1 |
| HMW-18 | 1/14-15/2000 | 4.58 | 0.6 (mS/cm) | 17.19 | 3.57 |
| HMW-19 | 1/13-14/2000 | 5.52 | 200 (umhos/cm) | 17.9 | 4.4 |
| HMW-20 | 1/12-13/2000 | 5.71 | 1.17 (umhos/cm) | 20.3 | 45.5 |
| HMW-21 | 11/2-5/2001 | 6.14 | 130 (umhos/cm) | 21.5 | 100.2 |
| HMW-22 | 11/2/2001 | 5.20 | 145.4 (umhos/cm) | 24.6 | 0.34 |

PREPARED/DATE: J Vickers 2/29/00
CHECKED/DATE: J Hartness 3/1/00
UPDATED/DATE: R Quinn 11/12/01

## TABLE C.2

### Sample Containers, Preservation Methods, and Holding Time for Laboratory Analysis

| Parameter | Container | Preservation | Holding Time |
|---|---|---|---|
| **WATER SAMPLES** | | | |
| **Inorganic Analytes** | | | |
| Metals | 1-liter polypropylene | $HNO_3$ to pH<2 | 180 days (mercury 26 days) * |
| **Organic Compounds** | | | |
| VOCs | 3, 40 ml VOA vial | HCl to pH<2 | 14 days until analysis |
| SVOCs | 1-liter amber glass | cool, 4°C | 7 days until extraction and analysis within 40 days * |
| **SOIL SAMPLES** | | | |
| **Organic Compounds** | | | |
| VOCs | 3 Encore samplers | cool, 4°C | 48 hours until analysis |
| SVOCs | 1, 4-oz glass jar | cool, 4°C | 14 days until extraction and analysis within 40 days * |
| Pesticides/PCBs | 1,4-oz glass jar | cool, 4°C | 14 days until extraction and analysis within 40 days * |
| Metals | 1, 16 oz plastic jar | none | 6 months until analysis |

PREPARED/DATE: J Hartness 3/16/00
CHECKED/DATE: C Northern 3/21/00

Sources:
*United States Environmental Protection Agency Test Methods for Evaluating Solid Waste, Physical/Chemical Method, Third Edition; SW-846, July 1992.*

Note:

* Holding time from Validated Time of Sample Collection.

## TABLE C.3

### Summary of Groundwater Sampling Parameters

| Well Name | Sample Date | pH | Specific Conductance (mS/cm) | Temperature (°C) | Turbidity (NTU) |
|---|---|---|---|---|---|
| HMW-2 | 1/16/2000 | 4.68 | 44 | 22.0 | 1.4 |
| HMW-3 | 11/6/2001 | 5.78 | 144 | 14.3 | 1.17 |
| HMW-12 | 1/19/2000 | 5.19 | 0.43 | 17.3 | 7.49 |
| HMW-14R | 1/17/2000 | 5.46 | 1.49 | 20.4 | 3.2 |
| HMW-14R | 11/6/2001 | 5.39 | 264 | 21 | 4.07 |
| HMW-17 | 1/19/2000 | 5.48 | 0.61 | 17.5 | 9.56 |
| HMW-18 | 1/20/2000 | 4.69 | 0.50 | 17.1 | 0.22 |
| HMW-19 | 1/20/2000 | 5.20 | 1.78 | 17.5 | 0.40 |
| HMW-20 | 1/18/2000 | 5.82 | 0.71 | 20.0 | 9.3 |
| HMW-21 | 11/6/2001 | 5.71 | 141 | 21.5 | 116 |
| HMW-22 | 11/6/2001 | 5.18 | 202 | 24.6 | 1.1 |

PREPARED/DATE: J Vickers 2/29/00
CHECKED/DATE: J Hartness 3/1/00
UPDATED/DATE R Quinn 11/12/01

# FIELD SAMPLING REPORTS

# SCREENING SUMMARY

| Boring # | Time | DATE | Depth Int | Jar Headspace (B.4) PID | (B.2) PID | | Observations | Bore |
|---|---|---|---|---|---|---|---|---|
| FTASB-01 | 1350 | 8-21-85 | .5-1.0' | Ø | Ø | Ø | NO ODOR silty sand | FTA |
| FTASB-01 | 1355 | " | 2.5-3.0 | 70 | 9 | Ø | SAND - FUEL like ODOR | FTAS |
| FTASB-01 | 1400 | " | 4.5-5.0 | 100 | 13 | Ø | " | FTAS |
| FTASB-01 | 1412 | " | 6.5-7.0 | 50 | 12 | Ø | " | FTAS |
| FTASB-01 | 1417 | " | 8.5-9.0 | 60 | 10 | Ø | " | FTAS |
| FTASB-02 | 1452 | " | .5-1.0 | Ø | 12 | Ø | Slight Fuel Odor with Sand | FTASB |
| FTASB-02 | 1458 | " | 2.5-3.0 | 60 | 30 | Ø | Sand. Fuel Odor. | FTASB |
| FTASB-03 | 1510 | " | .5-1.0 | 0 | 25 | Ø | SAND - Fuel odor | FTASB |
| FTASB-03 | 1513 | " | 2.5-3.0 | 60 | 25 | Ø | " | FTASB |
| FTASB-04 | 0745 | 8/22 | .5-1.0 | Ø | Ø | Ø | Silty SAND-NO ODOR | FTASB |
| FTASB-04 | 0753 | " | 2.5-3.0 | Ø | Ø | Ø | " | FTASB |
| FTASB-04 | 0805 | " | 4.5-5.0 | Ø | Ø | Ø | " | FTASB |
| FTASB-04 | 0813 | " | 6.5-7.0 | Ø | Ø | Ø | " | FTASB |
| FTASB-04 | 0826 | " | 8.5-9.0 | Ø | Ø | Ø | " | FTASB |
| FTASB-04 | 0850 | " | 10.0-10.5 | Ø | Ø | Ø | " | FTASB |
| FTASB-05 | 0925 | " | .5-1.0 | Ø | Ø | Ø | " | FTASB |
| FTASB-05 | 0933 | " | 2.5-3.0 | 20 | Ø | Ø | SILTY SAND Fuel ODOR | FTASB |
| FTASB-05 | 0945 | " | 4.5-5.0 | 20 | 100 | Ø | " | FTASB |
| FTASB-05 | 0955 | " | 6.5-7.0 | 70 | — | Ø | " | FTASB |
| FTASB-05 | 1005 | " | 8.5-9.0 | 60 | — | Ø | " | FTASB |
| FTASB-06 | 1016 | " | .5-1.0 | Ø | Ø | Ø | Silty SAND NO ODOR | FTASB |
| FTASB-06 | 1020 | " | 2.5-3.0 | Ø | Ø | Ø | " | FTASB |
| FTASB-06 | 1023 | " | 4.5-5.0 | Ø | Ø | Ø | " | FTASB |
| FTASB-06 | 1028 | " | 6.5-7.0 | Ø | Ø | Ø | " | FTASB |
| FTASB-06 | 1038 | " | 8.5-9.0 | >1 | 0 | 0 | " | |
| FTASB-07 | 1331 | " | .5-1.0 | Ø | Ø | Ø | " | |
| FTASB-07 | 1337 | " | 2.5-3.0 | 16 | 10 | Ø | Silty Sand Fuel Odor | |
| FTASB-07 | 1341 | " | 4.5-5.0 | 50 | — | Ø | " | |
| FTASB-07 | 1345 | " | 6.5-7.0 | 80 | 20 | Ø | " | |
| FTASB-07 | 1349 | " | 8.5-9.0 | 70 | — | Ø | " | |

# SCREENING SUMMARY



| BORING # | TIME | DATE | Depth feet | JAR Headspace | B.H | B.2 | OBSERVATIONS |
|---|---|---|---|---|---|---|---|
| FTASB08 | 1405 | 8.22 | .5-1 | 0 | 0 | 0 | Silty sand |
| FTASB08 | 1413 | 8.22 | 2.5-3' | 5 | 0 | 0 | Silty Sand Fill ODOR |
| FTASB08 | 1420 | 8-22 | 4.5-5.0 | 60 | 30 | 0 | " |
| FTASB-09 | 1432 | 8.22 | .5-1.0 | Ø | Ø | Ø | Silty Sand No ODOR |
| FTASB-09 | 1437 | " | 2.5-3 | Ø | Ø | Ø | " |
| FTASB-09 | 1443 | " | 4.5-5 | Ø | Ø | Ø | " |
| FTASB-09 | 1450 | " | 6.5-7 | Ø | Ø | Ø | " |
| FTASB-10 | 1518 | " | .5-1.0 | 60 | 5 | 0 | Same location as FTACO-2 |
| FTASB-10 | 1520 | " | 2.5-3.0 | 50 | 15 | 0 | Fill ODOR/Silty sand |
| FTASB-10 | 1522 | " | 4.5-5.0 | 35 | 25 | 0 | " |
| FTASB-10 | 1525 | " | 6.5-7.0 | 60 | 24 | 0 | " |
| FTASB-10 | 1528 | " | 8.5-9.0 | 40 | 25 | 0 | " |
| FTASB-10 | 1535 | " | 9.5-10.0 ~~-10.5~~ | 70 | 25 | 0 | " |
| FTASB-11 | 0752 | 8/23 | .5-1.0 | 0 | Ø | Ø | Silty Sand Strong ODOR |
| FTASB-11 | 0738 | " | 2.5-3.0 | 0 | Ø | Ø | " |
| FTASB-11 | 0742 | " | 4.5-5.0 | 5 | Ø | Ø | " |
| FTASB-11 | 0748 | " | 6.5-7.0 | 2 | Ø | Ø | " |
| FTASB-11 | 0752 | " | 8.5-9.0 | 10 | Ø | 0 | " |
| FTASB-11 | 0755 | " | 9.5-10.0 | 20 | 10 | 0 | " |
| FTASB-12 | 0820 | " | .5-1.0 | 15 | 2 | 0 | Same location as FTACO-4 silty sand - strong odor |
| FTASB-12 | 0823 | " | 2.5-3.0 | 10 | 4 | 0 | " |
| FTASB-12 | 0825 | " | 4.5-5.0 | 10 | 7 | 0 | " |
| FTASB-12 | 0830 | " | 6.5-7.0 | 12 | 7 | 0 | " |
| FTASB-12 | 0835 | " | 8.5-9.0 | 11 | 8 | 0 | " |

# ANALYTICAL SAMPLE SUMMARY

6

| SAMPLE ID | DATE Coll. | TIME | Depth | Matrix | PID RESULT | |
|---|---|---|---|---|---|---|
| FTASB-04A | 8-22-95 | 0745 | .5-1.0' | Soil | D | |
| FTASB04F | " | 0850 | 10.0-10.5' | " | D | 0 |
| FTASB-06A | " | 1016 | .5-1.0' | " | 0 | |
| FTASB-06E | " | 1038 | 8.5-9.0' | " | D >1 | 0 |
| FTASB-09A | " | 1432 | .5-1.0' | " | 0 | |
| FTASB-09D | " | 1450 | 6.5-7.0' | " | 0 | |
| FTA CO-1 | " | 1300 | 3" | Concrete | NA | |
| FTA CO-2 | " | 1305 | 4" | " | NA | |
| FTA CO-3 | " | 1310 | 3" | " | NA | |
| FTA Co-4 | " | 1315 | 3" | " | NA | |
| FTA CO-4 QA | " | 1315 | 3" | " | NA | |
| FTA CO-DUP | " | 0730 | 3" | " | NA | 0 |
| -SB-10A | " | 1518 | 0.5-1.0' | Soil | 60 | |
| FTA-SB-10F | " | 1535 | 9.5-10.0 | " | 70 | 0 |
| FTA-SB-11A | 8-23-95 | 0732 | 0.5-1.0' | " | 0 | 0 |
| FTASB-11F | " | 0755 | 9.5-10.0 | " | 20 | |
| FTASB-12A | " | 0820 | 0.5-1.0' | " | 15 | 10 |
| FTASB-12E | " | 0835 | 8.5-9.0' | " | 11 | 10 |
| FTASB-DUP | " | 0820 | Dup of FTASB-12A | | | 10 |
| FTASB-12QA | " | 0820 | QA Split of FTASB-12A | | | |

11

12

12

13

13

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 2001-9-3411
JOB NAME HAAF FTA
DATE 7/21/99 TIME 15:30
SAMPLING POINT HMW-14
LOCATION

## SAMPLE INFORMATION

SAMPLE I.D. NO. HMW-14

MATERIAL: t WATER _____ SOIL _____ SLUDGE _____ OTHER (LIST) _____

TYPE: t GRAB _____ COMPOSITE _____ OTHER (LIST) _____

HAZARDOUS?: _____ YES t NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| GLASS | 40 ml | 2 | HCl | VOA Vial |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE, ODOR; COLOR; ETC.)
Turbid/stained - no odor

LABORATORY RECEIPT: DATE/TIME _____ CONDITION _____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

## FIELD MEASUREMENTS

SAMPLES COLLECTED BY: PK/KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

## GENERAL INFORMATION

WEATHER Sunny AIR TEMP. 95°F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: _____

MODE OF SHIPMENT: X Car/Truck _____ BUS _____ PLANE _____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-3411
JOB NAME HAAF FTA
DATE 7/28/95 TIME 9:30 / 9:40
SAMPLING POINT HMW-14
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. HMW-14-1 HMW-14-2

MATERIAL: ____ WATER ✓ SOIL ____ SLUDGE ____ OTHER (LIST) ____

TYPE: ✓ GRAB ____ COMPOSITE ____ OTHER (LIST) ____

HAZARDOUS?: ____ YES ✓ NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Encore | ~ 5g | 3 | None | HMW-14-1 1.5' |
| Glass | 2 oz Glass | 1 | None | ↓ ↓ |
| Glass | 4 oz Glass | 1 | None | |
| | | | | |
| Encore | ~ 5g | 3 | None | HMW-14-2 7.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | | |
| | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Dk Brown Sand No odor

LABORATORY RECEIPT: DATE/TIME ____ CONDITION ____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK / BG

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 97°F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: ____

MODE OF SHIPMENT: X Car/Truck ____ BUS ____ PLANE ____ COURIER

# FIELD SAMPLING REPORT

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-3411
JOB NAME HAAF FTA
DATE 7/21/99 TIME 15:50
SAMPLING POINT HMW-15
LOCATION

**SAMPLE INFORMATION** SAMPLE I.D. NO. HMW-15

MATERIAL: + WATER _____ SOIL _____ SLUDGE _____ OTHER (LIST) _____

TYPE: + GRAB _____ COMPOSITE _____ OTHER (LIST) _____

HAZARDOUS?: _____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Glass | 40 ml | 3 | HCl | VOA vials |
| Glass | 40 ml | 3 | HCl | VOA Vials (duplicate) |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

COMMENTS. (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Turbid - no odor

LABORATORY RECEIPT: DATE/TIME _____ CONDITION _____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK/KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 95 °F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: _____

MODE OF SHIPMENT: X Car/Truck _____ BUS _____ PLANE _____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-341
JOB NAME HAAF FTA
DATE 7/28/99 TIME 11:15/11:30
SAMPLING POINT HMW-15
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. HMW-15-1 HMW-15-2

MATERIAL: _____ WATER + SOIL _____ SLUDGE _____ OTHER (LIST) _____

TYPE: X GRAB _____ COMPOSITE _____ OTHER (LIST) _____

HAZARDOUS?: _____ YES + NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS | |
|---|---|---|---|---|---|
| Encore | ~5 g | 3 | None | HMW-15-1 | 1.5' |
| Glass | 2 oz Cl | 1 | ↓ | ↓ | ↓ |
| Glass | 4 oz Cl | 1 | ↓ | ↓ | ↓ |
| | | | | | |
| Encore | ~5 g | 3 | None | HMW-15-2 | 7.5' |
| Glass | 2 oz | 1 | ↓ | ↓ | ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ | ↓ |
| | | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Dk Brown / Black Sand No Odor

LABORATORY RECEIPT: DATE/TIME _____ CONDITION _____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK / BG

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 97° F

SAMPLES SHIPPED TO: Severn Trent Labs

SPECIAL HANDLING: _____

MODE OF SHIPMENT: X Car/Truck _____ BUS _____ PLANE _____ COURIER

# FIELD SAMPLING REPORT

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-3411
JOB NAME HAAF FTA
DATE 7/2/99 TIME 15:15
SAMPLING POINT HMW-16A
LOCATION

**SAMPLE INFORMATION** SAMPLE I.D. NO. HMW-16A

MATERIAL: / WATER _____ SOIL _____ SLUDGE _____ OTHER (LIST) _____

TYPE: / GRAB _____ COMPOSITE _____ OTHER (LIST) _____

HAZARDOUS?: _____ YES / NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Glass | 40 ml | 2 | HCl | VOA vial |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Turbid – no odor

LABORATORY RECEIPT: DATE/TIME _____ CONDITION _____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK/KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 95 °F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: _____

MODE OF SHIPMENT: X Car/Truck _____ BUS _____ PLANE _____ COURIER

# FIELD SAMPLING REPORT

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-3411
JOB NAME HAAF FTA
DATE 7/21/99 TIME 15:00
SAMPLING POINT HMW-16B
LOCATION

**SAMPLE INFORMATION** SAMPLE I.D. NO. HMW-16B

MATERIAL: X WATER _____ SOIL _____ SLUDGE _____ OTHER (LIST) _____

TYPE: X GRAB _____ COMPOSITE _____ OTHER (LIST) _____

HAZARDOUS?: _____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Glass | 40 ml | 3 | HCl | VOA vial |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

COMMENTS. (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Turbid – no odor

LABORATORY RECEIPT: DATE/TIME _____ CONDITION _____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK / KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 95°F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: _____

MODE OF SHIPMENT: X Car/Truck _____ BUS _____ PLANE _____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-3411
JOB NAME LAAF FTA
DATE 7/21/99 TIME 14:45
SAMPLING POINT HMW-16C
LOCATION

**SAMPLE INFORMATION** SAMPLE I.D. NO. HMW-16C

MATERIAL: X WATER ____ SOIL ____ SLUDGE ____ OTHER (LIST) ____

TYPE: X GRAB ____ COMPOSITE ____ OTHER (LIST) ____

HAZARDOUS?: ____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Glass | 40 ml | 3 | HCl | VOA vial |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Turbid - no odor

LABORATORY RECEIPT: DATE/TIME ____ CONDITION ____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PL / KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER 95° Sunny AIR TEMP. 95°F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: ____

MODE OF SHIPMENT: X Car/Truck ____ BUS ____ PLANE ____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-3411
JOB NAME HAAF FTA
DATE 7/29/99 TIME 9:30/9:45
SAMPLING POINT HMW-16
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. HMW-16-1 HMW-16-2

MATERIAL: ____ WATER X SOIL ____ SLUDGE ____ OTHER (LIST) ____

TYPE: X GRAB ____ COMPOSITE ____ OTHER (LIST) ____

HAZARDOUS?: ____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS | |
|---|---|---|---|---|---|
| Encore | ~5g | 3 | None | HMW-16-1 | 1.5' |
| Glass | 2 oz | 1 | ↓ | ↓ | ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ | ↓ |
| | | | | | |
| Encore | ~5g | 3 | None | HMW-16-2 | 7.0' |
| Glass | 2 oz | 1 | ↓ | ↓ | ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ | ↓ |
| | | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Dk Brown / Black Sand No odor

LABORATORY RECEIPT: DATE/TIME ____ CONDITION ____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK / BG

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 94°F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: ____

MODE OF SHIPMENT: X Car/Truck ____ BUS ____ PLANE ____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-3411
JOB NAME HAAF FTA
DATE 7/21/99 TIME 15:30
SAMPLING POINT HMW-17
LOCATION

## SAMPLE INFORMATION

SAMPLE I.D. NO. HMW-17

MATERIAL: X WATER ____ SOIL ____ SLUDGE ____ OTHER (LIST) ____

TYPE: X GRAB ____ COMPOSITE ____ OTHER (LIST) ____

HAZARDOUS?: ____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Glass | 40 ml | 3 | HCl | Vial |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Turbid - no odor

LABORATORY RECEIPT: DATE/TIME ____ CONDITION ____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

## FIELD MEASUREMENTS

SAMPLES COLLECTED BY: PK/KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

## GENERAL INFORMATION

WEATHER Sunny AIR TEMP. 95°F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: ____

MODE OF SHIPMENT: X Car/Truck ____ BUS ____ PLANE ____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-3411
JOB NAME WARF FTA
DATE 7/28/99 TIME 1330/1545
SAMPLING POINT HMW-17
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. HMW-17-1 HMW-17-2

MATERIAL: ____ WATER X SOIL ____ SLUDGE ____ OTHER (LIST) ____

TYPE: X GRAB ____ COMPOSITE ____ OTHER (LIST) ____

HAZARDOUS?: ____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Encore | 25g | 3 | None | HMW-17-1 1.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |
| Encore | ~5g | 3 | None | HMW-17-2 6.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Brown/Dk Brown Silty Sand No Odor

LABORATORY RECEIPT: DATE/TIME ____ CONDITION ____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK/BG

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 97°F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: ____

MODE OF SHIPMENT: X Car/Truck ____ BUS ____ PLANE ____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001 - 9 - 3411
JOB NAME HAAF FTA
DATE 7/22/99 TIME 8:00/8:20
SAMPLING POINT SB-18'
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. SB-18-1 SB-18-2

MATERIAL: _____ WATER X SOIL _____ SLUDGE _____ OTHER (LIST) _____

TYPE: X GRAB _____ COMPOSITE _____ OTHER (LIST) _____

HAZARDOUS?: _____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Encore | ~5g | 3 | None | SB-18-1 1.5' |
| Glass | 2oz. | 1 | None | ↓ |
| Glass | 4 oz. | 1 | None | ↓ |
| | | | | |
| Encore | ~5g | 3 | None | SB-18-2 6' |
| Glass | 2 oz. | 1 | None | ↓ |
| Glass | 4 oz. | 1 | None | ↓ |
| | | | | |

COMMENTS. (WELL PURGING VOLUME: SAMPLE APPEARANCE: ODOR: COLOR: ETC.)
DK BROWN SAND NO ODOR

LABORATORY RECEIPT: DATE/TIME _____ CONDITION _____

COMMENTS: (CALIBRATIONS. FIELD MODIFICATIONS. INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK / KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 95°F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: _____

MODE OF SHIPMENT: X Car/Truck _____ BUS _____ PLANE _____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-5411
JOB NAME HAAF FTA
DATE 7/22/99 TIME 9:30/9:40
SAMPLING POINT SB-19
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. SB-19-1 SB-19-2

MATERIAL: _____ WATER X SOIL _____ SLUDGE _____ OTHER (LIST) _____

TYPE: X GRAB _____ COMPOSITE _____ OTHER (LIST) _____

HAZARDOUS?: _____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS | |
|---|---|---|---|---|---|
| Encore | ~5 g | 3 | None | SB-19-1 | 1.5' |
| Glass | 2 oz | 1 | " | " | " |
| Glass | 4 oz | 1 | " | " | " |
| | | | | | |
| Encore | ~5 g | 3 | None | SB-19-2 | 5.5' |
| Glass | 2 oz | 1 | " | " | " |
| Glass | 4 oz | 1 | " | " | " |
| | | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Dk Brown / Brown Sand No Odor

Sample SB-19-1 split w/ ACOE LAB (Accura) Samples shipped by Fed Ex 7/22/99

LABORATORY RECEIPT: DATE/TIME _____ CONDITION _____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK / KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 95°F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: _____

MODE OF SHIPMENT: X Car/Truck _____ BUS _____ PLANE _____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-3411
JOB NAME HAAF FTA
DATE 7/22/99 TIME 9:50/9:55
SAMPLING POINT SB-20
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. SB-20-1 SB-20-2

MATERIAL: ____ WATER ✓ SOIL ____ SLUDGE ____ OTHER (LIST) ____

TYPE: ✓ GRAB ____ COMPOSITE ____ OTHER (LIST) ____

HAZARDOUS?: ____ YES ✓ NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS | |
|---|---|---|---|---|---|
| Encore | ~ 5 g | 3 | None | SB-20-1 | 1.5' |
| Glass | 2 oz | 1 | ↓ | ↓ | ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ | ↓ |
| | | | | | |
| Encore | ~ 5 g | 3 | NONE | SB-20-2 | 5.5' |
| Glass | 2 oz | 1 | ↓ | ↓ | ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ | ↓ |
| | | | | | |

COMMENTS. (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Black / Dk Brown Sand. No ODOR

LABORATORY RECEIPT: DATE/TIME ____ CONDITION ____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: DK/KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 95 °F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: ____

MODE OF SHIPMENT: X Car/Truck ____ BUS ____ PLANE ____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-3411
JOB NAME HAAF FTA
DATE 7/22/94 TIME 10:00/1005
SAMPLING POINT SB-21
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. SB-21-1 SB-21-2

MATERIAL: _____ WATER + SOIL _____ SLUDGE _____ OTHER (LIST) _____

TYPE: + GRAB _____ COMPOSITE _____ OTHER (LIST) _____

HAZARDOUS?: _____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Encore | ~ 5 g | 3 | None | SB-21-1 1.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |
| Encore | ~ 5 g | 3 | None | SB-21-2 5.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Lt Brown / Med Brown Sand No odor

Duplicate B collected at SB-21-1 (3 encores, 1 2oz Glass, 1 4oz Glass)

LABORATORY RECEIPT: DATE/TIME _____ CONDITION _____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK / KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 95°F

SAMPLES SHIPPED TO: Savannah Lab

SPECIAL HANDLING: _____

MODE OF SHIPMENT: X Car/Truck _____ BUS _____ PLANE _____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 2001-9-3411
JOB NAME HARF FTA
DATE 7/22/99 TIME 11:30/11:45
SAMPLING POINT SB-22
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. SB-22-1 SB-22-2

MATERIAL: ____ WATER X SOIL ____ SLUDGE ____ OTHER (LIST) ____

TYPE: X GRAB ____ COMPOSITE ____ OTHER (LIST) ____

HAZARDOUS?: ____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Encore | ~5g | 3 | None | SB-22-1 1.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |
| Encore | ~5g | 3 | None | SB-22-2 5.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Brown / Dk. Grey Sand No odor

LABORATORY RECEIPT: DATE/TIME ____ CONDITION ____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK / KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 95°F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: ____

MODE OF SHIPMENT: X Car/Truck ____ BUS ____ PLANE ____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 2001-9-341
JOB NAME HAAF FTA
DATE 7/29/99 TIME 11:25/11:30
SAMPLING POINT SB-23
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. SB-23-1 SB-23-2

MATERIAL: ____ WATER X SOIL ____ SLUDGE ____ OTHER (LIST) ____

TYPE: X GRAB ____ COMPOSITE ____ OTHER (LIST) ____

HAZARDOUS?: ____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Encore | ~5 g | 3 | None | SB-23-1 6.5' |
| Glass | 2 oz | 1 | None | ↓ ↓ |
| Glass | 4 oz | 1 | None | ↓ ↓ |
| | | | | |
| Encore | 2 5g | 3 | None | SB-23-2 6.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Lt Brown / Drk Brown Sand No odor

LABORATORY RECEIPT: DATE/TIME ____ CONDITION ____

COMMENTS. (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK / BG

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 94 °F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: ____

MODE OF SHIPMENT: X Car/Truck ____ BUS ____ PLANE ____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-341
JOB NAME HAAF FTA
DATE 7/29/99 TIME 11:15 / 1430
SAMPLING POINT SB-24
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. SB-24-1 SB-24-2

MATERIAL: ____ WATER X SOIL ____ SLUDGE ____ OTHER (LIST) ____

TYPE: X GRAB ____ COMPOSITE ____ OTHER (LIST) ____

HAZARDOUS?: ____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Encore | ~ 5g | 3 | None | SB-24-1 1.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |
| Encore | ~ 5g | 3 | None | SB-24-2 6.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |

COMMENTS: (WELL PURGING VOLUME: SAMPLE APPEARANCE: ODOR: COLOR: ETC.)
Dk Brown / Grey Sand No Odor

LABORATORY RECEIPT: DATE/TIME ____ CONDITION ____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: BG / PK

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 94 °F

SAMPLES SHIPPED TO: Severn Labs

SPECIAL HANDLING: ____

MODE OF SHIPMENT: X Car/Truck ____ BUS ____ PLANE ____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-5411
JOB NAME HAAF FTA
DATE 7/22/99 TIME 10:50/10:55
SAMPLING POINT SB-25
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. SB-25-1 SB-25-2

MATERIAL: _____ WATER ✓ SOIL _____ SLUDGE _____ OTHER (LIST) _____

TYPE: ✓ GRAB _____ COMPOSITE _____ OTHER (LIST) _____

HAZARDOUS?: _____ YES ✓ NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS | |
|---|---|---|---|---|---|
| Encore | ~5g | 3 | None | SB-25-1 | 1.5' |
| Glass | 2 oz | 1 | ↓ | ↓ | ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ | ↓ |
| | | | | | |
| Encore | ~5g | 3 | None | SB-25-2 | 5.5' |
| Glass | 2 oz | 1 | ↓ | ↓ | ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ | ↓ |
| | | | | | |

COMMENTS: (WELL PURGING VOLUME: SAMPLE APPEARANCE, ODOR: COLOR; ETC.)
Brown / Dk Brown / Black & red stained Petroleum Odor.

LABORATORY RECEIPT: DATE/TIME _____ CONDITION _____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK/KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 95 °F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: _____

MODE OF SHIPMENT: ✓ Car/Truck _____ BUS _____ PLANE _____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-3411
JOB NAME HAAF FTA
DATE 7/22/99 TIME 10:20/10:25
SAMPLING POINT SB-27
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. SB-27-1 SB-27-2

MATERIAL: _____ WATER X SOIL _____ SLUDGE _____ OTHER (LIST) _____

TYPE: X GRAB _____ COMPOSITE _____ OTHER (LIST) _____

HAZARDOUS?: _____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Encore | ~5g | 3 | None | SB-27-1 1.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |
| Encore | ~5g | 3 | None | SB-27-2 5.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Black / Dk Brown Sand slightly Stained Slight Odor

LABORATORY RECEIPT: DATE/TIME _____ CONDITION _____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK / KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 95 °F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: _____

MODE OF SHIPMENT: X Car/Truck _____ BUS _____ PLANE _____ COURIER

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# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-3411
JOB NAME ~~HAAF~~ FTA
DATE 1/22/99 TIME 8:50/9:00
SAMPLING POINT SB-28
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. SB-28-1 SB-28-2

MATERIAL: ____ WATER ✓ SOIL ____ SLUDGE ____ OTHER (LIST) ____

TYPE: ✓ GRAB ____ COMPOSITE ____ OTHER (LIST) ____

HAZARDOUS?: ____ YES ✓ NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS | |
|---|---|---|---|---|---|
| Encore | ~ 5g | 3 | None | SB-28-1 | 1.5' |
| Glass | 2 oz | 1 | ↓ | ↓ | ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ | ↓ |
| | | | | | |
| Encore | ~ 5g | 3 | None | SB-28-2 | 5.5' |
| Glass | 2 oz | 1 | ↓ | ↓ | ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ | ↓ |
| | | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Dk Brown / Dk grey Sand. No Odor

LABORATORY RECEIPT: DATE/TIME ____ CONDITION ____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK / KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 95°F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: ____

MODE OF SHIPMENT: X Car/Truck ____ BUS ____ PLANE ____ COURIER

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12021-9-3411
JOB NAME HAAF FTA
DATE 7/22/99 TIME 9:15/9:25
SAMPLING POINT SB-29
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. SB-29-1 SB-29-2

MATERIAL: _____ WATER X SOIL _____ SLUDGE _____ OTHER (LIST): _____

TYPE: X GRAB _____ COMPOSITE _____ OTHER (LIST) _____

HAZARDOUS?: _____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Encore | ~5g | 3 | None | SB-29-1 1.5' |
| Glass | 2 oz | 1 | None | ↓ ↓ |
| Glass | 4 oz | 1 | None | ↓ ↓ |
| | | | | |
| Encore | ~5g | 3 | None | SB-29-2 5.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Dk Brown / Black Sand No odor

SB-29-2 split w/ACOE LAB (Accura) Samples shipped by Fed Ex 7/22/99

LABORATORY RECEIPT: DATE/TIME _____ CONDITION _____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK / KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 95 °F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: _____

MODE OF SHIPMENT: X Car/Truck _____ BUS _____ PLANE _____ COURIER

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: HMW-2-W
QC LEVEL: AFCEE Level I
MATRIX: WG
DUP./REP. OF:
SAMPLING METHOD: BP
DATE: 1-16-00 TIME: BEGINNING DEPTH: 14.11 END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| ~~1L~~ 500ml Poly | 1 | HNO3, Cool to 4 | SW3005A | SW6010A | Total ICP Metals (Pb only) | SLS |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs:mins) | 11:55 | 1210 | 1225 | 1240 | 1255 | 1310 | 1325 | 1340 | | | | |
| Volume Purged (gals) | 1.5 | 2.5 | 3.0 | 3.5 | 4.0 | 5.0 | 6.0 | 6.5 | | | | |
| Temperature (Celsius) | 21.79 | 21.86 | 21.89 | 21.97 | 21.94 | 21.94 | 21.92 | 21.95 | | | | |
| pH | 4.76 | 4.73 | 4.70 | 4.69 | 4.70 | 4.69 | 4.68 | 4.68 | | | | |
| Specific Conductance (uS) | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | 160.7 | 4.5 | 1.0 | 0.6 | 0.2 | 2.35 | 1.9 | 1.4 | | | | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon ✓ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

~~WEATHER~~: SUNNY/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP 21.2

SHIPMENT VIA: FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS. Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Mike Horner OBSERVER: Victor Clarke

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: HMW-12-W
QC LEVEL: AFCEE Level I
MATRIX: WG
DUP./REP. OF:
SAMPLING METHOD: BP
DATE: 1-19-00 TIME: BEGINNING DEPTH: 11.97 END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ | SLS |
| ~~1 L~~ Poly 500 ml | 1 | HNO3, Cool to 4 | SW3005A | SW6010B | Total ICP Metals (As, Ba, Pb) | SLS |

| Time (hrs.mins) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume Purged (gals) | 3.5 | 7.0 | ~~10.5~~ | ~~14.0~~ | 17.5 | 21.0 | 24.5 | 28.0 | | | | |
| Temperature (Celsius) | 18.23 | 17.98 | 16.89 | 16.47 | 17.28 | 17.31 | | | | | | |
| pH | 5.35 | 5.21 | 5.06 | 5.34 | 5.14 | 5.19 | | | | | | |
| Specific Conductance (uS) | 77.1 | 68.3 | ~~0.0~~ 0.64 | 0.32 | 0.43 | 0.43 | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | 88.3 | 40.1 | 2.24 | 1.39 | .73 | .53 | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER:
SUN/CLEAR ___ OVERCAST/RAIN ✓ WIND DIRECTION ___ AMBIENT TEMP ___

SHIPMENT VIA:
FED-X ✓ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Victor Clarke OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ✓ ) COMPOSITE ( )
SAMPLE ID: HMW-14R-1
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1/5/00 TIME: 1415 BEGINNING DEPTH: 0 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ ~~6pH~~ | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge X Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER: SHIPMENT VIA:

SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: HMW-14R-2
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 4/5/00 TIME: 1440 BEGINNING DEPTH: 7 END DEPTH: 9

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ ~~cpl~~ | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge X Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE (✓)
SAMPLE ID: **HMW-14R-2MS/MSD**
QC LEVEL: AFCEE Level I
MATRIX: SO
SAMPLING METHOD: DP
DUP./REP. OF:
DATE: 1/5/00 TIME: 1440 BEGINNING DEPTH: 7 END DEPTH: 9

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ 9W | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge X Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

OTHER: SHIPMENT VIA:

SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: HMW-14R-W
QC LEVEL: AFCEE Level I
MATRIX: WG
DUP./REP. OF:
SAMPLING METHOD: BP
DATE: 1-17-00 TIME: 15:38 BEGINNING DEPTH: 12.84 END DEPTH: ~~15.84~~ 13.84

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ opt | SLS |
| ~~1 L~~ Poly ~~500 ml~~ opt | 1 | HNO3, Cool to 4 | SW3005A | SW6010B | Total ICP Metals (As, Ba, Pb) | SLS |

Last 15:20

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs.mins) | 10:50 | 11:05 | 11:20 | 11:35 | 11:50 | 12:05 | 12:20 | 12:35 | 12:50 | 13:05 | 13:20 | 13:35 | 155 |
| Volume Purged (gals) | 1.5 | 3.0 | 4.75 | 6.5 | 8.25 | 10.00 | 11.75 | 13.5 | 15.25 | 17.0 | 18.75 | 20.5 | 22.2 |
| Temperature (Celsius) | 20.54 | 20.61 | 20.63 | 20.74 | 20.90 | 20.95 | 20.99 | 20.90 | 20.89 | 20.96 | 20.99 | 20.99 | |
| pH | 5.92 | 5.90 | 5.76 | 5.72 | 5.64 | 5.60 | 5.57 | 5.59 | 5.46 | 5.46 | 5.46 | 5.46 | |
| Specific Conductance (uS) | | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | | |
| Turbidity (NTU) 90.2 | 6.58 | 4.86 | 4.60 | 3.86 | 4.49 | 4.02 | 3.30 | 3.12 | 3.41 | 3.05 | 3.04 | 3.20 | |
| Redox Potential (mV) | | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER:
SUN/CLEAR ✓ OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP ___

SHIPMENT VIA:
FED-X ✓ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Victor Clarke OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ✓ ) COMPOSITE ( )
SAMPLE ID: **HMW-14R-WMS**
QC LEVEL AFCEE Level I
MATRIX WG
DUP./REP. OF:
SAMPLING METHOD BP
DATE: 1-17-00 TIME: 15:38 BEGINNING DEPTH: 12.84 END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ 044 | SLS |
| ~~1 L~~ Poly 500 mL | 1 | HNO3, Cool to 4 | SW3005A | SW6010B | Total ICP Metals (As, Ba, Pb) | SLS |

Last 15:20

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs:mins) | 10:50 | 11:05 | 11:20 | 11:35 | 11:50 | 12:05 | 12:20 | 12:35 | 12:50 | 13:05 | 13:20 | 13:35 |
| Volume Purged (gals) | 1.5 | 3.0 | 4.75 | 6.5 | 8.25 | 10.00 | 11.75 | 13.5 | 15.25 | 17.0 | 18.75 | 20.5 |
| Temperature (Celsius) | 20.54 | 20.61 | 20.63 | 20.79 | 20.40 | 20.45 | 20.44 | 20.40 | 20.09 | 20.46 | 20.44 | 20.44 |
| pH | 5.92 | 5.90 | 5.76 | 5.72 | 5.64 | 5.60 | 5.57 | 5.54 | 5.46 | 5.46 | 5.46 | 5.46 |
| Specific Conductance (uS) | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | 3.04 | |
| Turbidity (NTU) 90.7 | 6.58 | 4.86 | 4.60 | 3.86 | 4.49 | 4.02 | 3.30 | 3.42 | 3.41 | 3.05 | ~~3.04~~ | 3.20 |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

THER: SHIPMENT VIA:
/CLEAR ✓ OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP ___ FED-X ✓ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Victor Clarke OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ✓ ) COMPOSITE ( )
SAMPLE ID: HMW-14R-WMSD
QC LEVEL: AFCEE Level I
MATRIX: WG
DUP./REP. OF:
SAMPLING METHOD: BP
DATE: 1-17-00 TIME: 15:38 BEGINNING DEPTH: 12.94 END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ ~~Add~~ | SLS |
| ~~1 L~~ Poly | 1 | HNO3, Cool to 4 | SW3005A | SW6010B | Total ICP Metals (As, Ba, Pb) | SLS |

500 mL
Add

20.89 20.46 20.44 20.44
Last 15:20

| Time (hrs:mins) | 10:50 | 11:05 | 11:20 | 11:35 | 11:50 | 12:05 | 12:20 | 12:35 | 12:50 | 13:05 | 13:20 | 13:35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume Purged (gals) | 1.5 | 3.0 | 4.75 | 6.5 | 8.25 | 10.00 | 11.75 | 13.5 | 15.25 | 17.0 | 18.75 | 20.5 |
| Temperature (Celsius) | 20.51 | 20.61 | 20.63 | 20.79 | 20.90 | 20.95 | 20.90 | ~~20.88~~ | ~~20.46~~ | ~~20.44~~ | ~~20.44~~ | |
| pH 90.2 | 6.58 | 4.06 | 4.60 | 3.86 | 4.49 | 4.02 | 3.30 | 3.42 | 3.41 | 3.05 | 3.04 | 3.20 |
| Specific Conductance (uS) | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | | | | | | | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER:
SUN/CLEAR ✓ OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP ___

SHIPMENT VIA:
FED-X ✓ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Victor Clarke OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: HMW-17-W
QC LEVEL: AFCEE Level I
MATRIX: WG
DUP./REP. OF:
SAMPLING METHOD: BP
DATE: 1-19-00 TIME: BEGINNING DEPTH: 9.48 END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX) gclt~~ | SLS |
| ~~1 L~~ Poly | 1 | HNO3, Cool to 4 | SW3005A | SW6010B | Total ICP Metals (As, Ba, Pb) | SLS |

500 mL
~~gclt~~

(SC) 70.1 .63 .56 .59 .60 .61

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs mins) | 1050 | 1120 | 1150 | 1220 | 1250 | 1320 | 1350 | 1420 | 1450 | | | |
| Volume Purged (gals) | 3.5 | 7.0 | 10.5 | 14.0 | 17.5 | 21.0 | 24.5 | 28.0 | 31.5 | | | |
| Temperature (Celsius) | 19.24 | 14.09 | 18.53 | 18.77 | 17.07 | 17.34 | 17.46 | 17.45 | 17.47 | | | |
| pH | 6.25 | 6.24 | 6.25 | 6.24 | 5.48 | 5.06 | 5.49 | 5.44 | 5.48 | | | |
| Specific Conductance (uS) | 0.93 | 1.77 | ~~0.63~~ | 0.56 | 0.59 | 0.60 | 0.61 | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | 158 | 72 | 36 | 22 | 14.75 | 10.99 | 9.92 | 10.03 | 9.56 | | | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: CLEAR ___ OVERCAST/RAIN ✓ WIND DIRECTION ___ AMBIENT TEMP ___

SHIPMENT VIA: FED-X ✓ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Victor Clarke OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )

SAMPLE ID: **Duplicate-W**

QC LEVEL: AFCEE Level I
MATRIX: WG
SAMPLING METHOD: BP

DUP./REP. OF: HMW-17-W

DATE: 1-19-00 TIME: _____ BEGINNING DEPTH: 9.48 END DEPTH: _____

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ ~~ppl~~ | SLS |
| ~~1 L~~ 500mL Poly | 1 | HNO3, Cool to 4 | SW3005A | SW6010B | Total ICP Metals (As, Ba, Pb) | SLS |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs.mins) | | | | | | | | | | | | | |
| Volume Purged (gals) | | | | | | | | | | | | | |
| Temperature (Celsius) | | | | | | | | | | | | | |
| pH | | | | | | | | | | | | | |
| Specific Conductance (uS) | | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | | |
| Turbidity (NTU) | | | | | | | | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER:
SUN/CLEAR ___ OVERCAST/RAIN ✓ WIND DIRECTION _____ AMBIENT TEMP _____

SHIPMENT VIA:
FED-X ✓ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Victor Clarke OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: HMW-18-1
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1-6-00 TIME: 12:55 BEGINNING DEPTH: 0 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ gpb | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8081A | Pesticides | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER: CLEAR ✓ OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP ___

SHIPMENT VIA: FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Thomas Keller OBSERVER: Michael Hosner

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: HMW-18-2
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 4-6-00 TIME: 13:05 BEGINNING DEPTH: 2 END DEPTH: 3

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ ~~ppl~~ | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ ~~Direct Push~~ _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
SUN/CLEAR ✓ OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP ___ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Thomas Kerber OBSERVER: Michael Horner

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: **HMW-18-W**
QC LEVEL: AFCEE Level I
MATRIX: WG
DUP./REP. OF:
SAMPLING METHOD: BP
DATE: 1-20-00 TIME: 19:36 BEGINNING DEPTH: 8.66 END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX) Opt~~ | SLS |
| ~~1 L~~ Poly | 1 | HNO3, Cool to 4 | SW3005A | SW6010B | Total ICP Metals (As, Ba, Pb) | SLS |

500 mL

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs:mins) | | | | | | | | | | | | |
| Volume Purged (gals) | 3.5 | 7.0 | 10.5 | 14.0 | 17.5 | 21.0 | 24.5 | 28.0 | | | | |
| Temperature (Celsius) | 17.43 | 17.54 | 17.73 | 17.68 | 17.84 | 17.12 | 17.15 | 17.14 | | | | |
| pH | 5.22 | 5.19 | 5.15 | 5.05 | 5.08 | 4.87 | 4.77 | 4.69 | | | | |
| Specific Conductance (uS) | 1.78 | 1.66 | 1.78 | 1.66 | .80 | .79 | .57 | .50 | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | 36.4 | 5.85 | 1.30 | .32 | ~~19.9~~ | .30 ~~.17~~ | .42 ~~.27~~ | .22 | | | | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER: SHIPMENT VIA:
CLEAR ✓ OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP ___ FED-X ✓ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS, Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Victor Clarke OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE. (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: **HMW-19-W**
QC LEVEL AFCEE Level I
MATRIX WG
DUP./REP. OF:
SAMPLING METHOD BP DATE: 1-20-00 TIME: 14:20 BEGINNING DEPTH: 8.94 END DEPTH: 10.26

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX) pH~~ | SLS |
| ~~1 L~~ Poly | 1 | HNO3, Cool to 4 | SW3005A | SW6010B | Total ICP Metals (As, Ba, Pb) | SLS |

~~pH~~
500 mL

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs:mins) | 9:30 | 10:00 | 10:30 | 11:00 | 11:30 | 12:00 | 12:30 | 13:00 | 13:30 | 14:00 | | |
| Volume Purged (gals) | 3.5 | 7.0 | 10.5 | 14.0 | 17.5 | 21.0 | 24.5 | 28.0 | 31.5 | 35.0 | | |
| Temperature (Celsius) | 16.77 | 17.62 | 17.90 | 18.17 | 18.26 | 18.33 | 17.90 | 17.69 | 17.67 | 17.53 | | |
| pH | 5.68 | 5.66 | 5.57 | 6.54 | 5.54 | 5.53 | 5.35 | 5.23 | 5.19 | 5.20 | | |
| Specific Conductance (uS) | 1.63 | 1.61 | 1.66 | 1.78 | 1.82 | 1.82 | 1.79 | 1.79 | 1.79 | 1.78 | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | 29 | 2.25 | 1.25 | .81 | .40 | .58 | .50 | .28 | 0.63 | 0.40 | | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER:
SHIPMENT VIA:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP ___ FED-X ✓ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Victor Clarke OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: HMW-19-WQA
QC LEVEL: AFCEE Level I
MATRIX: WG
DUP./REP. OF: HMW-19-W
SAMPLING METHOD: BP
DATE: TIME: BEGINNING DEPTH: END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | ACRA |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ QAU | ACRA |
| 1 L Poly | 1 | HNO3, Cool to 4 | SW3005A | SW6010B | Total ICP Metals (As, Ba, Pb) | ACRA |

COE QA split Sample

* See FSR for sample HMW-19-W for (well Data).

| Time (hrs.mins) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume Purged (gals) | | | | | | | | | | | | |
| Temperature (Celsius) | | | | | | | | | | | | |
| pH | | | | | | | | | | | | |
| Specific Conductance (uS) | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | | | | | | | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

OTHER: SHIPMENT VIA:

SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: ACRA: Acura Analytical Laboratory, Inc., 6017 Financial Drive, Norcross, GA 30071

SAMPLER: R Keith Clarke OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : HMW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: HMW-20-W
QC LEVEL AFCEE Level I
MATRIX WG
DUP./REP. OF:
SAMPLING METHOD BP
DATE: 1-18-00 TIME: 15:07 BEGINNING DEPTH: 6.94 END DEPTH: 8.23

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ ~~2ph~~ | SLS |
| ~~1 L~~ Poly | 1 | HNO3, Cool to 4 | SW3005A | SW6010B | Total ICP Metals (As, Ba, Pb) | SLS |

500 mL

one Reading every ½ Hour Due to Lack of writting Space.

| Time (hrs:mins) | 0900 | 0930 | 1000 | 10:30 | 1100 | 1130 | 1200 | 1230 | 1300 | 1330 | 1400 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume Purged (gals) | 3.5 | 7.0 | 10.5 | 14.0 | 17.5 | 21.0 | 24.5 | 28.0 | 31.5 | 35.0 | 38.5 | |
| Temperature (Celsius) | 19.47 | 18.98 | 19.21 | 19.45 | 19.40 | 15.52 | 19.58 | 19.81 | 19.98 | 19.818 | 19.87 | |
| pH | 5.79 | 5.79 | 5.80 | 5.79 | 5.79 | 5.79 | 5.79 | 5.79 | 5.80 | 5.81 | 5.82 | |
| Specific Conductance (uS) | 0.70 | 0.65 | 0.66 | 0.68 | 0.69 | 0.64 | 0.70 | 0.70 | 0.71 | 0.69 | 0.71 | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | 46.0 | 30.1 | 27.2 | 24.8 | 23.4 | 21.8 | 20.8 | 19.6 | 16.96 | 16.84 | 9.30 | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER:
SUN/CLEAR ___ OVERCAST/RAIN ✓ WIND DIRECTION ___ AMBIENT TEMP 61

SHIPMENT VIA:
FED-X ✓ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Victor Clarke OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ✓ ) COMPOSITE ( )
SAMPLE ID: SB-30-1
QC LEVEL: AFCEE Level I
MATRIX: SO
SAMPLING METHOD: DP
DUP./REP. OF:
DATE: 1/5/00 TIME: 1520 BEGINNING DEPTH: 0 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge X Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER: CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____

SHIPMENT VIA: FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: SB-30-2
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1/5/00 TIME: 1530 BEGINNING DEPTH: 6 END DEPTH: 8

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ ~~cpl~~ | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge X Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: SB-31-1
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1/5/00 TIME: 0920 BEGINNING DEPTH: 0.5 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 4oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |

*48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

THER: SHIPMENT VIA:

./CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: SB-31-2
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 4/5/20 TIME: 0930 BEGINNING DEPTH: 5 END DEPTH: 7

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____

SHIPMENT VIA:
FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: SB-32-1
QC LEVEL: AFCEE Level I
MATRIX: SO
SAMPLING METHOD: DP
DUP./REP. OF:
DATE: 1/5/00 TIME: 0955 BEGINNING DEPTH: 0.5 END DEPTH: 2.0

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8082 | PCB Compounds | SLS |
| | | | NONE | D2216 | Moisture | |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge X Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER: CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____

SHIPMENT VIA: FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ✓ ) COMPOSITE ( )
SAMPLE ID: SB-32-2
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1/5/00 TIME: 1000 BEGINNING DEPTH: 4 END DEPTH: 6

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8082 | PCB Compounds | SLS |
| | | | NONE | D2216 | Moisture | |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge X Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER: SHIPMENT VIA:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: [signature] OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ✓ ) COMPOSITE ( )
SAMPLE ID: Duplicate D
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF: SB-32-2
SAMPLING METHOD: DP
DATE: 4/5/00 TIME: 1200 BEGINNING DEPTH: 4 END DEPTH: 4

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8082 | PCB Compounds | SLS |
| | | | NONE | D2216 | Moisture | |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge X Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER: SHIPMENT VIA:
CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

FACILITY I.D. : HUNT
SITE : SB

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: **SB-32-2QA**
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 4/5/00 TIME: 1000 BEGINNING DEPTH: 4 END DEPTH: 6

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8082 | PCB Compounds | ACRA |
| | | | NONE | D2216 | Moisture | |

COE QA Split Sample

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge ✓ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:

SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: ACRA: Acura Analytical Laboratory, Inc., 6017 Financial Drive, Norcross, GA 30071

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: SB-33-1
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1/5/00 TIME: 1140 BEGINNING DEPTH: 0.5 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8082 | PCB Compounds | SLS |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge X Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

OTHER: SHIPMENT VIA:

SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: **SB-33-1MS/MSD**
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1/5/00 TIME: 1140 BEGINNING DEPTH: 0.5 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8082 | PCB Compounds | SLS |
| | | | NONE | D2216 | Moisture | |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge X Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: SB-33-2
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1/5/00 TIME: 1145 BEGINNING DEPTH: 3 END DEPTH: 5

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8082 | PCB Compounds | SLS |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge X Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: SB-34-1
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1/5/00 TIME: 12:15 BEGINNING DEPTH: 0 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8081A | Pesticides | SLS |

4 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge X Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SUN/CLEAR ✓ OVERCAST/RAIN ___ WIND DIRECTION E AMBIENT TEMP ___

SHIPMENT VIA: FED-X ✓ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: T.M. KELLER OBSERVER: M. JESSUP

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: SB-34-2
QC LEVEL: AFCEE Level I
DUP./REP. OF:
MATRIX: SO
SAMPLING METHOD: DP
DATE: 1/5/00 TIME: 1225 BEGINNING DEPTH: 2.5 END DEPTH: 4.5

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8081A | Pesticides | SLS |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge ✓ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

OTHER: SHIPMENT VIA:

SUNNY/CLEAR ✓ OVERCAST/RAIN ___ WIND DIRECTION E AMBIENT TEMP ___ FED-X ✓ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: T.M. KELLER OBSERVER: M. JESSUP

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( X )
QC LEVEL AFCEE Level I
MATRIX SO
SAMPLING METHOD DP

SAMPLE ID: Duplicate F
DUP./REP. OF: SB-34-2
DATE: 1/5/00 TIME: 1430 BEGINNING DEPTH: 2.5 END DEPTH: 4.5

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8081A | Pesticides | SLS |
| | | | NONE | D2216 | Moisture | |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge X Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
SUN/CLEAR X OVERCAST/RAIN ___ WIND DIRECTION E AMBIENT TEMP ___ FED-X X HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: J KELLOR OBSERVER: M JESSUP

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
QC LEVEL AFCEE Level I
MATRIX SO
SAMPLING METHOD DP

SAMPLE ID: SB-35-1
DUP./REP. OF:
DATE: 1/6/00 TIME: 0935 BEGINNING DEPTH: 0 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8081A | Pesticides | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge ✓ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

OTHER:
SUN/CLEAR OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP 40's

SHIPMENT VIA:
FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: T M KELLER OBSERVER: M HORNER

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: SB-35-2
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1/6/00 TIME: 1005 BEGINNING DEPTH: 4 END DEPTH: 6

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8081A | Pesticides | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
SUN/CLEAR / OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP ___ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Thomas Keller OBSERVER: Mike Horner

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

FACILITY I.D. : HUNT
SITE : SB
PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: SB-35-1MS/MSD
QC LEVEL AFCEE Level I
MATRIX SO
DUP./REP. OF:
SAMPLING METHOD DP DATE: 1/6/00 TIME: 9:35 BEGINNING DEPTH: 0 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ 8270 | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8081A | Pesticides | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge ✓ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

OTHER:

SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION ____ AMBIENT TEMP ____

SHIPMENT VIA:
FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: T.M. Keller OBSERVER: M. Horner

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )

SAMPLE ID: SB-36-1

QC LEVEL: AFCEE Level I
MATRIX: SO
SAMPLING METHOD: DP

DUP./REP. OF:

DATE: 1-6-00 TIME: 10:45 BEGINNING DEPTH: 0 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8081A | Pesticides | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER:
SUN/CLEAR ✓ OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP ___

SHIPMENT VIA:
FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Thomas Keller OBSERVER: Mike Horner

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: Duplicate C
QC LEVEL AFCEE Level I
MATRIX SO
DUP./REP. OF: SB-36-1
SAMPLING METHOD DP
DATE: 6-6-00
TIME: 10:45 (acf) 12:00
BEGINNING DEPTH: 0
END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8081A | Pesticides | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ ~~Direct~~ Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

OTHER: SHIPMENT VIA:

SUNNY/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP ___ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Thomas Keller OBSERVER: Mike Horner

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: SB-36-1QA
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF: SB-36-1
SAMPLING METHOD: DP
DATE: 1-6-00
TIME: 10:45
BEGINNING DEPTH: 0
END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | ACRA |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | ACRA |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics (Appendix IX) | ACRA |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8081A | Pesticides | ACRA |

Coe QA Split Sample

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ ~~Direct~~ Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER: SUN/CLEAR / OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____

SHIPMENT VIA: FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: ACRA: Acura Analytical Laboratory, Inc., 6017 Financial Drive, Norcross, GA 30071

SAMPLER: Thomas Keller
OBSERVER: Mike Horner

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: SB-36-2
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1-6-00 TIME: 12:15 BEGINNING DEPTH: 2 END DEPTH: 3

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ Pcb | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ ~~Direct~~ Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER: SHIPMENT VIA:
CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Thomas Keller OBSERVER: Mike Horner

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
QC LEVEL AFCEE Level I
MATRIX SO
SAMPLING METHOD DP

SAMPLE ID: SB-37-1
DUP./REP. OF:
DATE: 1-6-00 TIME: 13:30 BEGINNING DEPTH: 0 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ ~~90#~~ | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8081A | Pesticides | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge ✓ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: T. M. KELLER OBSERVER: MIKE HORNER

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: SB-37-2
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1-6-00 TIME: 13:45 BEGINNING DEPTH: 2 END DEPTH: 3

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX) 2014~~ | SLS |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge ✓ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: T.M. KELLER OBSERVER: MIKE HORNER

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
QC LEVEL AFCEE Level I
MATRIX SO
SAMPLING METHOD DP

SAMPLE ID: SB-38-1
DUP./REP. OF:
DATE: 01/04/00 TIME: 10:50 BEGINNING DEPTH: 0 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ ppl | SLS |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar _ Dredge ✓ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: (SUN/CLEAR) ___ OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP 65° SHIPMENT VIA: FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: T. M. KELLER OBSERVER: Michelle Jessup

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: SB-38-2
QC LEVEL AFCEE Level I
MATRIX SO
DUP./REP. OF:
SAMPLING METHOD DP DATE: 1/4/00 TIME: 1110 BEGINNING DEPTH: 3.5 END DEPTH: 5.5

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ | SLS |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( √ ) COMPOSITE ( )
SAMPLE ID: Duplicate E
QC LEVEL AFCEE Level I
MATRIX SO
DUP./REP. OF: SB-38-2
SAMPLING METHOD DP
DATE: 1/4/00 TIME: 1110 BEGINNING DEPTH: 3.5 END DEPTH: 5.5

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ 90 | SLS |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS. Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: SB-38-2QA
QC LEVEL: AFCEE Level I
MATRIX: SO
SAMPLING METHOD: DP
DUP./REP. OF: SB-38-2
DATE: 1/4/00 TIME: 1110 BEGINNING DEPTH: 3.5 END DEPTH: 5.5

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | ACRA |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | ACRA |

COE QA Split Sample

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

OTHER: SHIPMENT VIA:

SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: ACRA: Acura Analytical Laboratory, Inc., 6017 Financial Drive, Norcross, GA 30071

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
QC LEVEL: AFCEE Level I
MATRIX: WG
SAMPLING METHOD: BP
SAMPLE ID: SB-38-W
DUP./REP. OF:
DATE: 1/4/00 TIME: 1730
BEGINNING DEPTH: END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ | SLS |

Temporary Piezometer Water Sample

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs:mins) | | | | | | | | | | | | |
| Volume Purged (gals) | | | | | | | | | | | | |
| Temperature (Celsius) | | | | | | | | | | | | |
| pH | | | | | | | | | | | | |
| Specific Conductance (uS) | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | | | | | | | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____

SHIPMENT VIA:
FED-X ___ HAND DELIVER ___ COURIER ___ OTHER _

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: Duplicate-TP
QC LEVEL AFCEE Level I
MATRIX WG
DUP./REP. OF: SB-38-W
SAMPLING METHOD BP DATE: 1/4/00 TIME: 1730 BEGINNING DEPTH: END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ ~~6pH~~ | SLS |

Temporary Piezometer Water Duplicate Sample

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs mins) | | | | | | | | | | | | |
| Volume Purged (gals) | | | | | | | | | | | | |
| Temperature (Celsius) | | | | | | | | | | | | |
| pH | | | | | | | | | | | | |
| Specific Conductance (uS) | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | | | | | | | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
SUNNY/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: SB-39-1
QC LEVEL AFCEE Level I
MATRIX SO
DUP./REP. OF:
SAMPLING METHOD DP
DATE: 1/4/00 TIME: 1445 BEGINNING DEPTH: 0 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |

* 48 hr. TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ✓ ) COMPOSITE ( )
SAMPLE ID: SB-39-2
QC LEVEL: AFCEE Level I
MATRIX: SO
SAMPLING METHOD: DP
DUP./REP. OF:
DATE: 1/4/00 TIME: 1500 BEGINNING DEPTH: 2 END DEPTH: 4

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |

~~X~~ 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER: SHIPMENT VIA:
CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: SB-40-1
QC LEVEL AFCEE Level I
MATRIX SO
DUP./REP. OF:
SAMPLING METHOD DP
DATE: 1/4/00 TIME: 1250 BEGINNING DEPTH: 0 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____

SHIPMENT VIA:
FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS. Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (✓) COMPOSITE ( )
SAMPLE ID: SB-40-2
QC LEVEL AFCEE Level I
MATRIX SO
DUP./REP. OF: -
SAMPLING METHOD DP
DATE: 1/4/00 TIME: 1305 BEGINNING DEPTH: 2 END DEPTH: 4

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 2oz w/mouth jar | 1 | Cool to 4 °C | NONE | D2216 | Moisture | SLS |
| 5-gram ENCORE | 3 | Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |

* 48 hr TAT

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES. INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: SB-40-W
QC LEVEL AFCEE Level I
MATRIX WG
DUP./REP. OF:
SAMPLING METHOD BP DATE: TIME: BEGINNING DEPTH: END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ 8270 | SLS |

Temporary Piezometer Water Sample

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs mins) | | | | | | | | | | | | |
| Volume Purged (gals) | | | | | | | | | | | | |
| Temperature (Celsius) | | | | | | | | | | | | |
| pH | | | | | | | | | | | | |
| Specific Conductance (uS) | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | | | | | | | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____

SHIPMENT VIA:
FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: SB41-1
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1-31-00 TIME: 11:46 BEGINNING DEPTH: 0 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organic Compounds | ASI |

48 hr TAT

Sample Equipment: X Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ✓ COURIER ___ OTHER ___

SHIPPED TO: ASI: Analytical Services Incorporated, 110 Technology Parkway, Norcross, GA 30092

SAMPLER: Victor Clarke OBSERVER: Michelle L Jessup

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( X) COMPOSITE ( )
SAMPLE ID: SB41-2
QC LEVEL: AFCEE Level I
MATRIX: SO
DUP./REP. OF:
SAMPLING METHOD: DP
DATE: 1/31/00 TIME: 1232 BEGINNING DEPTH: 3 END DEPTH: 5

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organic Compounds | ASI |

48 hr TAT

* HOLD sample until results are received from SB41-1.

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER: SUN/CLEAR ✓ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____

SHIPMENT VIA: FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: ASI: Analytical Services Incorporated, 110 Technology Parkway, Norcross, GA 30092

SAMPLER: Victor Clarke OBSERVER: _____

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: SB42-1
QC LEVEL: AFCEE Level I
DUP./REP. OF:
MATRIX: SO
SAMPLING METHOD: DP
DATE: 1/31/00 TIME: BEGINNING DEPTH: 0 END DEPTH: 2

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organic Compounds | ASI |

48 hr TAT

Sample Equipment: X Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

W ...ER: SHIPMENT VIA:

S... ...LEAR ___ OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP ___ FED-X ___ HAND DELIVER / COURIER ___ OTHER ___

SHIPPED TO: ASI: Analytical Services Incorporated, 110 Technology Parkway, Norcross, GA 30092

SAMPLER: Vicki Clarke OBSERVER: Michelle L Jessup

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : SB

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
QC LEVEL: AFCEE Level I
MATRIX: SO
SAMPLING METHOD: DP
SAMPLE ID: SB42-2
DUP./REP. OF:
DATE: 1/31/10 TIME: 1428 BEGINNING DEPTH: 2 END DEPTH: 3

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 4oz w/mouth jar | 1 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organic Compounds | ASI |

48hr TAT

* HOLD sample until results are received from SB42-1.

Sample Equipment: X Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____

SHIPMENT VIA:
FED-X ___ HAND DELIVER ___ COURIER ✓ OTHER ___

SHIPPED TO: ASI: Analytical Services Incorporated, 110 Technology Parkway, Norcross, GA 30092

SAMPLER: Victor Clarke OBSERVER: Michelle L Jessup

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : IDW

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: HAAFIDW-W
QC LEVEL: AFCEE Level I
MATRIX: WH
SAMPLING METHOD: NA
DUP./REP. OF:
DATE: 1/31/02 TIME: 1357 BEGINNING DEPTH: END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | ✓3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | ✓2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX) ODU~~ | SLS |
| ~~1 L~~ Poly 500 mL | ✓1 | HNO3, Cool to 4 | SW3005A<br>METHOD | SW6010B<br>SW7470A | ICP Metals (As,Ba,Cd,Cr, Pb,Ag,Se)<br>Total Mercury | SLS |
| 1 L Amber Glass | ✓1 | Cool to 4 °C | SW3550C | SW8081A | Pesticides | SLS |
| 100 ml Poly | ✓1 | Cool to 4 °C | NONE | E150.1 | pH | SLS |
| 125 ml Amber Gl | ✓1 | H2SO4,Cool to 4 | NONE | E420.1 | Phenols | SLS |
| 500 ml Amber Gl | ✓1 | H2SO4,Cool to 4 | NONE | E413.2 | Oil & Grease | SLS |

Drummed Water Composite Sample

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs:mins) | | | | | | | | | | | | | |
| Volume Purged (gals) | | | | | | | | | | | | | |
| Temperature (Celsius) | | | | | | | | | | | | | |
| pH | | | | | | | | | | | | | |
| Specific Conductance (uS) | | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | | |
| Turbidity (NTU) | | | | | | | | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

OTHER: SHIPMENT VIA:

N/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP ___ FED-X ___ HAND DELIVER ✓ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Victor Clarke OBSERVER: Michelle L Jessup

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : FIELD

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: HAAFEB-W
QC LEVEL: AFCEE Level I
MATRIX: WQ
DUP./REP. OF:
SAMPLING METHOD: NA
DATE: 1-16-00 TIME: 11:17 BEGINNING DEPTH: — END DEPTH: —

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL, Cool to 4 ° | SW5030B | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3520C | SW8270C | Semi-Volatile Organics ~~(Appendix IX) ppk~~ | SLS |
| 1 ~~L Poly~~ 500ml Poly ppk | 1 | HNO3, Cool to 4 | SW3005A | SW6010B | Total ICP Metals (As, Ba, Pb) | SLS |

Equipment Blank - Groundwater

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs:mins) | | | | | | | | | | | | | |
| Volume Purged (gals) | | | | | | | | | | | | | |
| Temperature (Celsius) | | | | | | | | | | | | | |
| pH | | | | | | | | | | | | | |
| Specific Conductance (uS) | | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | | |
| Turbidity (NTU) | | | | | | | | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____

SHIPMENT VIA:
FED-X ___ HAND DELIVER ___ COURIER ___ OTHER _

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Victor Clarke ~~& Mike Horner~~ OBSERVER: Mike Horner

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : FIELD

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
QC LEVEL AFCEE Level I
MATRIX WQ
SAMPLING METHOD NA
SAMPLE ID: HAAFEB-SO
DUP./REP. OF:
DATE: 1/04/00 TIME: 10:00 BEGINNING DEPTH: END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 3 | HCL,Cool to 4 °C | SW5035 | SW8260B | Volatile Organic Compounds | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3550C | SW8270C | Semi-Volatile Organics ~~(Appendix IX)~~ ~~ppll~~ | SLS |
| 1 L Amber Glass | 2 | Cool to 4 °C | SW3550C | SW8081A | Pesticides | SLS |
| | | | SW3550C | SW8082 | PCB Compounds | |

Equipment Blank for Soil Samples

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs mins) | | | | | | | | | | | | | |
| Volume Purged (gals) | | | | | | | | | | | | | |
| Temperature (Celsius) | | | | | | | | | | | | | |
| pH | | | | | | | | | | | | | |
| Specific Conductance (uS) | | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | | |
| Turbidity (NTU) | | | | | | | | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push ✓ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: CLEAR ✓ OVERCAST/RAIN ___ WIND DIRECTION ___ AMBIENT TEMP ___

SHIPMENT VIA: FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: T.M. KELLER OBSERVER: MICHELLE JESSUP

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : FIELD

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB (X) COMPOSITE ( )
SAMPLE ID: HAAFTB-W1
QC LEVEL AFCEE Level I
MATRIX WQ
SAMPLING METHOD NA
DUP./REP. OF:
DATE: 1/4/00 TIME: 1930
BEGINNING DEPTH: END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 2 | HCL,Cool to 4 °C | SW5030B | SW8260B | Volatile Organic Compounds | SLS |

Trip Blank

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs mins) | | | | | | | | | | | | |
| Volume Purged (gals) | | | | | | | | | | | | |
| Temperature (Celsius) | | | | | | | | | | | | |
| pH | | | | | | | | | | | | |
| Specific Conductance (uS) | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | | | | | | | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____

SHIPMENT VIA:
FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: _____ OBSERVER: _____

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

FACILITY I.D. : HUNT
SITE : FIELD
PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: HAAFTB-W2
QC LEVEL: AFCEE Level I
MATRIX: WQ
DUP./REP. OF:
SAMPLING METHOD: NA
DATE: 1/5/02 TIME: 1200
BEGINNING DEPTH: END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 2 | HCL,Cool to 4 °C | SW5030B | SW8260B | Volatile Organic Compounds | SLS |

Trip Blank

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs.mins) | | | | | | | | | | | | | |
| Volume Purged (gals) | | | | | | | | | | | | | |
| Temperature (Celsius) | | | | | | | | | | | | | |
| pH | | | | | | | | | | | | | |
| Specific Conductance (uS) | | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | | |
| Turbidity (NTU) | | | | | | | | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____

SHIPMENT VIA: FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: Thomas M Kelley OBSERVER: (MICHAEL HORNIK)

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : FIELD

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: HAAFTB-W3
QC LEVEL: AFCEE Level I
MATRIX: WQ
DUP./REP. OF:
SAMPLING METHOD: NA
DATE:
TIME:
BEGINNING DEPTH:
END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 2 | HCL,Cool to 4 °C | SW5030B | SW8260B | Volatile Organic Compounds | SLS |

Trip Blank

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs mins) | | | | | | | | | | | | |
| Volume Purged (gals) | | | | | | | | | | | | |
| Temperature (Celsius) | | | | | | | | | | | | |
| pH | | | | | | | | | | | | |
| Specific Conductance (uS) | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | | | | | | | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: | ODOR: | OTHER:

WEATHER: SHIPMENT VIA:
SUN/CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: OBSERVER:

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNT
SITE : FIELD

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
112 TOWN PARK DRIVE, KENNESAW, GA 30144-5569
PHONE: (770) 421-3400 / FAX: (770) 421-3486

PROJECT #: 12001-9-3411
SUB-PROJECT #:

GRAB ( ) COMPOSITE ( )
SAMPLE ID: HAAFTB-W4
QC LEVEL: AFCEE Level I
MATRIX: WQ
DUP./REP. OF:
SAMPLING METHOD: NA
DATE: TIME: BEGINNING DEPTH: END DEPTH:

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS | LAB CODE |
|---|---|---|---|---|---|---|
| 40 ml VOA | 2 | HCL,Cool to 4 °C | SW5030B | SW8260B | Volatile Organic Compounds | SLS |

Trip Blank

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time (hrs:mins) | | | | | | | | | | | | |
| Volume Purged (gals) | | | | | | | | | | | | |
| Temperature (Celsius) | | | | | | | | | | | | |
| pH | | | | | | | | | | | | |
| Specific Conductance (uS) | | | | | | | | | | | | |
| Dissolved Oxygen (mg/L) | | | | | | | | | | | | |
| Turbidity (NTU) | | | | | | | | | | | | |
| Redox Potential (mV) | | | | | | | | | | | | |
| Alkalinity (mg/L) | | | | | | | | | | | | |
| Ferrous Iron (mg/L) | | | | | | | | | | | | |
| Sulfide (mg/L) | | | | | | | | | | | | |
| CarbonDioxide (mg/L) | | | | | | | | | | | | |

Sample Equipment: _ Hand Auger _ Bailer _ Ponar Dredge _ Direct Push _ Split Spoon _ Bladder Pump _ Hydro-cone _ HydroPunch

COLOR: ODOR: OTHER:

WEATHER: SHIPMENT VIA:
CLEAR ___ OVERCAST/RAIN ___ WIND DIRECTION _____ AMBIENT TEMP _____ FED-X ___ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: SLS: Savannah Labs, 5102 LaRoche Ave, Savannah Ga 31404

SAMPLER: OBSERVER:

# FIELD SAMPLING REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 12001-9-3911
JOB NAME ~~HAAF~~ FTA
DATE 7/22/99 TIME 10:25/10:40
SAMPLING POINT SB-26
LOCATION FTA

**SAMPLE INFORMATION** SAMPLE I.D. NO. SB-26-1 SB-26-2

MATERIAL: _____ WATER X SOIL _____ SLUDGE _____ OTHER (LIST) _____

TYPE: X GRAB _____ COMPOSITE _____ OTHER (LIST) _____

HAZARDOUS?: _____ YES X NO

| CONTAINER TYPE | CONTAINER VOLUME | NUMBER | PRESERVATIVE/ PREPARATION | COMMENTS |
|---|---|---|---|---|
| Encore | ~5 g | 3 | None | SB-26-1 1.5' |
| Glass | 2 oz | 1 | ↓ | ↓ ↓ |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |
| Encore | ~5g | 3 | None | SB-26-2 5.5' |
| Glass | 2 oz | 1 | | |
| Glass | 4 oz | 1 | ↓ | ↓ ↓ |
| | | | | |

COMMENTS: (WELL PURGING VOLUME; SAMPLE APPEARANCE; ODOR; COLOR; ETC.)
Black / DK Brown Stained Sand Petroleum Odor

Duplicate A collected @ SB-26-1 (3 Encores, 1 2oz Glass, 1 4oz Glass)

LABORATORY RECEIPT: DATE/TIME _____ CONDITION _____

COMMENTS: (CALIBRATIONS, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS)

**FIELD MEASUREMENTS** SAMPLES COLLECTED BY: PK / KB

| PARAMETER | EQUIPMENT I.D. | RESULTS (UNITS) | COMMENTS |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**GENERAL INFORMATION** WEATHER Sunny AIR TEMP. 95° F

SAMPLES SHIPPED TO: Savannah Labs

SPECIAL HANDLING: _____

MODE OF SHIPMENT: X Car/Truck _____ BUS _____ PLANE _____ COURIER

# WELL DEVELOPMENT FORMS

# WELL DEVELOPMENT DATA

PROJECT NAME Hunter Army Airfield PROJECT NO. 11-3551-0320

DEVELOPED BY ~~Aderholt~~ Bill Craig CHECKED BY [illegible] SHEET 1 OF 4

WELL NO. HMW-10 SITE LOCATION Fire Training Area

1. a. Date of installation: 10-03-95 b. Date of development: 10-07-95 to 10-09-9
2. Static Water Level
   a. Before development: 7.54 (TOC) ft. date/time 10-07-95 823
   b. At least 24 hrs. after development: 7.63 (TOC) ft. date/time 10-10-95 906
3. Organic Vapor
   a. Before development: 0 ppm b. After development: 0 ppm
4. Quantity of water loss during drilling, if used: 0 gal.
5. Quantity of standing water in well and annulus before development: 8.77 gal.
6. Depth from top of well casing to bottom of well: 16.31 ft. (from well installation diagram)
7. a. Well diameter: 2 in. b. Screen length: 10.17 ft.
8. Minimum quantity of water to be removed: 177.12 gal. (attach calculation)
9. Depth to Top of Sediment
   a. Before development: 16.09 ft. b. After development: 16.09 ft.
10. Physical character of water (before/after development): before - grayish color, slight fuel odor
    after - water has a grayish tint
11. Type and size of well development equipment: 2in x 5ft PVC/stainless steel airlift pump manufactured by QED Groundwater Specialist, powered driven by a Ulass air compressor
12. Description of surge technique, if used: manually surged with airlift pump with surge rings and wiper attached
13. Height of well casing above ground surface: 2.8 ft. (from well installation diagram)
14. a. Quantity of water removed: 49.5 gal. b. Time for removal: 4 hrs 25 mins hr./min.
15. a. -Liter water sample collected: 1016 (10-09-95) (time) b. Wate: sample photographed? YES NO (circle one)
16. Final turbidity in nephelometric units: 49 NTUs
17. Final Imhoff cone measurements < 0.75 mL/L, if applicable: NA

HF - Rev. 7'

# WELL DEVELOPMENT DATA (continued)

PROJECT NAME Hunter Army Airfield PROJECT NO. 11-3551-0320

DEVELOPED BY ~~Lee Rose~~ Leavell/Bill Craig CHECKED BY _____ SHEET 2 OF 4

WELL NO. HMW-10 SITE LOCATION Fire Training Area

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 10-07-95 831 | 0 | 0 | — | — | — | — | 5 min Surge |
| 10-07-95 939 | 8 | 0 | 5.73 | 68.2 | 193 | 7200 | Gray color, Slight odor, fa |
| 10-07-95 846 | 15 | — | — | — | — | — | stop pump, to fix pump |
| 10-07-95 856 | 25 | — | — | — | — | — | Start pump gray color |
| 10-07-95 933 | 60 | 6 | 6.27 | 66.4 | 137 | 7200 | Almost Dr stopped pump |
| 10-07-95 1019 | 62 | 6 | — | — | — | — | changed pumps 5 min Sur |
| 10-07-95 1032 | 75 | 6.5 | 6.27 | 66.3 | 146 | 7200 | gray color, Sam c |
| 10-07-95 1038 | 81 | 12 | 5.67 | 68.8 | 127 | >200 | well almost dr Pump stopped allow for recha |
| 10-07-95 1609 | 81 | 12 | — | — | — | — | 7.54-01 (TOC) 5 min surge Start pump |
| 10-07-95 1510 | 82 | 12 | 5.78 | 71.6 | 121 | 7200 | gray color |
| 10-07-95 1519 | 91 | 18 | 5.7 | 71.3 | 117 | 7200 | Purged dry 3rd stop pump |
| 10-08-95 1455 | 91 | 18 | 5.36 | 73.3 | 114 | >200 | manually purge |
| 10-08-95 1505 | 101 | 24 | 5.30 | 69.9 | 104 | 7200 | brownish-gray color, foamy |
| 10-08-95 1523 | 119 | 29 | 5.58 | 69.0 | 102 | 7200 | foamy, gray color |
| 10-08-95 1544 | 140 | 34 | 5.47 | 68.4 | 103 | 7200 | |

HF - Rev.

# WELL DEVELOPMENT DATA (continued)

PROJECT NAME Hunter Army Airfield PROJECT NO. 11-3651-0320
DEVELOPED BY Heather Lowell/Bill Craig CHECKED BY gw SHEET 3 OF 4
WELL NO. HMW-16 SITE LOCATION Fire Training Area

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 10-09-95 1556 | 152 | 36.5 | 5.58 | 67.9 | 108 | 153.1 | clearing |
| 10-09-95 1612 | 168 | 40.0 | 5.42 | 67.8 | 103 | 159.4 | |
| 10-09-95 1637 | ~~168~~ 193 | 45.0 | 5.28 | 68.4 | 106 | 113.2 | clearing, foamy |
| 10-09-95 1647 | 203 | 45.5 | — | — | — | — | stop purge NTUs w. 1100 lower |
| 10-09-95 915 | 203 | 45.5 | - | - | - | - | Start manual purge |
| 10-09-95 915 | 204 | 45.5 | 5.59 | 65.5 | 107 | 85.5 | Clearing |
| 10-09-95 933 | 222 | 47 | 5.38 | 65.2 | 106 | 69.8 | |
| 10-09-95 947 | 236 | 48 | 5.56 | 65.0 | 106 | 55.7 | slightly foamy |
| 10-09-95 0955 | 244 | 48.5 | — | — | — | 50.6 | clearing |
| 10-09-95 1001 | 250 | 49 | — | — | — | 56.9 | |
| 10-09-95 1010 | 265 | 49.5 | 5.47 | 65.4 | 96 | 49 | ~~DUP~~ |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

HF - Rev. 7'95

$$V = 3.14 [(.50 - .03) * .3 + .03]$$

$$= .54 \times 8.77 \times 7.48$$

$$= 35.42$$

$$5 \times V = 177.12$$

HMW - 10
Hunter Army Airfield
11-3551-0320
10/07/95

HAL

# WELL DEVELOPMENT DATA

PROJECT NAME Hunter Army Airfield PROJECT NO. 11-3551-0320

DEVELOPED BY Heatherdowell / Bill Craig CHECKED BY Meyer SHEET 1 OF 4

WELL NO. HMW-11 SITE LOCATION Fire training Area

1. a. Date of installation: 10-03-95 b. Date of development: 10-06-95 to 10/07-95
2. Static Water Level
   a. Before development: 11.03 (TOC) ft. date/time 10-06-95 1448
   b. At least 24 hrs. after development: 11.21 ft. date/time 10-08-95 1816
3. Organic Vapor
   a. Before development: 0 ppm b. After development: 0 ppm
4. Quantity of water loss during drilling, if used: 0 ga
5. Quantity of standing water in well and annulus before development: 7.21 ga
6. Depth from top of well casing to bottom of well: 18.24 ft. (from well installation diagram
7. a. Well diameter: 2 in. b. Screen length: 10.17 ft
8. Minimum quantity of water to be removed: 145.61 gal. (attach calculation
9. Depth to Top of Sediment
   a. Before development: 18.02 ft. b. After development: 18.02 ft
10. Physical character of water (before/after development): before - gray color, silty after - slight green color
11. Type and size of well development equipment: 2-in x 5ft pvc/stainless steel airlift pump manufactured by QED Groundwater specialist, power driven by oilless air compressor
12. Description of surge technique, if used: manually surged with airlift pump with surge rings and wiper attached
13. Height of well casing above ground surface: 2.8 ft. (from well installation diagram
14. a. Quantity of water removed: 19 gal. b. Time for removal: 1 hr 37 min hr./min
15. a. 1-Liter water sample collected: 1450 (10-02-95) (time) b. Water sample photographed? YES NO (circle one
16. Final turbidity in nephelometric units: 45.2 NTUs
17. Final Imhoff cone measurements < 0.75 mL/L, if applicable: N/A

HF – Rev. 7/95

# WELL DEVELOPMENT DATA (continued)

PROJECT NAME Hunter Army Airfield PROJECT NO. 11-3551-0320

DEVELOPED BY Heather Lowell/Bill Craig CHECKED BY _____ SHEET 2 OF _____

WELL NO. HMW-11 SITE LOCATION Fire training Area

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 10-05-95 1449 | 0 | 0 | — | — | — | — | 5 min surge |
| 10-06-95 1457 | 8 | 0 | 5.91 | 74.8 | 236 | >200 | gray color, silty |
| 10-06-95 1503 | 14 | 3 | 6.20 | 74.8 | 155 | >200 | gray, color, silty fuel odor |
| 10-06-95 1505 | 16 | 3 | — | — | — | Pumped stop | purged dry, allow to recha |
| 10-07-95 753 | 16 | 3.5 | 5.40 | 68.8 | 182 | >200 | start pump sheen on top |
| 10-07-95 801 | 24 | 5 | 6.09 | 68.5 | 141 | >200 | almost dry Purged stopped/allow |
| 10-07-95 946 | 24 | 5.5 | 6.03 | 68.9 | 186 | 7200 | start pump WL = 11.02 TOC |
| 10-07-95 954 | 35 | 7 | 6.52 | 69.4 | 175 | >200 | well dry, Stopped pump |
| 10-07-95 1346 | 35 | 7 | 5.59 | 73.8 | 153 | 38.5 | manually bailed purge dry 3 times |
| 10-07-95 1406 | 55 | 12 | 6.00 | 75.0 | 166 | 7200 | |
| 10-07-95 1413 | 62 | 13.5 | 6.02 | 73.5 | 165 | >200 | clearing |
| 10-07-95 1419 | 68 | 14 | 6.08 | 72.2 | 165 | 165.9 | |
| 10-07-95 1422 | 71 | 14.5 | 6.01 | 71.8 | 166 | 1155 | |
| 10-07-95 1432 | 81 | 15.5 | 6.03 | 71.6 | 166 | 99.9 | slight fuel odor |
| 10-07-95 1442 | 91 | 17.5 | 6.04 | 71.8 | 169 | 59.4 | |

HF – Rev. 7/95

# WELL DEVELOPMENT DATA (continued)

PROJECT NAME Hunter Army Airfield PROJECT NO. 11-35351-032C

DEVELOPED BY ~~Hetro~~ Lowell/Bill Craig CHECKED BY _____ SHEET 3 OF 4

WELL NO. HMW-11 SITE LOCATION Fire training area

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 10-07-95 1449 | 97 | 19 | 6.07 | 71.8 | 168 | 752 | manually purge stopped ; below 60 NTUs |
| | | | | | | | |
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| | | | | | | | |

HF - Rev. 7/95

$$V = 3.14\left[(.50-.03).3+.03\right]$$

$$= .54 \times 7.21 \times 7.48$$

$$= 29.12$$

$$5\times V = 145.61$$

HMW-11
Hunter Army Airfie
11-3551-0320
10/06/95
WB

# WELL DEVELOPMENT DATA

PROJECT NAME Hunter Army Airfield PROJECT NO. 11-3551-0320

DEVELOPED BY Heather Lowell/Bill Craig CHECKED BY [illegible] SHEET 1 OF 3

WELL NO. HMW-12 SITE LOCATION Fire Training Area

1. a. Date of installation: 10-02-95 b. Date of development: 10-05-95 to 10-06-95
2. Static Water Level
   a. Before development: 11.50 (TOC) ft. date/time 8:25 10-05-95
   b. At least 24 hrs. after development: 11.59 (TOC) ft. date/time 1743 10-08-95
3. Organic Vapor
   a. Before development: 0 ppm b. After development: 0 ppm
4. Quantity of water loss during drilling, if used: 0 gal
5. Quantity of standing water in well and annulus before development: 28.2 gal
6. Depth from top of well casing to bottom of well: ~~18.48~~ 18.71 (TOC) ft. (from well installation diagram)
7. a. Well diameter: 8.5 in. b. Screen length: 10.17 ft
8. Minimum quantity of water to be removed: 140.96 gal. (attach calculation)
9. Depth to Top of Sediment
   a. Before development: 18.48 ft. b. After development: 18.48 ft.
10. Physical character of water (before/after development): Before - no odor, brown color
    after - no odor, water is clear
11. Type and size of well development equipment: 2in x 5ft pvc/stainless steel air lift pump manufactured by QED Groundwater specialist power driven by oilless air compressor
12. Description of surge technique, if used: manually surged with air lift pump with surge rings and wiper attached
13. Height of well casing above ground surface: 2.8 ft. (from well installation diagram)
14. a. Quantity of water removed: 141 gal. b. Time for removal: 4hrs 55 mins hr./min.
15. a. Final water sample collected: 1300 (10-06-95) (time) b. Water sample photographed? YES NO (circle one)
16. Final turbidity in nephelometric units: 15.2 NTUs
17. Final Imhoff cone measurement for 0.75 mL/L, if applicable: N/A

HF – Rev. 7/95

# WELL DEVELOPMENT DATA (continued)

PROJECT NAME Hunter Army Airfield PROJECT NO. 115351-0320

DEVELOPED BY Heather Lowell/B. Craig CHECKED BY [illegible] SHEET 2 OF ?

WELL NO. HMW-12 SITE LOCATION Fire Training Area

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 10-05-95 0931 | 5 min surge | 1 | 5.69 | 68.5 | 134 | X200 | No odor, brown color, some silt sand present |
| 10-05-95 0958 | 32 | 15 | 5.02 | 70.0 | 124 ~~158~~ | 7200 | clearing, stop pump, allow rec |
| 10-05-95 1017 | 51 | 15.5 | 5.00 | 71.3 | 140 | >200 | 5 min surge, brown color, silt |
| 10-05-95 1048 | 82 | 30 | 4.75 | 70.1 | 127 | 7200 | clearing, stop pump, allow recha |
| 10-05-95 1110 | 104 | 30.5 | 4.94 | 70.8 | 123 | >200 | 5 min surge brown color |
| 10-05-95 1149 | 143 | 55 | — | — | — | — | clearing, stop pump, for |
| 10-05-95 1320 | 143 | 57 | 4.62 | 71.4 | 149 | >200 | start pump clearing |
| 10-05-95 1351 | 174 | 77 | 4.55 | 70.7 | 121 | 199.2 | clearing |
| 10-05-95 1407 | 190 | 80 | 4.57 | 71.1 | 121 | 150.1 | Stop pump- allow recharge - clear Sulfur Odor |
| 10-05-95 1500 | — | — | — | — | — | — | stop pump |
| 10-06-95 1115 | 190 | 80 | 5.07 | 70.8 | 139 | >200 | start pump |
| 10-06-95 1145 | 220 | 103 | 4.61 | 70.5 | 162 | 121.2 | |
| 10-06-95 1220 ~~1219~~ | ~~255~~ | 125 | 4.68 | 71.1 | 157 | 415 | clearing |
| 10-06-95 1300 | 295 | 141 | 4.64 | 70.4 | 148 | 15.2 | clear |
| ~~10-06-95~~ | — | — | — | — | — | — | — |

HF - Rev. 7/95

$$V = 3.14\left[(.50 - .03) \cdot 3 + .03\right]$$

$$= .54 \times 6.98 \times 7.48$$

$$= 28.2$$

$5 \times V$

$140.96$

# WELL DEVELOPMENT DATA

PROJECT NAME Hunter Army Airfield PROJECT NO. 11-3551-0320

DEVELOPED BY Bothwell/Bill Craig CHECKED BY _____ SHEET 1 OF 2

WELL NO. HMW-13 SITE LOCATION Fire Training Area

1. a. Date of installation: 10-03-95 b. Date of development: 10-08-95
2. Static Water Level
   a. Before development: 12.81 ft. date/time 10-08-95 832
   b. At least 24 hrs. after development: 12.93 ft. date/time 10-0995 1031
3. Organic Vapor
   a. Before development: 6 ppm b. After development: 0 ppm
4. Quantity of water loss during drilling, if used: 0 gal
5. Quantity of standing water in well and annulus before development: 2 gal
6. Depth from top of well casing to bottom of well: 20.81 ft. (from well installation diagram
7. a. Well diameter: 2 in. b. Screen length: 10.17 ft
8. Minimum quantity of water to be removed: 157.73 gal. (attach cal on
9. Depth to Top of Sediment
   a. Before development: 20.62 ft. b. After development: 20.60 ft
10. Physical character of water (before/after development): before - first few gallons were grey then clearing, for after - the water appears cleaner
11. Type and size of well development equipment: 2in x 5ft PVC/stainless airlift pump manufa by QED Groundwater Specialist, power driven by oilless air compres
12. Description of surge technique, if used: manually surged with airlift pump with surge rings and wipes attached
13. Height of well casing above ground surface: 2.5 ft. (from well installation diagram)
14. a. Quantity of water removed: 159 gal. b. Time for removal: 4hrs 20mins hr./min.
15. a. 1-Liter water sample collected: 1241 (time) b. Water sample photographed? YES NO (circle one)
16. Final turbidity in nephelometric units: 9.7 NTUs
17. Final Imhoff cone measurements < 0.75 mL/L, if applicable: NA

# WELL DEVELOPMENT DATA (continued)

PROJECT NAME Hunter Army Airfield PROJECT NO. 11-3551-0320

DEVELOPED BY Hatterdowell/Bill Gray CHECKED BY QC SHEET 2 OF 3

WELL NO. HAW-13 SITE LOCATION Fire Training Area

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 10-0845 835 | 0 | 0 | — | — | — | — | Begin 5mn surge |
| 10-0845 844 | 9 | 0 | 5.80 | 63.8 | 260 | >200 | gray color foamy |
| 10-0845 918 | 43 | 31.5 | 5.95 | 65.3 | 251 | 39.4 | clearing pump stopped/foamy allow recharge |
| 10-0845 938 | 63 | 31.5 | 5.89 | 65.6 | 245 | >200 | 5 min surge pump started/gray color foamy |
| 10-0845 950 | 75 | 36. | 5.93 | 67.0 | 255 | >200 | clearing fuel odor |
| 10-0845 1006 | 93 | 55 | 5.96 | 67.0 | 252 | 48.5 | clearing |
| 10-0845 1036 | 115 | 73 | 5.94 | 68.1 | 249 | 64.6 | stop pump allow for recharg |
| 10-0845 1050 | 135 | 73.5 | 6.41 | 69.3 | 205 | >200 | 5min surge fuel odor gray color |
| 10-0845 1155 | 200 | 124 | 5.87 | 69.7 | 239 | 36.2 | clearing |
| 10-0845 1220 | 225 | 137 | 5.92 | 70.3 | 251 | 14.9 | clearing |
| 10-0845 1241 | 266 | 158 | 5.94 | 70.3 | 242 | 9.7 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

HF – Rev. 7.95

$$V = 3.14 [(.50 - .03) * .3 + .03]$$

$$= .54 \times 7.81 \times 7.48$$

$$= 31.55$$

$$5x\ V = \begin{array}{r} 157.73 \\ \cancel{154.78} \end{array}$$

HMW13
Hunter Army Airfie
1+3551-0320
10/08/95
LMB

## WELL DEVELOPMENT DATA

PROJECT NAME HUNTER AAF PROJECT No. 12001-9-3411

DEVELOPED BY TAK DAH CHECKED BY _____ SHEET 1 OF 2

1. Well No.: HMW-14R Site Location: FIRE TRAINING AREA
2. Date of Installation: 1-7-00
3. Date of Development: 1-11-00
4. Static Water Level: Before Development 12.84 ft.; At Least 24 hrs. After 12.62 ft.
5. Organic Vapor: Before Development 0.3 ppm; After Development 0.0 ppm
6. Quantity of Water Loss During Drilling, If Used: 10 gal.
7. Quantity of Standing Water in Well and Annulus Before Development: 9.2 (W.C. = 7.53) gal.
8. Depth From Top of Well Casing to Bottom of Well: 20.37 ft. (from Well Installation Diagram)
9. Well Diameter: 2" in.

20.37
12.84
7.53

10. Screen Length: 9.74 ft.
11. Minimum Quantity of Water to be Removed: (9.2 x 10) x 5 = 96 gal.
12. Depth to Top of Sediment: Before Development 20.32 ft.; After Development NA ft.
13. Physical Character of Water (Before/After Development): BEFORE VERY TURBID - MUCH fine SAND
14. Type and Size of Well Development Equipment: AIR DISPLACEMENT PUMP
15. Description of Surge Technique, If Used: LIFT PUMP UP/DOWN RAPIDLY
16. Height of Well Casing Above Ground Surface: 2.0 ft. (from Well Installation Diagram)
17. Quantity of Water Removed: 140 gal. Time for Removal: 7.5 hrs hr. / min.
18. 1-Liter Water Sample Collected: 1 (Time) Photographed? (Y) / N
19. Final Turbidity in Nephelometric Units: 15.8 NTUs
20. Final Imhoff Cone Measurements < 0.75 mL/L, If Applicable: NA

FIGURE B-3

# WELL DEVELOPMENT DATA (continued)



PROJECT NAME HUNTER AAF PROJECT NO. 12001-9-3911

DEVELOPED BY TMK DAH CHECKED BY _____ SHEET 2 OF ____

WELL NO. HMW-14R SITE LOCATION FORMER FIRE TRAINING AREA

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 1-11-00 9:45 | START | | | | | | SURGING PUMP UP/DOWN PUMP DISCHARGE INTO DRUM |
| 10:50 | 65/65 | 27/27 | - | - | - | - | SURGING, WATER V. TURBID BUT-VERY LITTLE SAND STOP HOOK UP PURGE SUCKER |
| 11:40 | 0/65 | 0/27 | 5.92 | 21.1 | 256 | >1000 | RESUME PUMPING |
| 12:00 | 20/85 | 6/36 | 5.78 | 21.2 | 193 | >1000 | |
| 12:18 | 18/103 | 5/41 | 5.72 | 21.2 | 182 | 402 | SURGED PUMP UP/DOWN |
| 12:35 | 17/120 | 6/47 | 5.71 | 21.1 | 164 | 460 | |
| 12:50 | 15/135 | 5/52 | 5.65 | 21.3 | 152 | 440 | SURGED |
| 13:05 | 15/150 | 6/58 | 5.65 | 21.3 | 170 | - | |
| 13:35 | 30/180 STOP FOR LUNCH | 10/68 | 5.61 | 21.2 | 160 | - | STOP FOR LUNCH |
| 14:10 | 0/180 | 0/68 | - | - | - | - | RESUME |
| 14:20 | 10/190 | 4/72 | 5.62 | 21.2 | 164 | 381 | SURGE |
| 14:45 | 25/215 | 8/80 | 5.87 5.71 (TMK) | 21.1 | 155 | 673 | |
| 15:00 | 15/230 | 6/86 | 5.57 | 21.1 | 176 | 241 | ~~RESUME PUMP~~ (TMK) |
| 15:15 | 15/245 | 3/89 | 5.56 | 21.1 | 165 | 178 | PUMPING AIR |
| 15:30 | 15/260 | 3/92 | 5.55 | 21.07 | 163 | - | |

FIGURE B-3



# WELL DEVELOPMENT DATA (continued)

PROJECT NAME HUNTER AAF PROJECT NO. 20001-9-3411

DEVELOPED BY TMK / D. HICK CHECKED BY _____ SHEET 3 OF ____

WELL NO. HMW-14R SITE LOCATION FORMER FIRE TRAINING AREA

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 1-11-00 15:45 | 15/275 | 3/95 | 5.54 | 21.07 | 162 | 96.8 | |
| 16:00 | 15/290 | 2/97 | 5.54 | 21.06 | 162 | 73.4 | |
| 16:15 | 15/305 | 3/100 | 5.53 | 21.02 | 161 | 58.3 | |
| 16:30 | 15/320 | 3/103 | 5.53 | 21.00 | 162 | [illegible] | |
| 16:45 | 15/335 | 3/106 | 5.51 | 20.99 | 160 | 41.3 | |
| 17:05 | 20/355 | 5/111 | 5.51 | 20.93 | 160 | 31.6 | |
| 17:17 | 12/367 | — | 5.51 | 20.90 | 159 | 28.5 | |
| 17:30 | 13/380 | — | 5.51 | 20.85 | 160 | 24.6 | |
| 17:45 | 15/395 | —/125 | 5.51 | 20.81 | 159 | 21.3 | |
| 18:00 | 15/410 | 3/128 | 5.49 | 20.77 | 159 | 19.4 | |
| 18:20 | 20/430 | 8/136 | 5.51 | 20.73 | 158 | 15.7 | |
| 18:30 | 10/450 | 4/140 | 5.49 | 20.71 | 158 | 15.8 | |
| | STOP | | | | | | |
| | | | | | | | |
| | | | | | | | |

## WELL DEVELOPMENT DATA

PROJECT NAME Hunter Army Airfield CSR PROJECT No. 12001-9-3411

DEVELOPED BY JH and MJ CHECKED BY _____ SHEET 1 OF 2

1. Well No.: HMW-15 Site Location: FTA - Hunter Army Airfield
2. Date of Installation: 7-28-99
3. Date of Development: 8-26-99
4. Static Water Level: Before Development 7.09 ft.; At Least 24 hrs. After _____ ft.
5. Organic Vapor: Before Development 0.0 ppm; After Development 0.0 ppm
6. Quantity of Water Loss During Drilling, If Used: 2.0 gal.
7. Quantity of Standing Water in Well and Annulus Before Development: 8.52 gal.
8. Depth From Top of Well Casing to Bottom of Well: 16.20? ft. (from Well Installation Diagram)
9. Well Diameter: 2 in.
10. Screen Length: 10 ft.
11. Minimum Quantity of Water to be Removed: 52 gal.
12. Depth to Top of Sediment: Before Development 16.15 ft.; After Development 16.16 ft.
13. Physical Character of Water (Before/After Development): Extremely turbid; dark gray to black in color; petroleum odor and/or sulfur odor
14. Type and Size of Well Development Equipment: QED 65" development pump (PVC).
15. Description of Surge Technique, If Used: Hand surged with pump that contained washers on top + bottom. Surged 10 times then pumped 40 to 50 mins.; surged 10 times, pumped 40-50 mins, etc.
16. Height of Well Casing Above Ground Surface: 1.5 ft. (from Well Installation Diagram)
17. Quantity of Water Removed: 162 gal. Time for Removal: 7.0 hr. / min.
18. 1-Liter Water Sample Collected: 8-31-99 / 1741 (Time) Photographed? (Y) / N
19. Final Turbidity in Nephelometric Units: 452 NTUs
20. Final Imhoff Cone Measurements < 0.75 mL/L, If Applicable: NA

~~WELL DEVELOPMENT~~
(Continued)

PROJECT NAME Hunter Army Airfield CSR PROJECT No. 12001-9-3411

DEVELOPED BY ~~JH~~ / MJ CHECKED BY _____ SHEET 2 OF 2

Well No.: 1+MW-15 Site Location: FTA

| Date/ Time | Hrs. Dev./ Cum. Hrs. Dev. | Gals. Purged/ Cum. Gals. Purged | pH | Temp. °C | Cond. mS/cm | NTUs | Remarks |
|---|---|---|---|---|---|---|---|
| 8-26-99 1517 | Ø | Ø | 7.01 | 23.9 | 0.025 | over cal | very turbid; black to dark gray |
| 1650 | 1hr, 33min ~~20~~ | ~ 20/20 | 6.40 | 23.9 | 0.024 | over cal | same as above/ slight petroleum odor |
| 1738 | 48min/ 2hrs, 21mins | ~ 30/50 | 6.98 | 22.9 | 0.024 | over cal | ↓ |
| 1800 | 22 mins/ 2hrs, 43 mins | ~ ~~60~~ 10 gal/60 | 7.11 | 23.2 | 0.026 | 558 | ↓ |
| 8-31-99 0930 | Ø/2hrs 43 mins | 3 ~~gal~~ mw/63 | 6.60 | 23.1 | 0.103 | very cal | very turbid; black to dark gray; sulfur odor |
| 1040 | 1hr 10mins/ 3hrs 53mins | 35/98 | 6.25 | 22.6 | 0.076 | 439 | ↓ |
| 1118 | 38 mins/ 4hrs 31mins | 15/113 | 5.72 | 23.4 | 0.075 | 482 | ↓ |
| 1208 | 50 mins/ 5hrs 21mins | 12.5/125.5 | 5.74 | 24.2 | 0.066 | 248 | light gray - brown sulfur odor |
| 1245 | 37 mins/ 5hrs. 58 mins | 7.5/133 | 5.91 | 23.9 | 0.064 | 576 | very turbid; black to dark gray; sulfur odor |
| 1508 | Ø/ 5hrs 58mins | Ø/133 | 5.90 | 23.7 | 0.065 | 558 | ↓ |
| 1635 | 20 mins/ 6hrs 18 mins | 5/138 | 5.91 | 22.8 | 0.063 | 612 | ↓ |
| 1711 | 36 mins/ 6hrs 54mins | 9/147 | 5.91 | 22.7 | 0.063 | 604 | ↓ |
| 1741 | 30 mins/ 7hrs, 24mins | 15/162 | 5.87 | 22.4 | 0.063 | 452 | ↓ |
| | | | | | | | |
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| | | | | | | | |

## WELL DEVELOPMENT DATA

PROJECT NAME Hunter Army Airfield CSR PROJECT No. 12001-9-3411

DEVELOPED BY JAH / KB/MJ CHECKED BY _____ SHEET 1 OF 2

1. Well No.: HAAW-16 Site Location: FTA - Hunter Army Airfield
2. Date of Installation: 7-29-99
3. Date of Development: 9-2-99
4. Static Water Level: Before Development 11.72 ft.; At Least 24 hrs. After _____ ft.
5. Organic Vapor: Before Development 0.2 ppm; After Development 0.0 ppm qpd
   Borehole PID 14.0 ppm Borehole PID 3.4 ppm
6. Quantity of Water Loss During Drilling, If Used: 2.0 gal.
7. Quantity of Standing Water in Well and Annulus Before Development: 4.08 gal.
8. Depth From Top of Well Casing to Bottom of Well: 16.06 ft. (from Well Installation Diagram)
9. Well Diameter: 2 in.
10. Screen Length: 10 ft.
11. Minimum Quantity of Water to be Removed: 30.4 gal.
12. Depth to Top of Sediment: Before Development 16.06 ft.; After Development _____ ft.
13. Physical Character of Water (Before/After Development): Black, very turbid, strong petroleum odor.
14. Type and Size of Well Development Equipment: QED 45" Development pump (PVC)
15. Description of Surge Technique, If Used: Hand surged with pump equipped with washers at top and bottom. Surged 10 times initially. Pumped at optimum rate of 0.2 Liters per minute.
16. Height of Well Casing Above Ground Surface: 1.77 ft. (from Well Installation Diagram)
17. Quantity of Water Removed: _____ gal. Time for Removal: _____ hr. / min.
18. 1-Liter Water Sample Collected: _____ (Time) Photographed? Y / N
19. Final Turbidity in Nephelometric Units: _____ NTUs
20. Final Imhoff Cone Measurements < 0.75 mL/L, If Applicable: NA

## WELL DEVELOPMENT DATA
(Continued)

PROJECT NAME Hunter Army Airfield CSR PROJECT No. 12001-9-3411

DEVELOPED BY JAH/KB/MJ CHECKED BY _____ SHEET 2 OF 2

Well No.: HMW-16 Site Location: FTA

| Date/ Time | Hrs. Dev./ Cum. Hrs. Dev. | Gals. Purged/ Cum. Gals. Purged | pH | °C Temp. | mS/cm Cond. | NTUs | Remarks |
|---|---|---|---|---|---|---|---|
| 9-1-99 0920 | 1 / 1 | 3 / 3 | 6.04 | 22 | 0.097 | OVER CAL | Gray-black, petroleum odor |
| 9-2-99 1033 | 1hr 13min / 2hr 13min | 6 / 9 | 5.80 | 22.1 | 0.096 | 599 | ↓ |
| 9-2-99 1102 | 29 min / 2hr 42m | 4 / 13 | 5.92 | 22.2 | 0.098 | 520 | ↓ |
| 9-2-99 1152 | 50min / 3hr 32m | 5 / 18 | 5.98 | 22.6 | 0.093 | 395 | Milky brown, strong petroleum odor |
| 9-2-99 1249 | 57min / 4hr 29min | 4 / 22 | 6.05 | 24.5 | 0.101 | 130 | ↓ |
| 9-2-99 1327 | 38min / 5hr 7min | 2 / 24 | 6.18 | 22.8 | 0.097 | 75 | Light milky color, strong petroleum odor |
| 9-2-99 1430 | 1hr 3mins / 6hr 10min | 2 / 26 | 6.11 | 23.2 | 0.098 | 206 | Milky Brown, petroleum odor |
| 9-2-99 1600 | Ø / 6hr 10mins | Ø / 26 | 5.989 | 23.4 | 0.097 | 168 | milky brown; petroleum odor |
| 9-2-99 1650 | 50mins / 7.0 hrs | 6 / 32 | 5.72 | 23.4 | 0.099 | 104 | ↓ |
| 9-2-99 1720 | 30 mins / 7hrs 30 mins | 5 / 37 | 5.92 | 23.2 | 0.099 | 67.6 | ↓ |
| 9-3-99 0748 | Ø / 7.0 hrs 30m | Ø / 37 | 5.40 | 22.2 ~~0.094~~ | 0.094 | 160 | ↓ |
| 0830 | 42 mins / 8 hrs 12 mins | ~3.5 / 40.5 | 5.73 | 21.8 ~~0.094~~ | 0.095 | 278 | ↓ |
| 0900 | 30 mins / 8 hrs 42 mins | ~3.5 / 44 | 5.88 | 21.8 | 0.094 | 128 | ↓ |
| 0930 | 30 mins / 9 hrs 12 mins | ~3.5 / 47.5 | 5.97 | 22.1 | 0.096 | 87 | ↓ |
| 1000 | 30 mins / 9 hrs, 42 mins | ~3.5 / 51 | 5.87 | 22.4 | 0.097 | 71 | ↓ |
| 1030 | 30 mins / 10 hrs 12 mins | ~1.5 / 52.5 | 5.94 | 22.5 | 0.097 | 38 | ↓ |

**WELL DEVELOPMENT DATA**
**(Continued)**

PROJECT NAME Hunter Army Airfield CSR PROJECT No. 12001-9-3411

DEVELOPED BY JH/MLJ/KB CHECKED BY _____ SHEET 3 OF 3

Well No.: HMW-16 Site Location: FTA

| Date/ Time | Hrs. Dev./ Cum. Hrs. Dev. | Gals. Purged/ Cum. Gals. Purged | pH | Temp. | Cond. | NTUs | Remarks |
|---|---|---|---|---|---|---|---|
| 9-3-99 1115 | 45 mins / 10 hrs 57 mins | 0.5 / 53 ~~54~~ | 5.88 | 22.6 ~~0.099~~ | 0.099 | 33 | light milky clear; strong petroleum odor |
| 1150 | 35 mins / 11 hrs 32 mins | 0.25 / 53.25 | 5.81 | 23.2 | 0.101 | 25 | ↓ |
| 1225 | 35 mins / 12 hr 7 mins | 0.25 / 53.5 | 5.85 | 24.6 | 0.104 | 33 | ↓ |
| 1307 | 42 mins / 12 hr 44 mins | 0.25 / 53.75 | 5.64 | 23.2 | 0.103 | 23.1 | clear; strong petroleum odor |
| 1340 | 33 mins / 13 hrs 22 mins | 0.25 / 54.0 | 5.77 | 25.0 | 0.106 | 19.1 | ↓ |
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HF — Rev. 4/94

## WELL DEVELOPMENT DATA

PROJECT NAME Hunter Army Airfield CSR PROJECT No. 12001-9-3411

DEVELOPED BY QH / MJ CHECKED BY _____ SHEET 1 OF 2

1. Well No.: HAW-17 Site Location: ETA - Hunter Army Airfield
2. Date of Installation: 7-28-99
3. Date of Development: 9-1-99
4. Static Water Level: Before Development 8.10 ft.; At Least 24 hrs. After _____ ft.
5. Organic Vapor: Before Development 0.0 ppm; After Development 0.0 ppm
6. Quantity of Water Loss During Drilling, If Used: 2.0 gal.
7. Quantity of Standing Water in Well and Annulus Before Development: 7.18 gal.
8. Depth From Top of Well Casing to Bottom of Well: 15.91 ft. (from Well Installation Diagram)
9. Well Diameter: 2 in.
10. Screen Length: 10 ft.
11. Minimum Quantity of Water to be Removed: 45.9 gal.
12. Depth to Top of Sediment: Before Development 15.74 ft.; After Development 16.17 ft.
13. Physical Character of Water (Before/After Development): Very turbid; dark brown in color; no odors
14. Type and Size of Well Development Equipment: QED 65" development pump (PVC).
15. Description of Surge Technique, If Used: Hand surged with pump equipped with washers at top and bottom. Surged 10 times initially; pumped at a rate of approximately 2 gallons/min for 1 hr; surged again, pump; Surge again and pump
16. Height of Well Casing Above Ground Surface: 1.91 ft. (from Well Installation Diagram)
17. Quantity of Water Removed: 382 gal. Time for Removal: 6.0 hr. / min.
18. 1-Liter Water Sample Collected: 9-1-99 / 1900 (Time) Photographed? (Y) / N
19. Final Turbidity in Nephelometric Units: 23.1 NTUs
20. Final Imhoff Cone Measurements < 0.75 mL/L, If Applicable: NA

**WELL DEVELOPMENT DATA**
**(Continued)**

PROJECT NAME Hunter Army Airfield CSR PROJECT No. 12001-9-3411

DEVELOPED BY CJH/MJ CHECKED BY _____ SHEET 2 OF 2

Well No.: HMW-17 Site Location: FTA

| Date/ Time | Hrs. Dev./ Cum. Hrs. Dev. | Gals. Purged/ Cum. Gals. Purged | pH | Temp. | Cond. | NTUs | Remarks |
|---|---|---|---|---|---|---|---|
| 9-1-99/ 1045 | Ø / Ø | Ø / Ø | 6.18 | 27.9 | 0.083 | 1200 | turbid; dark brown no odor |
| 9-1-99/ 1145 | 1.0 hr / 1.0 hr | 25 / 25 | 5.90 | 27.1 | 0.074 | 991 | ↓ |
| 1245 | 1.0 hr / 2.0 hrs | 55 / 80 | 5.86 | 26.6 | 0.079 | 508 | light brown ↓ |
| 1320 | 35 mins / 2 hrs, 35 mins | 66 / 146 | 5.83 | 26.7 | 0.079 | 250 | ↓ |
| 1545 | Ø / 2 hrs, 35 mins | Ø / 146 | 5.53 | 28.1 | 0.083 | 102 | tan |
| 1620 | 35 mins / 3 hrs, 10 mins | 55 / 201 | 5.97 | 26.8 | 0.081 | 60 | Light yellowish Color |
| 1652 | 32 mins / 3 hrs, 42 mins | 45 / 246 | 5.82 | 26.6 | 0.081 | 28.1 | very light yellowish Color |
| 1725 | 33 mins / 4 hrs, 15 mins | 37 / 283 | 5.81 | 27.0 | 0.082 | 38 | Light milky Color |
| 1800 | 45 mins / 5.0 hrs | 27 / 310 | 5.52 | 26.3 | 0.082 | 42 | Light milky color |
| 1830 | 30 mins / 5 hrs, 30 mins | 36 / 346 | 5.82 | 26.6 | 0.082 | 26.6 | almost clear ↓ |
| 1900 | 30 mins / 6.0 hrs | 36 / 382 | 5.94 | 25.9 | 0.080 | 23.1 | |
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## WELL DEVELOPMENT DATA

PROJECT NAME HUNTERS AAF PROJECT No. 12401-9-3417

DEVELOPED BY Victor Clark CHECKED BY J. Hartness SHEET 1 OF 2

1. Well No.: HMW-13 Site Location: FORM FIRE TRAINING AREA
2. Date of Installation: 1-8-00
3. Date of Development: 1-14-00 through 1-15-00
4. Static Water Level: Before Development 8.66 ft.; At Least 24 hrs. After 8.46 ft.
5. Organic Vapor: Before Development NA ppm; After Development 1.8 ppm
6. Quantity of Water Loss During Drilling, If Used: 20 gal.
7. Quantity of Standing Water in Well and Annulus Before Development: 7.7 ~~x 5~~ = TOTAL gal.
8. Depth From Top of Well Casing to Bottom of Well: 14.98 ft. (from Well Installation Diagram)
9. Well Diameter: 2" in.
10. Screen Length: 9.74 ft.
11. Minimum Quantity of Water to be Removed: 138 gal.
12. Depth to Top of Sediment: Before Development 14.88 ft.; After Development 14.98 ft.
13. Physical Character of Water (Before/After Development): Turbid
14. Type and Size of Well Development Equipment: QED Purge Pump
15. Description of Surge Technique, If Used: Pump & Surge
16. Height of Well Casing Above Ground Surface: 2.5 ft. (from Well Installation Diagram)
17. Quantity of Water Removed: 139 gal. Time for Removal: 60.0 hr. / min.
18. 1-Liter Water Sample Collected: 1-15-00 at 16:17 (Time) Photographed? (Y) / N
19. Final Turbidity in Nephelometric Units: 0.58 NTUs
20. Final Imhoff Cone Measurements < 0.75 mL/L, If Applicable: NA

FIGURE B-3

# WELL DEVELOPMENT DATA (continued)



PROJECT NAME Hunter AAF PROJECT NO. 12001-9-3411

DEVELOPED BY VRC + MLJ CHECKED BY J. Hartness SHEET 1 OF 3

WELL NO. MW-18 SITE LOCATION Former AFR training Area

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 1-14-00 | 66 | 27 | — | — | — | — | Silty water |
| 16:40 | 4/70 | 2.5/29.5 | 4.86 | ~~17.66~~ 17.52 | 0.61 | 48.8 | |
| 16:55 | 15/85 | 2.5/32 | 4.84 | 17.75 | 0.58 | 43.6 | |
| ~~17:10~~ ~~17:55~~ | 15/100 | 2.5/35 | 4.82 | 17.74 | 0.55 | 180.1 | |
| 17:25 | 15/115 | 2.5/37.5 | 4.84 | 17.69 | 0.54 | 91.8 | |
| 1740 | 15/130 | 2.5/40 | 4.85 | 17.65 | 0.55 | 44.4 | |
| | Stopped | 1-14-00 | | | | | |

FIGURE B-3



# WELL DEVELOPMENT DATA (continued)

PROJECT NAME Libby AAF PROJECT NO. 12001-9-3411

DEVELOPED BY VRC & MW H CHECKED BY J. Hartness SHEET 2 OF 3

WELL NO. HMW-18 SITE LOCATION Former Fire Training Area

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 1-15-00 0818 | 15/145 | 1/45 | 4.70 | 18.07 | 0.53 | 56.1 | Surge |
| 0833 | 15/150 | 1/46 | 4.69 | 18.25 | 0.51/0.54 | 59.4 | |
| 0848 | 15/~~165~~ 165 | 3/49 | 4.63 | 18.18 | 0.57 | 232 | Surge |
| 0903 | 15/180 | 5/54 | 4.68 | 17.16 | 0.50 | 52.3 | |
| 0918 | 15/195 | 5/59 | 4.67 | 17.26 | 0.51 | 12.3 | Surge |
| 0933 | 15/210 | 3/62 | 4.63 | 17.48 | 0.54 | 32.8 | |
| 0949 | 15/225 | 3/65 | 4.64 | 17.63 | 0.55 | 8.4 | |
| 1004 | 15/240 | 3/68 | 4.61 | 17.76 | 0.56 | 9.4 | Surge |
| 1014 | 15/255 | 3/71 | 4.60 | 17.74 | 0.57 | 76.0 | |
| 1034 | 15/270 | 3/74 | 4.61 | 17.74 | 0.59 | 12.4 | Surge |
| 1049 | 15/~~285~~ 285 (VR) | 3/77 | 4.58 | 17.85 | 0.59 | 21.6 | |
| 1104 | 15/300 | 3/80 | 4.58 | 17.80 | 0.58 | 7.6 | |
| 1119 | 15/315 | 3/83 | 4.57 | 17.79 | 0.60 | 79.5 | |
| 1134 | 15/330 | 5/88 | 4.58 | 17.62 | 0.60 | 36.6 | |
| 1149 | 15/345 | 3/91 | 4.59 | 17.86 | 0.59 | 17.3 | |

FIGURE B-3



# WELL DEVELOPMENT DATA (continued)

PROJECT NAME Hunter AAF PROJECT NO. 12001-9-3411

DEVELOPED BY VRC & MWH CHECKED BY J. Harness SHEET 3 OF 3

WELL NO. HMW-18 SITE LOCATION Ex-Mc Fire training Area

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 1-15-00 12:04 | 15/400 | 5/96 | 4.59 | 18.38 | 0.58 | 72 | |
| 12:19 | 15/415 | 5/101 | 4.60 | 1822 | 0.57 | 51 | |
| 12:34 | 15/430 | 5/106 | 4.61 | 1842 | 0.59 | 49 | |
| 12~~49~~ 45 | 15/445 | 5/111 | 4.61 | 1843 | 0.59 | 43 | |
| 1305 | 15/460 | 5/116 | 4.62 | 1851 | 0.59 | 32 | |
| 1320 | 15/475 | 5/121 | 4.62 | 1854 | 0.61 | 31.4 | |
| 1335 | 15/490 | ~~5~~ 3/124 | 4.56 | 18~~2~~4 | 0.61 | 152 | |
| 1350 | 15/505 | ~~3~~ 3/127 | 4.~~5~~9 | 1810 | 0.60 | 31.9 | |
| 1405 | 15/520 | ~~3~~ 3/130 | 4.60 | 1819 | 0.59 | 20.7 | |
| 1420 | 15/535 | ~~3~~ 3/133 | 4.60 | 1819 | 6.58 | 15.2 | |
| 1435 | 15/550 | 3/136 | 4.60 | 18.33 | 0.56 | 13.3 | |
| 1450 | 15/6 | 3/139 | 4.59 | 17.97 | 0.58 | 3.57 | |
| | | END 14:55 1-15-00 | | | | | |
| | | | | | | | |
| | | | | | | | |

# WELL DEVELOPMENT DATA

PROJECT NAME HUNTER AAF PROJECT No. 12001-9-3411

DEVELOPED BY MH, VC CHECKED BY _____ SHEET 1 OF 2

1. Well No.: HMW-19 Site Location: FORMER FIRE TRAINING AREA
2. Date of Installation: 1-8-00
3. Date of Development: 1-13-00 →
4. Static Water Level: Before Development 8.94 (TOC) ft.; At Least 24 hrs. After 8.90 ft.
5. Organic Vapor: Before Development 1.4 ppm; After Development NM ppm
6. Quantity of Water Loss During Drilling, If Used: 20 gal.
7. Quantity of Standing Water in Well and Annulus Before Development: ≈ 9.5 gal.
8. Depth From Top of Well Casing to Bottom of Well: 16.83 ft. (from Well Installation Diagram)
9. Well Diameter: 2" in.
10. Screen Length: 9.80 ft.

16.83
8.94
7.89 w. column

11. Minimum Quantity of Water to be Removed: 47 + 100 = 147 gal.
12. Depth to Top of Sediment: Before Development 16.77 ft.; After Development NA ft.
13. Physical Character of Water (Before/After Development): V. Dark brown gray
14. Type and Size of Well Development Equipment: ~~Geo~~ Air Displacement pump
15. Description of Surge Technique, If Used: SURGE PUMP UP & DOWN
16. Height of Well Casing Above Ground Surface: 2.3 ft. (from Well Installation Diagram)
17. Quantity of Water Removed: 41 gal. Time for Removal: 7.5 hrs hr. / min.
18. 1-Liter Water Sample Collected: _____ (Time) Photographed? (Y) / N
19. Final Turbidity in Nephelometric Units: 4.4 NTUs
20. Final Imhoff Cone Measurements < 0.75 mL/L, If Applicable: NA

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FIGURE B-3



# WELL DEVELOPMENT DATA (continued)

PROJECT NAME Hunter AFB PROJECT NO. 12001-9-3411

DEVELOPED BY VRC/MWH/TMK CHECKED BY _____ SHEET ____ OF ____

WELL NO. HMW-19 SITE LOCATION Former Fire Training Area

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 1-13-00 ~~14:45~~ | | 20 | - | - | - | - | SETUP PERISTATIC PUMP C1100 - PUMP ATTEMPT 12:00 - |
| 14:45 | START | START 20 | - | - | - | - | SETUP DEV PUMP & PURGE SILVER - REMIXED PERISTATIC PUMP |
| 15:30 | 45/45 | 10/30 | 5.59 | 19.49 | 243 | 7100 | SURGE SCR # Beta CHAIN |
| 15:45 | 15/60 | 5/35 | 6.02 | 19.36 | ~~233~~ 230 | >1000 | |
| 16:00 | 15/75 | 5/40 | 5.48 | 19.28 | 241 | 158 | SURGE ~~AFTER~~ AFTER READING |
| 16:15 | 15/80 | 2/42 | 5.49 | 19.26 | 240 | 159.0 | |
| 16:30 | 15/95 | 2/44 | 5.46 | 19.33 | 237 | 20.4 | |
| 16:45 | 15/110 | 12/46 | 5.57 | 19.17 | 247 | 463 | |
| 17:00 | 15/125 | 2.5/48.5 | 5.54 | 19.14 | 240 | 130 | |
| 17:15 | 15/140 | 2.5/51.0 | 5.52 | 19.05 | 233 | 304 | |
| 17:30 | 15/155 | 3/54 | 5.49 | 19.03 | 231 | 88 | |
| 17:45 | 15/210 | 3/57 | 5.50 | 19.04 | ~~230~~ 225 | 73.4 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

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FIGURE B-3

# WELL DEVELOPMENT DATA (continued)



PROJECT NAME Hunter AAF PROJECT NO. 12001-9-344

DEVELOPED BY VCL & MLJ CHECKED BY _____ SHEET ____ OF ____

WELL NO. HMW-19 SITE LOCATION Eastern Fire Training Area

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. °C | COND. µS/cm | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| ~~1-14-00 1-15-00~~ | | 5 | - | - | - | - | Set up pump get flow rate |
| 8:00 | Start | 5 | - | - | - | - | Begin readings |
| 0915 | 30/30 | 5+1=6 | 5.66 | 16.53 | 227 | 58 | Slowing clearing up Surge well after taking readings |
| [illegible] | 15/45 | 2.5/8.5 | 5.60 | 16.52 | 198 | 151 | Surge after reading |
| 0945 | 15 30 mLJ/60 | 2.5/11 | mLJ 5.58 | 16.53 | 195 | 373 | Surge after reading |
| 900 | 15 mLJ 45/75 | 2.5/13.5 | 5.58 | 16.54 | 193 | 65.3 | Surged after reading |
| 0915 | 15/90 | 2.5/16 | 5.56 | 16.68 | 192 | 302 | |
| 0930 | 15/105 | 2.5/18.5 | 5.55 | 16.70 | 195 | 87.2 | (Surged AR) |
| 0945 | 15/120 | 2.5/21 | 5.56 | 17.07 | 196 | 137.2 | |
| 1000 | 15/135 | 2.5/23.5 | 5.55 | 17.48 | 204 | 59.8 | Surged |
| 1015 | 15/150 | 2.5/26 | 5.55 | 17.52 | 207 | 233 | |
| 1030 | 15/165 | 2.5/28.5 | 5.53 | 17.41 | 207 | 70.0 | (Surge) |
| 1045 | 15/180 | 2.5/31 | 5.54 | 17.58 | 196 | 177.5 | |
| 1100 | 15/195 | 2.5/33.5 | 5.54 | 17.96 | 197 | 55.9 | |
| 1115 | 15/210 | 2.5/36 | 5.54 | 18.15 | 196 | 19.3 | |

FIGURE B-3



# WELL DEVELOPMENT DATA (continued)

PROJECT NAME Hunter AAF PROJECT NO. 12001-9-3411

DEVELOPED BY VRC & MLJ CHECKED BY _____ SHEET ____ OF ____

WELL NO. HMW-9 SITE LOCATION Former Fire Training Area

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 1130 | 15/225 | 2.5/38.5 | 5.52 | 18.18 | 260 | 7.50 | Called Dave |
| 1145 | 15/240 | 2.5/41 | 5.52 | 17.94 | 260 | 4.40 | |
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# WELL DEVELOPMENT DATA

PROJECT NAME HUNTER AAF PROJECT No. 12001-9-3411

DEVELOPED BY TMK/DAH/MWH CHECKED BY _____ SHEET 1 OF 2

1. Well No.: HMW-20 Site Location: FORMER FIRE TRAINING AREA
2. Date of Installation: 1-9-00
3. Date of Development: 1-12-00
4. Static Water Level: Before Development 6.91 ft.; At Least 24 hrs. After 6.50 ft.
5. Organic Vapor: Before Development 1.6 ppm; After Development _____ ppm
6. Quantity of Water Loss During Drilling, If Used: 15 gal for charging gal.
7. Quantity of Standing Water in Well and Annulus Before Development: W.C- 8.06' _____ gal.
8. Depth From Top of Well Casing to Bottom of Well: 14.97 ft. (from Well Installation Diagram)
9. Well Diameter: 2" in.
10. Screen Length: 9.69 ft.

14.97
- 6.91
8.06 WATER COLUMN

11. Minimum Quantity of Water to be Removed: 115 gal.
12. Depth to Top of Sediment: Before Development 14.91 ft.; After Development NA ft.
13. Physical Character of Water (Before/After Development): Very turbid dark gray brown
14. Type and Size of Well Development Equipment: AIR DISPLACEMENT PUMP
15. Description of Surge Technique, If Used: SURGE PUMP UP/DOWN
16. Height of Well Casing Above Ground Surface: 2.5 ft. (from Well Installation Diagram)
17. Quantity of Water Removed: 222 gal. Time for Removal: 7.2 hrs hr. / min.
18. 1-Liter Water Sample Collected: 12:05 (Time) Photographed? (Y) / N
19. Final Turbidity in Nephelometric Units: 45.5 NTUs
20. Final Imhoff Cone Measurements < 0.75 mL/L, If Applicable: _____

FIGURE B-3

# WELL DEVELOPMENT DATA (continued)

PROJECT NAME HUNTER AAF PROJECT NO. 12-01-9-3411

DEVELOPED BY TMK MWH CHECKED BY _____ SHEET 2 OF _____

WELL NO. HMW-20 SITE LOCATION FORMER FIELD TRAINING AREA

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 11.00 | START | — | — | — | — | — | SURGING PUMP UP/DOWN ~~from~~ SED. 12 gal/hour |
| 11:10 | 10/10 | 1/1 | 6.31 | 20.14 | 80 | >1000 | SURGE |
| 12:15 | 65/75 | 12/13 | 6.03 | 20.35 | 69 | >1000 | SURGE |
| 12.30 | 15/90 | 3/16 | 6.02 | 20.31 | 71 | >1000 | SURGE |
| 12.45 | 15/105 | 3/19 | 6.04 | 20.27 | 77 | 620 | SURGE FLOW ADJ TO 1400 ml/min |
| 13:05 | 20/125 | 6/25 | 6.19 | 20.37 | 75 | 496 | SURGE FLOW 1400 ml/min |
| 13:25 | 20/145 | 9/34 | 6.05 | 20.36 | 75 | 491 | |
| 13:45 | 20/165 | 9/43 | ~~6.5~~.99 (TMK) | 20:38 | 77 | 499 | SURGE |
| 14.05 | 20/185 | 9/52 | 5.96 | 20.43 | 77 | — | |
| 14:35 | 30/215 | 18/70 | 6.02 | 20.35 | 79 | 484 | |
| 15:00 | 25/240 | 6/76 | 5.94 | 20.34 | 80 | 493 | SURGE |
| 15:15 | 15/255 | 3/79 | 5.92 | 20.35 | 83 | 500 | SURGE |
| 15:30 | 15/270 | 3/82 | 5.94 | 20.36 | 73 | 365 | SURGE |
| 15:45 | 15/285 | 4/86 | 5.92 | 20.31 | 78 | 490 | SURGE |
| 16:00 | 15/300 | 4/90 | 5.91 | 20.28 | 79 | 420 | |

FIGURE B-3



# WELL DEVELOPMENT DATA (continued)

PROJECT NAME HUNTER AAF PROJECT NO. 20001-9-3411

DEVELOPED BY TMK/MWH CHECKED BY _____ SHEET 3 OF _____

WELL NO. HMW-20 SITE LOCATION FORMER FIRE TRAINING AREA

| DATE/ TIME 1-12-00 | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 16:15 | 15/315 | 5/95 | 5.91 | 20.26 | 80 | 247 | |
| 16:30 | 15/330 | 7/102 | 5.90 | 20.23 | 81 | 204 | |
| 16:45 | 15/345 | 6/108 | 5.9 | 20.21 | 82 | 198 | |
| 17:00 | 15/360 | 3/111 | 5.89 | 20.19 | 83 | 173 | Pump Hose on bottom, Surging flow |
| 17:20 | 20/380 | 4/115 | 5.89 | 20.15 | 84 | 166 | |
| 17:35 | 15/415 | 6/121 | 5.89 | 20.14 | 85 | 154 | |
| 17.45 | 10/425 | 5/126 | 5.89 | 20.11 | 85 | 143 | |
| 18.00 | 15/440 | 6/132 | 5.89 | 20.09 | 86 | 142 | |
| — | — | STOP FOR NIGHT | | — | — | — | |
| 0800 | 15/455 | 12/150 | 5.76 | 20.02 | 88 | 105.5 | |
| 0815 | 15/470 | 6/156 | 5.75 | 20.04 | NOT — | 78.3 | Not working |
| 0845 | 15/485 | 6/162 | 5.76 | 20.04 | 81 | 67.1 | USED BLUE 6.0 RET-1 SER # 9407-3 |
| 0900 | 15/500 | 6/168 | 5.75 | 20.06 | 86 | 69.7 | |
| 0915 | 15/515 | 6/174 | 5.74 | 20.6 | 87 | 73.0 | |
| 0930 | 15/530 | 6/180 | 5.74 | 20.13 | 87 | 74.9 | |

FIGURE B-3

# WELL DEVELOPMENT DATA (continued)

PROJECT NAME HUNTER AAF PROJECT NO. 12001-9-3411

DEVELOPED BY VRC/MWH CHECKED BY _____ SHEET ____ OF ____

WELL NO. HMW-20 SITE LOCATION ~~FORMER FIRE TRAINING AREA~~

| DATE/ TIME | MINUTE DEV./ CUM. MIN. DEV. | GALS. PURGED/ CUM. GALS. PURGED | pH | TEMP. | COND. | NTUs | REMARKS |
|---|---|---|---|---|---|---|---|
| 0945 | 15/545 | ~~4~~/85 | 5.74 | 20.13 | 87 | 74.9 | |
| 1000 | 15/600 | 4/189 | 5.74 | 20.19 | 87 ~~86~~ | 89.5 ~~75.7~~ | ic |
| 1015 | 15/615 | 4/193 | 5.74 | 20.21 | 88 | 95.2 | |
| 1030 | 15/630 | 4/197 | 5.72 | 20.10 | 86 | 56.2 | |
| 1045 | 15/645 | 4/201 | 5.72 | 20.14 | 95 | 55.5 | |
| 1100 | 15/660 | 4/205 | 5.72 | 20.17 | 1.03 | 52.0 | |
| 1115 | 15/675 | 4/209 | 5.71 | 20.23 | 1.10 | 47.0 | |
| 1130 | 15/708 | 4/214 | 5.71 | 20.25 | 1.13 | 46.4 | |
| 1145 | 15/715 | 4/218 | 5.71 | 20.28 | 1.15 | 46.0 | |
| 1200 | 15/730 | 4/222 | 5.71 | 20.28 | 1.17 | 45.5 | |
| | | STOP PHOTOGRAPH | WATER | | | | |
| | | | | | | | |
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ATTACHMENT 5.3
**WELL DEVELOPMENT DATA**

PROJECT NAME Hunter AAF PROJECT No. 12001-9-3411

DEVELOPED BY John Martin CHECKED BY _____ SHEET 1 OF 2

1. Well No.: HMW-21 Site Location: ETA, SB-43
2. Date of Installation: 11-1-01
3. Date of Development: 11-2-01
4. Static Water Level: Before Development 10.43 ft.; At Least 24 hrs. After 10.54 ft.
5. Organic Vapor: Before Development 0.0 ppm; After Development 0.0 ppm
6. Quantity of Water Loss During Drilling, If Used: 0.0 gal.
7. Quantity of Standing Water in Well and Annulus Before Development: 8.52 gal.
8. Depth From Top of Well Casing to Bottom of Well: 14.97 ft. (~~from Well Installation Diagram~~) MEASURED
9. Well Diameter: 2 in.
10. Screen Length: ~~to~~ 9.5 ft.
11. Minimum Quantity of Water to be Removed: 42.6 gal.
12. Depth to Top of Sediment: Before Development 0 ft.; After Development _____ ft.
13. Physical Character of Water (Before/After Development): Light to Medium Grey, Cloudy with Suspended Fines / Same After
14. Type and Size of Well Development Equipment: 2"-PVC Surge Block, Whale Submersible 921 12V D.C. Pump ~ 1½" O.D.
15. Description of Surge Technique, If Used: Surged Through Full $H_2O$ Column For ~10min. Pump To Purge. Repeated (As Well Recharged) 3 Times. Added 3gal of D.I. $H_2O$ And Surged For ~20min. Also Surged w/Pump While Purging.
16. Height of Well Casing Above Ground Surface: 3 ft. (from Well Installation Diagram)
17. Quantity of Water Removed: 11-2-01 34gal / 11-5-01 57 gal. Time for Removal: 11-2-01 1.5hr Purge + 11-5-01 6 hr. / min
18. 1-Liter Water Sample Collected: ~~1730~~ 11-5-01 2000 (Time) Photographed? (Y) N — 6hr 10min Total 12hr 10min Total
19. Final Turbidity in Nephelometric Units: 11-2-01 >1000 11-5-01 100.2 NTUs
20. Final Imhoff Cone Measurements < 0.75 mL/L, If Applicable: N/A

ATTACHMENT 5.3 (CONT'D)
**WELL DEVELOPMENT DATA**
**(Continued)**

PROJECT NAME Hunter AAF PROJECT No. 12001-9-3411

DEVELOPED BY John Martin & Greg Orzechowski CHECKED BY _____ SHEET 2 OF 2

Well No.: HAAW-21 Site Location: FTA, SR-43

| Date/ Time | Hrs. Dev./ Cum. Hrs. Dev. | Gals. Purged/ Cum. Gals. Purged | pH | Temp. | Cond. | NTUs | Remarks |
|---|---|---|---|---|---|---|---|
| 11-2-01 1120 | 1.5 min / 1.5 min | 1.5 / 1.5 | 5.72 | 72.5 | 132.3 | >1000 | Well going dry immediately |
| 11-2-01 1442 | 12 min / 13.5 min | 9.15 / 16.5 | 5.71 | 73.2 | 137.0 | >1000 | Added 3 gal H2O and surged for 20 min |
| 11-2-01 1510 | 47 min / 205 min | 1.5 / 18.0 | 5.76 | 72.6 | 106.4 | >1000 | No improvement |
| QA 1535 1625 | 15 min / 35.5 min | 3.0 / 21.0 | 5.78 | 72.6 | 101.3 | >1000 | Cut flowrate to a trickle |
| QA 1600 1635 | 10 min / 45.5 min | 2.0 / 23.0 | 5.78 | 72.1 | 975.0 | >1000 | |
| 11-2-01 1620 | 20 min / 1 hr 5.5 min | 2.0 / 25.0 | 5.79 | 72.2 | 978.0 | >1000 | |
| 11-2-01 1700 | 10 min / 1 hr 15.5 min | 5.0 / 30.0 | 5.76 | 72.0 | 977.2 | >1000 | |
| 11-2-01 1730 | 15 min / 1.5 hr | 4.5 / 34.5 | 5.75 | 71.9 | 977.0 | >1000 | |
| 11-5-01 1830 | 30 min / 30 min | 2.5 / 37.0 | 5.96 | 70.9 / 69.3 QA | 151.0 | >1000 | Maintained flow at a trickle |
| 11-5-01 1500 | 30 min / 1 hr | 1 / 38.0 | 6.04 | 72.1 QA / 70.9 | 145 | 767 | ~3 to 3.5 gal/hr |
| 11-5-01 1530 | 30 min / 1.5 hr | 2.0 / 40.0 | 6.06 | 71.3 | 146 | 404 | |
| 11-5-01 1600 | 30 min / 2.0 hr | 1.5 / 41.5 | 6.09 | 71.2 | 143 | 407 | |
| 11-5-01 1700 | 1 hr / 3.0 hr | ~~4.0~~ 3.5 / 45.0 QA | 6.15 | 70.8 | 140 | 247 | |
| 11-5-01 1800 | 1 hr / 4.0 hr | 3.0 / 48.0 | 6.13 | 70.9 | 136 | 446 | |
| 11-5-01 1900 | 1 hr / 5.0 hr | 3.5 / 51.5 | 6.10 | 70.9 | 135 | 106.6 | |
| 11-5-01 2000 | 1 hr / 6 hr | 5.5 / 57.0 | 6.14 | 70.8 | 130 | 100.2 | Purged well dry at end. |



57.6

ATTACHMENT 5.3
WELL DEVELOPMENT DATA

PROJECT NAME Hunter AAF PROJECT No. 12001-9-3411

DEVELOPED BY J. MARTIN CHECKED BY _____ SHEET 1 OF 2

1. Well No.: HMW-22 Site Location: Hunter AAF, FTA
2. Date of Installation: 11-1-01
3. Date of Development: 11-2-01
4. Static Water Level: Before Development 16.79 btoc ft.; At Least 24 hrs. After 16.82 ft.
5. Organic Vapor: Before Development 0.0 ppm; After Development 0.0 ppm
6. Quantity of Water Loss During Drilling, If Used: N/A gal.
7. Quantity of Standing Water in Well and Annulus Before Development: 13.7 gal.
8. Depth From Top of Well Casing to Bottom of Well: 23.83 ft. (from Well Installation Diagram)
9. Well Diameter: 2 in.
10. Screen Length: 9.5 ft.
11. Minimum Quantity of Water to be Removed: 68.6 gal.
12. Depth to Top of Sediment: Before Development 0 ft.; After Development 0 ft.
13. Physical Character of Water (Before/After Development): CLOUDY, GREY, THICK WITH FINES / CRYSTAL CLEAR
14. Type and Size of Well Development Equipment: 2"-PVC SURGE BLOCK; WHALE SUBMERSIBLE 921 12V D.C. PUMP ~ 1½" O.D.
15. Description of Surge Technique, If Used: SURGED 2"-PVC SURGE BLOCK THROUGH FULL HEIGHT OF $H_2O$ COLUMN FOR ~ 10 MIN BEFORE SURGING, THEN REPEATED 2-MORE TIMES AT ABOUT 30 MIN INTERVALS.
16. Height of Well Casing Above Ground Surface: 2.8 ft. (from Well Installation Diagram)
17. Quantity of Water Removed: 130 gal. Time for Removal: 1 hr 25 mins hr. / mir
18. 1-Liter Water Sample Collected: 0915 (Time) Photographed? (Y) N
19. Final Turbidity in Nephelometric Units: 0.34 NTUs
20. Final Imhoff Cone Measurements < 0.75 mL/L, If Applicable: N/A

ATTACHMENT 5.3 (CONT'D)
**WELL DEVELOPMENT DATA**
**(Continued)**

PROJECT NAME Hunter AAF PROJECT No. 12001-9-3411

DEVELOPED BY John Martin CHECKED BY _____ SHEET 2 OF 2

Well No.: HMW-22 Site Location: ETA

| Date/ Time | Hrs. Dev./ Cum. Hrs. Dev. | Gals. Purged/ Cum. Gals. Purged | pH | Temp. | Cond. | NTUs | Remarks |
|---|---|---|---|---|---|---|---|
| 11-2-01 0800 | 10 min / 10 min | 25 / 25 | 5.38 | 76.3 | 159.7 | 821 | |
| 0825 | 15 min / 25 min | ~~25~~ / 50 | 5.30 | 76.1 | 146.0 | 11.9 | |
| 0830 | 15 min / 40 min | ~~40~~ 40 / 90 | 5.20 | 76.1 | 147.4 | 0.19 | WOW! |
| 0845 | 15 min / 55 min | 15 ~~55~~ gal / 105 | 5.25 ~~5.38~~ | 76.1 | 145.9 | 0.00 | |
| 0900 | 15 min / 1hr 10 min | 15 ~~70~~ gal / 120 | 5.25 | 76.4 | 148.5 | 1.22 | Clamp slip. Flow rate increase. |
| 0915 | 15 min / 1 hr. 25 min | 10 ~~80~~ gal / 130 | 5.20 | 76.4 | 145.4 | 0.34 | |
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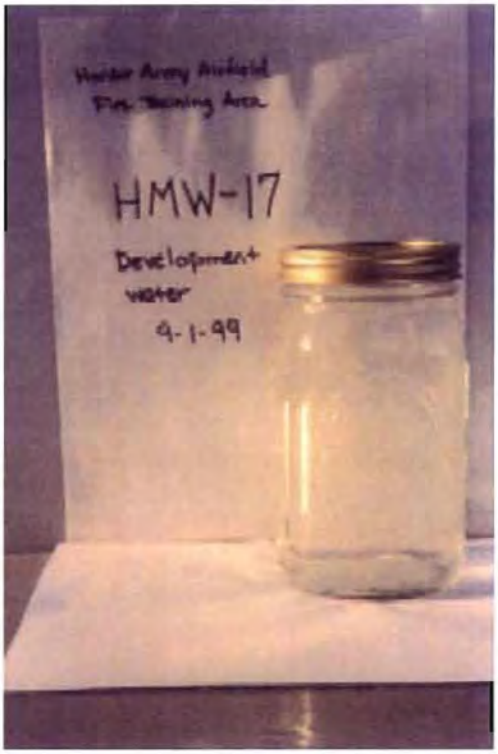
# WELL DEVELOPMENT PHOTOGRAPHS

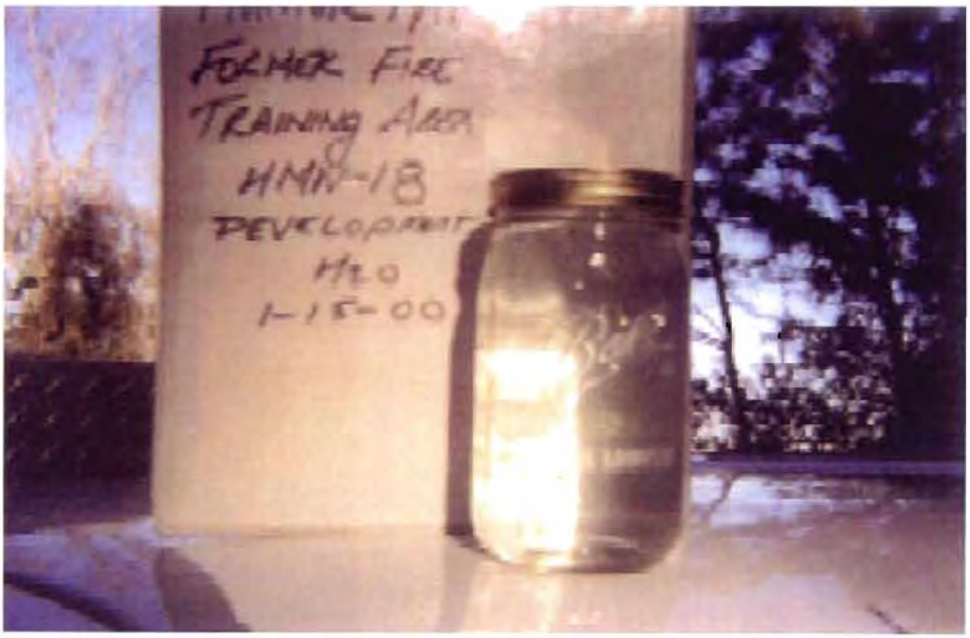

HMW-17
Development
water
9-1-99

**HMW - 17**

HMW-15
Development
water
8-31-99

**HMW - 15**

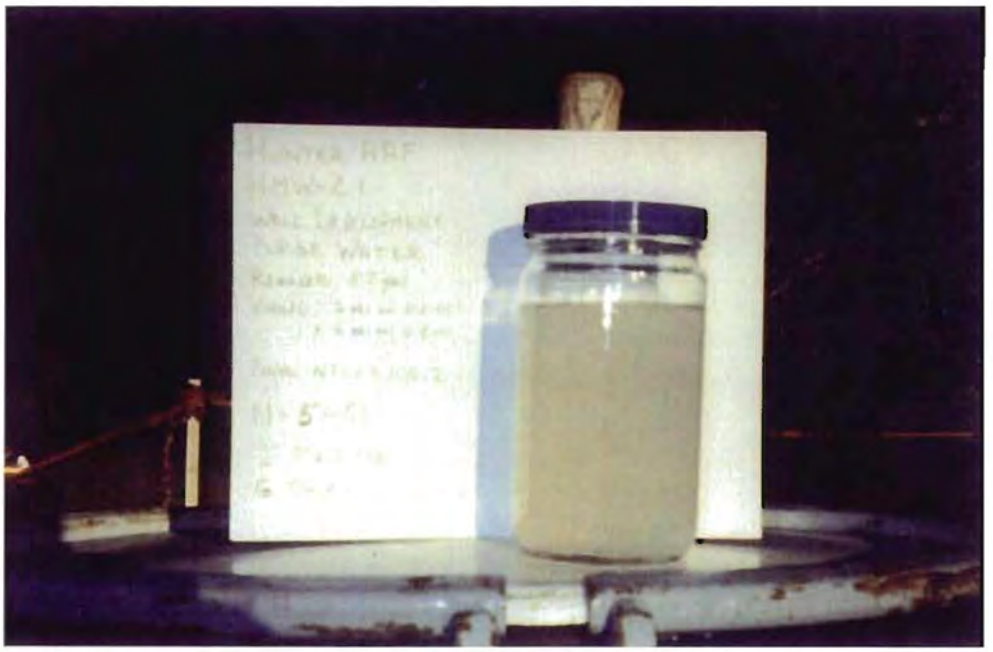
**HMW - 19**



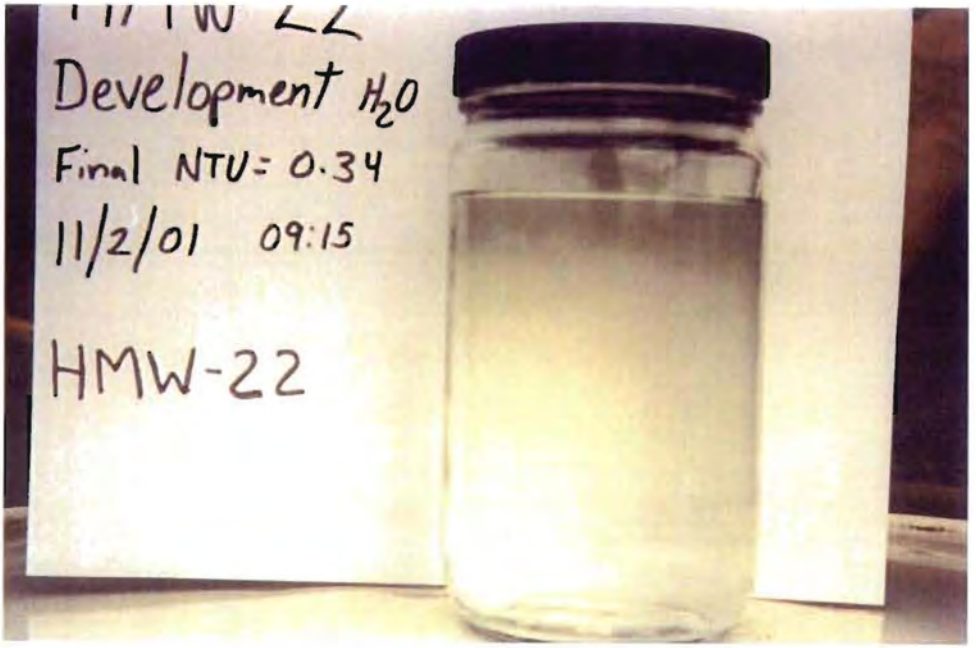

**HMW - 18**

**HMW - 14**

**HMW - 20**



**HMW - 21**




**HMW - 22**

**2001 Field Sampling Reports**

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D.: HUNTER AAF
SITE: FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-3461
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: HMW-14R
QC LEVEL
MATRIX: AQUEOUS
SAMPLING METHOD: PERISTALTIC PUMP
DUP./REP. OF:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: END DEPTH:
DATE: 11-6-01 TIME: 1540
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

3 - 40ml VOA VIALS HCl VOCs

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | 0 | 1gal | 2gal | 3gal | | |
| pH | 5.28 | 5.40 | 5.40 | 5.39 | | |
| Temperature | 71.9 | 70.3 | 69.7 | 69.8 | | |
| Specific Conductance | 335 | 302 | 268 | 264 | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | >1000 | 20.8 | 5.11 | 4.07 | | |

COLOR: PALE YELLOW
ODOR: ROTTEN EGGS
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION NE AMBIENT TEMP ~70°F
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: TOM OBSERVER: GAC

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D. : HUNTER AAF
SITE : FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE,SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-346
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: HMW-21
QC LEVEL
MATRIX AQUEOUS
SAMPLING METHOD TEFLON BAILER
DUP./REP. OF:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: END DEPTH:
DATE: 11/6/01 TIME: 1035
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

3 - 40ml VOA VIALS HCl VOCs

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | 1 gal | | | | | |
| pH | 5.71 | | | | | |
| Temperature | | | | | | |
| Specific Conductance | 141 | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | 116 | | | | | |

COLOR: CLOUDY PALE YELLOW/COLORLESS
ODOR: NONE
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN WIND DIRECTION CALM AMBIENT TEMP 45°
SHIPMENT VIA: FED-X HAND DELIVER X COURIER OTHER
SHIPPED TO:
SAMPLER: JDM OBSERVER: GAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D.: HUNTER AAF
SITE: FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-3441
SUB-PROJECT #: —

**SAMPLE INFORMATION**

SAMPLE ID: HMW-22
QC LEVEL
MATRIX: GW/AQUEOUS
SAMPLING METHOD: PLASTIC / [redacted]
DUP./REP. OF:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: END DEPTH:
DATE: 11-6-01 TIME: 12:30
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| 3 - 40 ml | | HCL | | | VOCs |

| Volume Purged | 0 | 1 gal | 2 gal | 3 gal | 3.5 gal | |
|---|---|---|---|---|---|---|
| pH | 4.89 | 5.20 | 5.18 | 5.17 | 5.18 | |
| Temperature | 76.3 | 76.2 | 76.3 | 76.3 | 76.3 | |
| Specific Conductance | 196 | 208 | 203 | 205 | 202 | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | 27.6 | 12.0 | 2.37 | 1.28 | 1.10 | |

COLOR: CLEAR
ODOR: NONE
OTHER: NONE

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION NE AMBIENT TEMP 65°F
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: JOM OBSERVER: GAO

FIGURE 2-4

## FIELD SAMPLING REPORT

FACILITY I.D. : HUNTER AAF
SITE : FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-3
SUB-PROJECT #: ←

### SAMPLE INFORMATION

SAMPLE ID: HMW-22 MS/MSD
QC LEVEL
MATRIX: AQUEOUS
SAMPLING METHOD: PURGEABLE
DUP./REP. OF:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES(X) NO( )
BEGINNING DEPTH: ____ END DEPTH: ____
DATE: 11-6-01 TIME: 12:30
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| MS 3 - 40 ml | | HCL | | | VOCs |
| MSD 3 - 40 ml | | HCL | | | VOCs |

| | 0 gal | 1 gal | 2 gal | 3 gal | 3.5 | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | 4.89 | 5.20 | 5.18 | 5.17 | 5.18 | |
| Temperature | 76.3 | 76.2 | 76.3 | 76.3 | 76.3 | |
| Specific Conductance | 196 | 208 | 203 | 205 | 202 | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | 27.6 | 12.0 | 2.37 | 1.28 | 1.10 | |

| | |
|---|---|
| COLOR: | |
| ODOR: | |
| OTHER: | |

### GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION N/E AMBIENT TEMP 66
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: JOM OBSERVER: GAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D. : HUNTER AAF
SITE : ETA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-3411
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: SB-43 (0-2)
QC LEVEL
MATRIX: SOIL
SAMPLING METHOD: DRILL RIG, SS-SAMPLER
DUP./REP. OF:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: 0' END DEPTH: 2' bgs
DATE: 11-1-01 TIME: 10:15
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

3 - 5g EnCore Samplers — VOCs
1 - 125ml w/m Glass Jar w/ Septa — Bulk VOCs
1 - 250ml w/m Glass Jar — SVOCs
1 - 250ml w/m Plastic Jar — Chromium

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

COLOR: DARK GREY/BROWN
ODOR: EARTHY
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION E AMBIENT TEMP 60°F
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: TOM OBSERVER: GAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D.: Hunter AAF
SITE: FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-8-34
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: SB-43 (2-4)
QC LEVEL
MATRIX: Soil
SAMPLING METHOD: Drill Rig, SS-Sampler
DUP./REP. OF:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: 2' END DEPTH: 4' bgs
DATE: 11-1-01 TIME: 10:30
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

3 - 5g EnCore Samplers — VOCs
1 - 125ml w/n Glass Jar w/Septa — Bulk VOCs
1 - 250ml w/n Glass Jar — SVOCs
1 - 250ml w/n Plastic Jar — Chromium

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

COLOR: Brey
ODOR: —
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION Calm AMBIENT TEMP 65
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: JDM OBSERVER: GAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D.: HUNTER AAF
SITE: FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-3411
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: SB-43 (2-4) MS/MSD
QC LEVEL
MATRIX: SOIL
DUP./REP. OF:
SAMPLING METHOD: DRIVE RIG, SS - SAMPLER
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES (X) NO ( )
BEGINNING DEPTH: 2' END DEPTH: 4' bgs
DATE: 11-1-01 TIME: 10:30
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

3 - 5g ENCORE SAMPLERS — √ VOCs

1 - 125 ml W/M GLASS JAR W/SEPTA — BULK √ VOCs

1 - 250 ml W/M GLASS JAR — 5 √ VOCs

1 - 250 ml W/M PLASTIC JAR — CHROMIUM

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

COLOR: GRAY
ODOR: —
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION CALM AMBIENT TEMP 65°F
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: JDA OBSERVER: CMO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D. : HUNTER AAF
SITE : FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-34
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: SB-43A (0-2)
QC LEVEL
MATRIX: SOIL
DUP./REP. OF:
SAMPLING METHOD: HAND AUGER
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: 0' END DEPTH: 2' bgs
DATE: 11-5-01 TIME: 1640
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

3 - 5g EnCore Samplers — VOCs
1 - 125 mL w/m Glass w/ Septa — Bulk VOCs

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

| | |
|---|---|
| COLOR: | |
| ODOR: | |
| OTHER: | |

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION CALM AMBIENT TEMP 60°
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: TOM OBSERVER: GAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D.: HUNTER AAF
SITE: FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-3411
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: SB-44 (2-4)
QC LEVEL
MATRIX: SOIL
SAMPLING METHOD: SS-SAMPLER
DUP./REP. OF:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: 2' END DEPTH: 4' bgs
DATE: 11-1-01 TIME: 1750
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

3 - 5g EN CORE SAMPLES — VOCs

1 - 125ml W/M GLASS JAL W/SEPTA — BULK VOCs

1 - 250ml W/M GLASS JAR — SVOCs

1 - 250ml W/M PLASTIC JAR — CHROMIUM

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

COLOR: DARK GREY
ODOR: —
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION CALM AMBIENT TEMP 60°F
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: JDA OBSERVER: BAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D. : HUNTER AAF
SITE : FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-346
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: SB-100 (2-4)
QC LEVEL
MATRIX SOIL
SAMPLING METHOD SS-SAMPLER
DUP./REP. OF: SB-44 (2-4)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: 2' END DEPTH: 4' bgs
DATE: 11-1-01 TIME: 1200
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

3 - 5g EN CORE SAMPLERS — VOCs

1 - 125ml W/M GLASS JAR W/SEPTA — BULK VOCs

1 - 250ml W/M GLASS JAR — SVOCs

1 - 250 ml W/M PLASTIC JAR — CHROMIUM

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

COLOR: DARK GREY
ODOR:
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION CALM AMBIENT TEMP 60'
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: TOM OBSERVER: BAD

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D. : HUNTER AAF
SITE : FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-341
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: SB-44 (6-8)
QC LEVEL
MATRIX SOIL
SAMPLING METHOD SS-SAMPLER
DUP./REP. OF:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: 6' END DEPTH: 8' bgs
DATE: 11-1-01 TIME: 1800
GRAB ( ) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

3 - 5g EN CORE SAMPLERS VOCs

1 - 125ml W/M GLASS JAR W/SEPTA BULK VOCs

1 - 250 ml W/M GLASS JAR SVOCs

1 - 250 ml W/M PLASTIC JAR CHROMIUM

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Volume Purged | | | | | | | |
| pH | | | | | | | |
| Temperature | | | | | | | |
| Specific Conductance | | | | | | | |
| Dissolved Oxygen | | | | | | | |
| Redox Potential | | | | | | | |
| Turbidity | | | | | | | |

COLOR: LIGHT BROWN
ODOR: —
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION CALM AMBIENT TEMP 60°F
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: TOM OBSERVER: GAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D. : NUWTEL AAF
SITE : FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE,SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: SB-45 (0-2)

QC LEVEL
MATRIX SOIL
SAMPLING METHOD HAND AUGER

DUP./REP. OF:

MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)

BEGINNING DEPTH: 0' END DEPTH: 2' bgs

DATE: 10-31-01 TIME: 0930

GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

1- 250ml w/m GLASS JAR

SVOCs

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Volume Purged | | | | | | | |
| pH | | | | | | | |
| Temperature | | | | | | | |
| Specific Conductance | | | | | | | |
| Dissolved Oxygen | | | | | | | |
| Redox Potential | | | | | | | |
| Turbidity | | | | | | | |

COLOR: DARK BROWN
ODOR: EARTHY
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION CALM AMBIENT TEMP 60

SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____

SHIPPED TO: ____

SAMPLER: TOM OBSERVER: GAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D.: HUNTER AAF
SITE: FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-3461
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: SB-46 (4-6)
QC LEVEL
MATRIX: SOIL
SAMPLING METHOD: DRILLING, SS SAMPLER
DUP./REP. OF:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: 4' END DEPTH: 6' bgs
DATE: 10-31-01 TIME: 1735
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| 3 – 5g ENCORE SAMPLERS | | | | | VOCs |
| 1 – 125mL W/M GLASS JAR W/SEPTA | | | | | BULK VOCs |
| 1 – 250 mL W/M GLASS JAR | | | | | SVOCs |
| 1 – 250 mL W/M PLASTIC JAR | | | | | CHROMIUM |

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

COLOR: LIGHT YELLOW/ORANGE
ODOR: NONE
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION NE AMBIENT TEMP ~70°F
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: TOM OBSERVER: GAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D. : HUNTER AAF
SITE : FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: SD-46 (12-14)
QC LEVEL
MATRIX SOIL
DUP./REP. OF:
SAMPLING METHOD Drill Rig, SS-SAMPLER
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: 12' END DEPTH: 14' 6"
DATE: 10-31-01 TIME: 1750
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

3 - 5g EnCore Samplers — VOCs

1 - 125ml w/m Glass Jar w/ Septa — Bulk VOCs

1 - 250ml w/m Glass Jar — SVOCs

1 - 250 ml w/m Plastic Jar — Chromium

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

COLOR: WHITE
ODOR: NONE
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION NE AMBIENT TEMP 65
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: JDM OBSERVER: CAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D. : HUNTER AAF
SITE : FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE,SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-7441
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: SR-47 (2-4)
QC LEVEL
MATRIX SOIL
DUP./REP. OF:
SAMPLING METHOD HAND AUGER
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: 2' END DEPTH: 4' bgl
DATE: 10-31-01 TIME: 11:45
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

1- 250ml W/M PLASTIC JAR BARIUM

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

COLOR: DARK BROWN to BLACK
ODOR: SLIGHT GAS SMELL ("TAR")
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN WIND DIRECTION AMBIENT TEMP ~70's F
SHIPMENT VIA: FED-X HAND DELIVER X COURIER OTHER
SHIPPED TO:
SAMPLER: JDM OBSERVER: GAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D. : HUNTER AAF
SITE : FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-E
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: SB-48 (2-5)
QC LEVEL
MATRIX SOIL
DUP./REP. OF:
SAMPLING METHOD HAND AUGER
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: 2' END DEPTH: 5' 6"
DATE: 10-31-01 TIME: 1050
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

1 - 250 ml 4oz PLASTIC JAR — CHROMIUM

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

| | |
|---|---|
| COLOR: DARK BROWN | |
| ODOR: EARTHY | |
| OTHER: | |

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION ____ AMBIENT TEMP 65
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: TOM OBSERVER: GAO

FIGURE 2-4

## FIELD SAMPLING REPORT

FACILITY I.D. : HUNTER AAF
SITE : FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE,SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-3411
SUB-PROJECT #:

### SAMPLE INFORMATION

SAMPLE ID: SB-49 (0-2)
QC LEVEL
MATRIX SOIL
SAMPLING METHOD HAND AUGER
DUP./REP. OF:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: 0' END DEPTH: 2'
DATE: 10-31-01 TIME: 1005
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

1 - 250 ml w/m GLASS JAR — SVOCs

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

COLOR: LIGHT BROWN
ODOR: EARTHY
OTHER:

### GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION CALM AMBIENT TEMP 60°F
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: JRM OBSERVER: BAO

FIGURE 2-4

# FIELD SAMPLING REPORT

FACILITY I.D. : HUNTER AAF
SITE : FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-3
SUB-PROJECT #:

## SAMPLE INFORMATION

SAMPLE ID: SB-50 (0-2)
QC LEVEL
MATRIX: SOIL
DUP./REP. OF:
SAMPLING METHOD: HAND AUGER
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: 0' END DEPTH: 2' bgs
DATE: 10-31-01 TIME: 09:00
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

1 - 250 ml w/m glass JAR

5 VOCs

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

COLOR: BROWN / GREY
ODOR: EARTHY
OTHER:

## GENERAL INFORMATION

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION CALM AMBIENT TEMP 55°
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: TOM OBSERVER: CAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D. : HUNTER AAF
SITE : FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE,SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-3411
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: SB-EQBLK01
QC LEVEL
MATRIX AQUEOUS
DUP./REP. OF:
SAMPLING METHOD —
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: — END DEPTH: —
DATE: 10-31-01 TIME: 0805
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

3 - 40 ml VOA, HCL — VOCs
2 - 1L AMBERS — SVOCs
1 - 250L NALGENE $HNO_3$ — METALS (CHROMIUM)
~~1 - 250ml NALGENE $HNO_3$~~ — ~~Hg~~

EQUIPMENT RINSATE BLANK OF DEIONIZED HAND AUGER BUCKET & SS BOWL W/ SPOON

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

COLOR: CLEAR
ODOR: NONE
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION CALM AMBIENT TEMP 50°F
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: JDM OBSERVER: GAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D. : HUNTER AAF
SITE : _____

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE,SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: _____
SUB-PROJECT #: _____

**SAMPLE INFORMATION**

SAMPLE ID: SB - EQBLANK 02
QC LEVEL _____
MATRIX AQUEOUS
SAMPLING METHOD —
DUP./REP. OF: _____
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: — END DEPTH: —
DATE: 11-1-01 TIME: 11:00
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

3 - 40 ml VOAs HCl VOCs

2 - 1 L - AMBERS SVOCs

1 - 250 ml NALGENE $HNO_3$ CHROMIUM

EQUIPMENT RINSATE BLANK OF DECONNED SS-SAMPLER, SS-BOWL & SPOON

| | | | | | | |
|---|---|---|---|---|---|---|
| Volume Purged | | | | | | |
| pH | | | | | | |
| Temperature | | | | | | |
| Specific Conductance | | | | | | |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | | | | | | |

COLOR: CLEAR
ODOR: —
OTHER: _____

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN _____ WIND DIRECTION _____ AMBIENT TEMP 60s
SHIPMENT VIA: FED-X _____ HAND DELIVER X COURIER _____ OTHER _____
SHIPPED TO: _____
SAMPLER: TDM OBSERVER: GAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D.: HUNTER AAF
SITE: FTA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-G-344
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: IDW-DECON
QC LEVEL
MATRIX: AQUEOUS
DUP./REP. OF:
SAMPLING METHOD: COLLECTED IDW LIQUID DIRECTLY TO SAMPLING CONTAINERS
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: — END DEPTH: —
DATE: 11-6-01 TIME: 2150
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| | | | | | |

3 - 40ml VOAs HCL VOCs

2 - 1L - AMBERS SVOCs, OIL & GREASE

1 - 250ml NALGENE $HNO_3$ METALS (7 RCRA)

1 - 250ml NALGENE $HNO_3$ Hg (8th RCRA)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Volume Purged | | | | | | | |
| pH | | | | | | | |
| Temperature | | | | | | | |
| Specific Conductance | | | | | | | |
| Dissolved Oxygen | | | | | | | |
| Redox Potential | | | | | | | |
| Turbidity | | | | | | | |

COLOR: CLOUDY W/ SUDS
ODOR: NONE NOTED
OTHER:

**GENERAL INFORMATION**

WEATHER: DARK SUN/CLEAR X OVERCAST/RAIN — WIND DIRECTION CALM AMBIENT TEMP 50°F

SHIPMENT VIA: FED-X — HAND DELIVER X COURIER — OTHER —

SHIPPED TO:

SAMPLER: TOM OBSERVER: GAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D. : HUNTER AAF
SITE : ETA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE, SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-3411
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: HMW-100
QC LEVEL
MATRIX: AQUEOUS
DUP./REP. OF: HMW-3
SAMPLING METHOD: PERISTALTIC, BAILER
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: END DEPTH:
DATE: 11-6-01 TIME: 1200
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| 3 - 40ml VOA VIALS | | HCL | | | VOCs |
| 2 - 1 LITER AMBERS | | | | | SVOCs |
| 1 - 250 ml NALGENE | | $HNO_3$ | | | METALS (7 OF 8 RCRA) |
| 1 - 250 ml NALGENE | | $HNO_3$ | | | Hg |

| Volume Purged | 0 | 4 | 7 | 10 | 13 | 17 |
|---|---|---|---|---|---|---|
| pH | 5.80 | 5.78 | 5.73 | 5.75 | 5.70 | 5.78 |
| Temperature | 59.4 | 57.0 | 55.8 | 57.7 | 57.8 | 57.7 |
| Specific Conductance | 148 | 134 | 136 | 139 | 146 | 144 |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | 5.59 | 3.38 | 2.83 | 2.86 | 1.83 | 1.17 |

COLOR: CLEAR
ODOR: NONE
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION CALM AMBIENT TEMP 50°F
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: JDM OBSERVER: BAO

FIGURE 2-4

**FIELD SAMPLING REPORT**

FACILITY I.D. : HUNTER AAF
SITE : ETA

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.
114 TOWN PARK DRIVE,SUITE 400 KENNESAW, GA 30144-5569
PHONE: (770) 499-6800 / FAX: (770) 421-3593

PROJECT #: 12001-9-
SUB-PROJECT #:

**SAMPLE INFORMATION**

SAMPLE ID: HMW-3
QC LEVEL
MATRIX AQUEOUS
SAMPLING METHOD PERISTALTIC
DUP./REP. OF:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE YES( ) NO(X)
BEGINNING DEPTH: END DEPTH:
DATE: 11-6-01 TIME: 2015 M
GRAB (X) COMPOSITE ( )

| CONTAINER SIZE/TYPE | # | PRESERVATIVE/ PREPARATION | EXTRACTION METHOD | ANALYTICAL METHOD | ANALYSIS |
|---|---|---|---|---|---|
| 3 - 40ml VOA VIALS | | HCL | | | VOCs |
| 2 - 1 LITER AMBERS | | | | | SVOCs |
| 1 ~~X~~ - 250 ml NALGENE | | $HNO_3$ | | | METALS (7 OF THE 8-RCRA) |
| 1 - 250 ml NALGENE | | $HNO_3$ | | | Hg |

| Volume Purged | 0 | 4 | 7 | 10 | 13 | 17 |
|---|---|---|---|---|---|---|
| pH | 5.80 | 5.78 | 5.73 | 5.75 | 5.70 | 5.78 |
| Temperature | 59.4 | 57.0 | 55.8 | 57.7 | 57.8 | 57.7 |
| Specific Conductance | 148 | 134 | 136 | 139 | 146 | 144 |
| Dissolved Oxygen | | | | | | |
| Redox Potential | | | | | | |
| Turbidity | 5.59 | 3.38 | 2.83 | 2.86 | 1.83 | 1.17 |

COLOR: CLEAR
ODOR: NONE
OTHER:

**GENERAL INFORMATION**

WEATHER: SUN/CLEAR X OVERCAST/RAIN ____ WIND DIRECTION CALM AMBIENT TEMP 50°
SHIPMENT VIA: FED-X ____ HAND DELIVER X COURIER ____ OTHER ____
SHIPPED TO: ____
SAMPLER: JDM OBSERVER: GAO

# APPENDIX D

## Soil Boring Logs and Monitoring Well Diagrams

Extracted from 2002 CSR prepared by Law Engineering and Environmental Services, Inc.

| Hunter AAF, Fire Training Area<br>Fort Stewart, GA | **Log of Boring No. HSB-01** | Sheet No.<br>1 of 1 |
|---|---|---|

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/12/90 |
| Project Number: | 3902018 | Boring Completed: | 2/12/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | N/A |
| Driller: | M. Barton | Well Casing Diameter: | N/A |
| Logged By: | T. Trent | Surface Elevation: | N/A |
| Drilling Method: | CME Continuous Sampler | Elevation Datum: | N/A |
| Boring Location: | 97' North of Northwest Corner of Pit | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent × 20 40 60 80 / PL \| LL \| 20 40 60 80 |
|---|---|---|---|---|---|---|---|---|---|
| | | CS | 5' | 5' | | | | (SM) SAND, silty, medium to coarse grained, black, with trace organics, wet (PID = 0) | |
| | | | | | | | | 3 ft - fine grained, light brown (PID = 0) | |
| | 5 | CS | 5' | 5' | | | | 5 ft - gray, saturated (PID = 0) | |
| | | | | | | | | (SC) SAND, clayey, gray and reddish-brown | |
| | | | | | | | | (SP) SAND, poorly graded, fine to medium grained, light brown, saturated (PID = 0) | |
| | 10 | | | | | | | BORING TERMINATED AT 10.0 FT BGS | |

CS = CME ® Continuous Sampler
▽ = Water Level Encountered During Drilling ▽ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

| Hunter AAF, Fire Training Area<br>Fort Stewart, GA | **Log of Boring No. HSB-02** | Sheet No.<br>1 of 1 |
|---|---|---|

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/13/90 |
| Project Number: | 3902018 | Boring Completed | 2/13/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | N/A |
| Driller: | M. Barton | Well Casing Diameter | N/A |
| Logged By: | T. Trent | Surface Elevation: | N/A |
| Drilling Method: | CME Continuous Sampler | Elevation Datum: | N/A |
| Boring Location: | 42' Southwest of Northwest Corner of Pit | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent × (20 40 60 80) / PL \| LL \| (20 40 60 80) |
|---|---|---|---|---|---|---|---|---|---|
| | | CS | 5' | 5' | | | | (SM) SAND, silty, fine to medium grained, brown, moist (PID = 50 - 100) | |
| | | | | | | | | 2 ft - black (PID = 500) | |
| | | | | | | | | 4 ft - light brown and gray, wet | |
| | 5 | CS | 5' | 5' | | | | (SW) SAND, well graded, fine to coarse grained, gray and white, saturated (PID = 360) | |
| | | | | | | | | 8 ft - light gray (PID = 240) | |
| | 10 | | | | | | | BORING TERMINATED AT 10.0 FT BGS | |

CS = CME® Continuous Sampler

▽ = Water Level Encountered During Drilling ▽ = Water Level After Well Development

LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

| Hunter AAF, Fire Training Area<br>Fort Stewart, GA | **Log of Boring No. HSB-03** | Sheet No<br>1 of 1 |
|---|---|---|

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/13/90 |
| Project Number: | 3902018 | Boring Completed: | 2/13/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | N/A |
| Driller: | M. Barton | Well Casing Diameter: | N/A |
| Logged By: | T. Trent | Surface Elevation: | N/A |
| Drilling Method: | CME Continuous Sampler | Elevation Datum: | N/A |
| Boring Location: | 75' West Northwest of Southwest Corner of Pit | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent (20 40 60 80) / PL \| LL (20 40 60 80) |
|---|---|---|---|---|---|---|---|---|---|
| | | CS | 5' | 5' | | | | (SM) SAND, silty, fine to medium grained, black and brown, with little organics, moist (PID = 0) | |
| | | | | | | | | 3 ft - fine to coarse grained, light gray and brown, wet | |
| | | | | | | | | 4 ft - gray and black, wet (PID = 0) | |
| | 5 | CS | 5' | 5' | | | | 5 ft - black | |
| | | | | | | | | (SP) SAND, poorly graded, coarse grained, light gray, saturated (PID = 186) | |
| | | | | | | | | 8 ft - light gray and brown (PID = 84) | |
| | 10 | | | | | | | BORING TERMINATED AT 10.0 FT BGS | |

CS = CME® Continuous Sampler
▽ = Water Level Encountered During Drilling ▼ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

| Hunter AAF, Fire Training Area<br>Fort Stewart, GA | **Log of Boring No. HSB-04** | Sheet No<br>1 of 1 |
|---|---|---|

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/13/90 |
| Project Number: | 3902018 | Boring Completed: | 2/13/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | N/A |
| Driller: | M. Barton | Well Casing Diameter: | N/A |
| Logged By: | T. Trent | Surface Elevation: | N/A |
| Drilling Method: | CME Continuous Sampler | Elevation Datum: | N/A |
| Boring Location: | 122' Southwest of Southwest Corner of Pit | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. Len Core | Sample Rec. Core Rec. | Sample Blows "N" % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent × 20 40 60 80 | PL \| LL \| 20 40 60 80 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | CS | 5' | 5' | | | | (SC) SAND, clayey, fine to medium grained, red and brown, moist (PID = 4) | | |
| | 5 | CS | 5' | 5' | | | | (SM) SAND, silty, fine to medium grained, black and gray, wet (PID = 166)<br>5 ft - fine to coarse grained, saturated (PID = 61)<br>(PID = 53) | | |
| | 10 | | | | | | | BORING TERMINATED AT 10.0 FT BGS | | |

CS = CME ® Continuous Sampler
▽ = Water Level Encountered During Drilling ▼ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

| Hunter AAF, Fire Training Area<br>Fort Stewart, GA | **Log of Boring No. HSB-05** | Sheet No.<br>1 of 1 |
|---|---|---|

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/13/90 |
| Project Number: | 3902018 | Boring Completed: | 2/13/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | N/A |
| Driller: | M. Barton | Well Casing Diameter | N/A |
| Logged By: | T. Trent | Surface Elevation: | N/A |
| Drilling Method: | CME Continuous Sampler | Elevation Datum: | N/A |
| Boring Location: | 34' Southwest of Southeast Corner of Pit | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent × 20 40 60 80 / PL \| LL \| 20 40 60 80 |
|---|---|---|---|---|---|---|---|---|---|
| | | CS | 5' | 5' | | | | (SM) SAND, silty, fine to medium grained, brown, with trace organics, moist (PID = 0) | |
| | | | | | | | | 2 ft - gray and black, wet (PID = 5) | |
| | 5 | CS | 5' | 5' | | | | 5 ft - fine to coarse grained, saturated (PID = 25) | |
| | | | | | | | | 8 ft - brown (PID = 20) | |
| | 10 | | | | | | | BORING TERMINATED AT 10.0 FT BGS | |

CS = CME ® Continuous Sampler
▽ = Water Level Encountered During Drilling ▼ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

Hunter AAF, Fire Training Area
Fort Stewart, GA

# Log of Boring No. HSB-06

Sheet No. 1 of 1

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/13/90 |
| Project Number: | 3902018 | Boring Completed: | 2/13/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | N/A |
| Driller: | M. Barton | Well Casing Diameter: | N/A |
| Logged By: | T. Trent | Surface Elevation: | N/A |
| Drilling Method: | CME Continuous Sampler | Elevation Datum: | N/A |
| Boring Location: | 75' Southwest of Southeast Corner of Pit | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent (20 40 60 80) / PL \| LL (20 40 60 80) |
|---|---|---|---|---|---|---|---|---|---|
| | | CS | 5' | 5' | | | | (SC) SAND, clayey, fine to medium grained, reddish-brown, moist (PID = 4) | |
| | | | | | | | | (SM) SAND, silty, fine to coarse grained, gray and black, wet (PID = 31) | |
| | 5 | CS | 5' | 5' | | | | 5 ft - white and brown, saturated (PID = 27) | |
| | | | | | | | | (PID = 36) | |
| | 10 | | | | | | | BORING TERMINATED AT 10.0 FT BGS | |

CS = CME® Continuous Sampler
▽ = Water Level Encountered During Drilling
▼ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

Hunter AAF, Fire Training Area
Fort Stewart, GA

# Log of Boring No. HMW-01

Sheet No 1 of 2

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/7/90 |
| Project Number: | 3902018 | Boring Completed: | 2/7/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | 10 inch |
| Driller: | M. Barton | Well Casing Diameter | 2 inch |
| Logged By: | T. Trent | Surface Elevation: | 35 1 ft |
| Drilling Method: | Hollow-Stem Auger | Elevation Datum: | NGVD |
| Boring Location: | N734794.83 E816369.15 | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent (20 40 60 80) / PL \| LL (20 40 60 80) |
|---|---|---|---|---|---|---|---|---|---|
| 35 | | SS | 1.5 | | 2-3-3 | | | (SM) SAND, silty, fine grained, brown, gray, and tan, loose (PID=0) | |
| | | SS | 1.5 | | 2-1-2 | | | (SP) SAND, poorly graded, fine grained, light brown, loose, wet (PID=0) | |
| | | SS | 1.5 | 0.4 | 2-2-3 | | | 4 ft - (PID=0) | |
| 30 | 5 | SS | 1.5 | 1.1 | 4-6-11 | | | (SC) SAND, clayey, gray and reddish-brown, medium dense, wet (PID=0) | |
| | | SS | 1.5 | 0.4 | 4-3-2 | | | (SP) SAND, poorly graded, fine to medium grained, white and gray, loose, saturated (PID=0) | |
| 25 | 10 | SS | 1.5 | 1.1 | 6-7-7 | | | 10 ft - light gray, medium dense, with trace clay (PID=0) | |
| | | SS | 1.5 | 0.4 | 4-6-9 | | | (SM) SAND, silty, white-gray and reddish-brown, medium dense, saturated (PID=0) | |
| | | SS | 1.5 | 1.5 | 7-9-9 | | | 14 ft - light gray-brown (PID=0) | |
| 20 | 15 | SS | 1.5 | 1.5 | 9-10-10 | | | (SP) SAND, poorly graded, fine to medium grained, light brown and very pale brown, medium dense, saturated (PID=0) | |
| | | SS | 1.5 | 1.5 | 3-5-6 | | | 18 ft - dark grayish-brown and very pale brown (PID=0) | |
| 15 | 20 | SS | 1.5 | 1.5 | 1-2-1 | | | (SM) SAND, silty, gray, loose, saturated (PID=0) | |
| | | SS | 1.5 | 1.5 | 1-0-1 | | | 22 ft - (PID=0) | |
| | | SS | 1.5 | 1.5 | 1-1-1 | | | 24 ft - (PID=0) | |
| 10 | 25 | SS | 1.5 | 0.8 | 3-2-1 | | | 26 ft - (PID=0) | |
| | | SS | 1.5 | | 6-3-3 | | | 28 ft - (PID=0) | |
| 5 | 30 | SS | 1.5 | 1.1 | 3-2-3 | | | 30 ft - (PID=0) | |
| | | SS | 1.5 | 1.5 | 3-3-4 | | | 32 ft - (PID=0) | |
| | | SS | 1.5 | 1.5 | 3-2-6 | | | 34 ft - (PID=0) | |

SS = Splitspoon
▽ = Water Level Encountered During Drilling
▼ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

| Hunter AAF, Fire Training Area<br>Fort Stewart, GA | **Log of Boring No. HMW-01** | Sheet No.<br>2 of 2 |
|---|---|---|

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/7/90 |
| Project Number: | 3902018 | Boring Completed: | 2/7/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | 10 inch |
| Driller: | M. Barton | Well Casing Diameter: | 2 inch |
| Logged By: | T. Trent | Surface Elevation: | 35.1 ft |
| Drilling Method: | Hollow-Stem Auger | Elevation Datum: | NGVD |
| Boring Location: | N734794.83 E816369.15 | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent (20 40 60 80) / PL \| LL (20 40 60 80) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | SS | 1.5 | 1.5 | 1-1-2 | | | 36 ft - (PID=0) | |
| | | SS | 1.5 | 1.5 | | | | 38 ft - (PID=0) | |
| | 40 | SS | 1.5 | 1.5 | | | | 40 ft - (PID=0) | |
| -5 | | SS | 1.5 | 1.5 | 5-7-13 | | | 42 ft - (PID=0) | |
| | | SS | 1.5 | 1.5 | 8-8-4 | | | (SM-SC) SAND, silty, clayey, fine to coarse grained, medium dense, saturated (PID=0) | |
| | 45 | SS | 1.5 | 1.5 | 4-7-6 | | | (SM) SAND, silty, fine to coarse grained, gray, medium dense, saturated (PID=0) | |
| -10 | | SS | 1.5 | 1.5 | | | | (SP) SAND, poorly graded, fine to medium grained, gray, saturated (PID=0) | |
| | 50 | | | | | | | BORING TERMINATED AT 50.0 FT BGS | |

SS = Splitspoon
▽ = Water Level Encountered During Drilling
▼ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

AAAP 10/4/85

# MONITOR WELL CONSTRUCTION

Logged By: Tom Trent
Drilling Contractor: Layne Environmental
Driller's Name: Mark Barton
Well Number: HMW-1

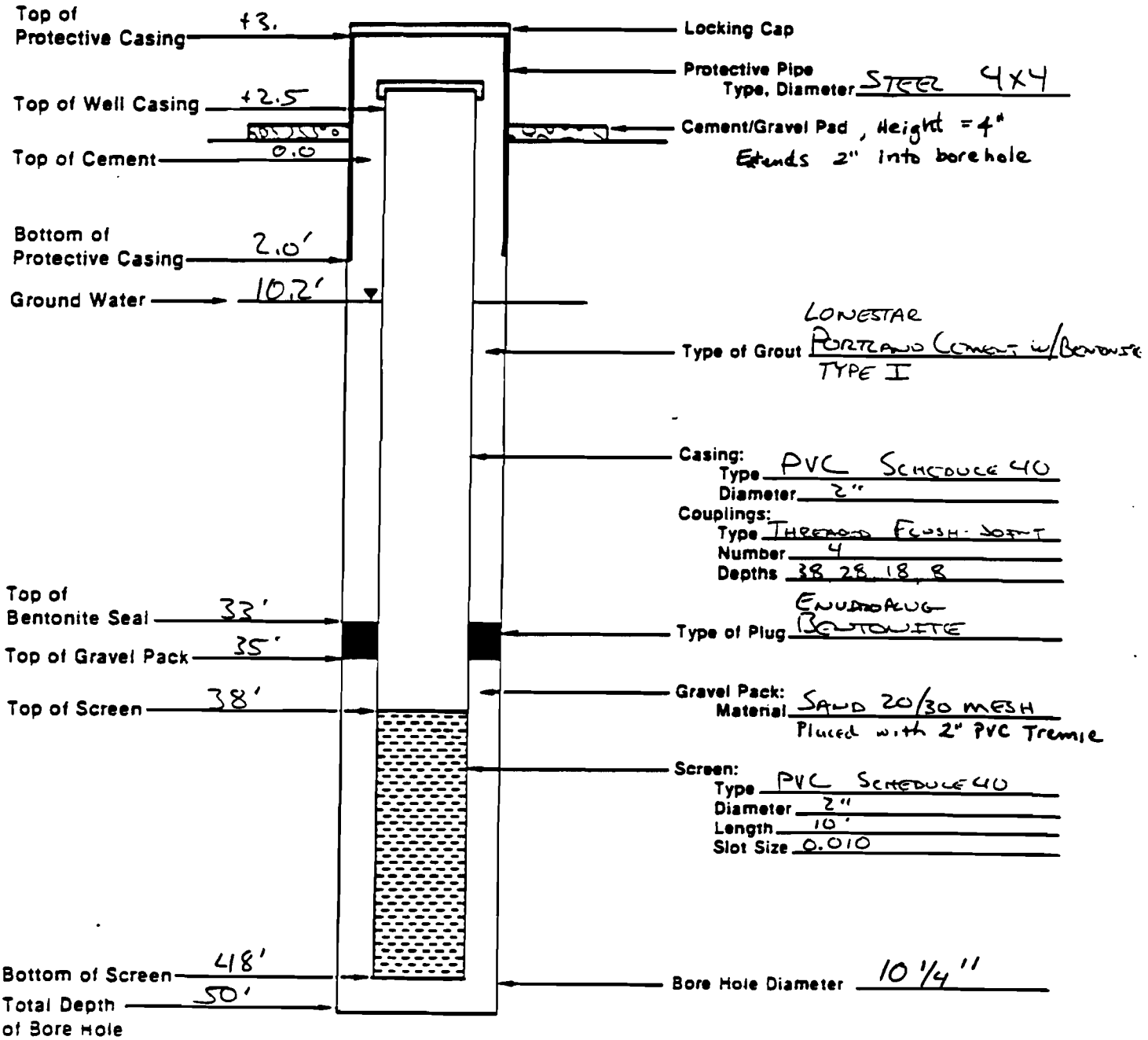
Client: Army Corps of Engineers
Location: Ft Stewart - Hunter AAF
Job Number: 3402018
Date/Time: Start 2-7-90/1515 Finish 2-7-90/1830

Comments (Lost circulation interval, Water level changes, Hole collapse interval, etc.):

Complete Grout : 1830 , 2-7
Begin Development : 1600 , 2-12
Elapsed Time : 117.5

Method of Development : Pumping
Total Volume of Water Extracted : 60 gal.

Depths in Reference to Ground Level




NOT TO SCALE

| Hunter AAF, Fire Training Area<br>Fort Stewart, GA | **Log of Boring No. HMW-02** | Sheet No<br>1 of 1 |
|---|---|---|

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/9/90 |
| Project Number: | 3902018 | Boring Completed: | 2/9/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | 10 inch |
| Driller: | M. Barton | Well Casing Diameter: | 2 inch |
| Logged By: | T. Trent | Surface Elevation: | 34.6 ft |
| Drilling Method: | Hollow-Stem Auger | Elevation Datum: | NGVD |
| Boring Location: | N734786.66 E816362.34 | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent × (20 40 60 80) / PL \| LL \| (20 40 60 80) |
|---|---|---|---|---|---|---|---|---|---|
| 35 | | | | | | | | NO SAMPLES COLLECTED | |
| | 5 | | | | | | | | |
| 30 | | | | | | | | | |
| | 10 | | | | | | | | |
| 25 | | | | | | | | | |
| | 15 | | | | | | | BORING TERMINATED AT 15.0 FT BGS | |

SS = Splitspoon
▽ = Water Level Encountered During Drilling
▼ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

AAAP 10.4.82

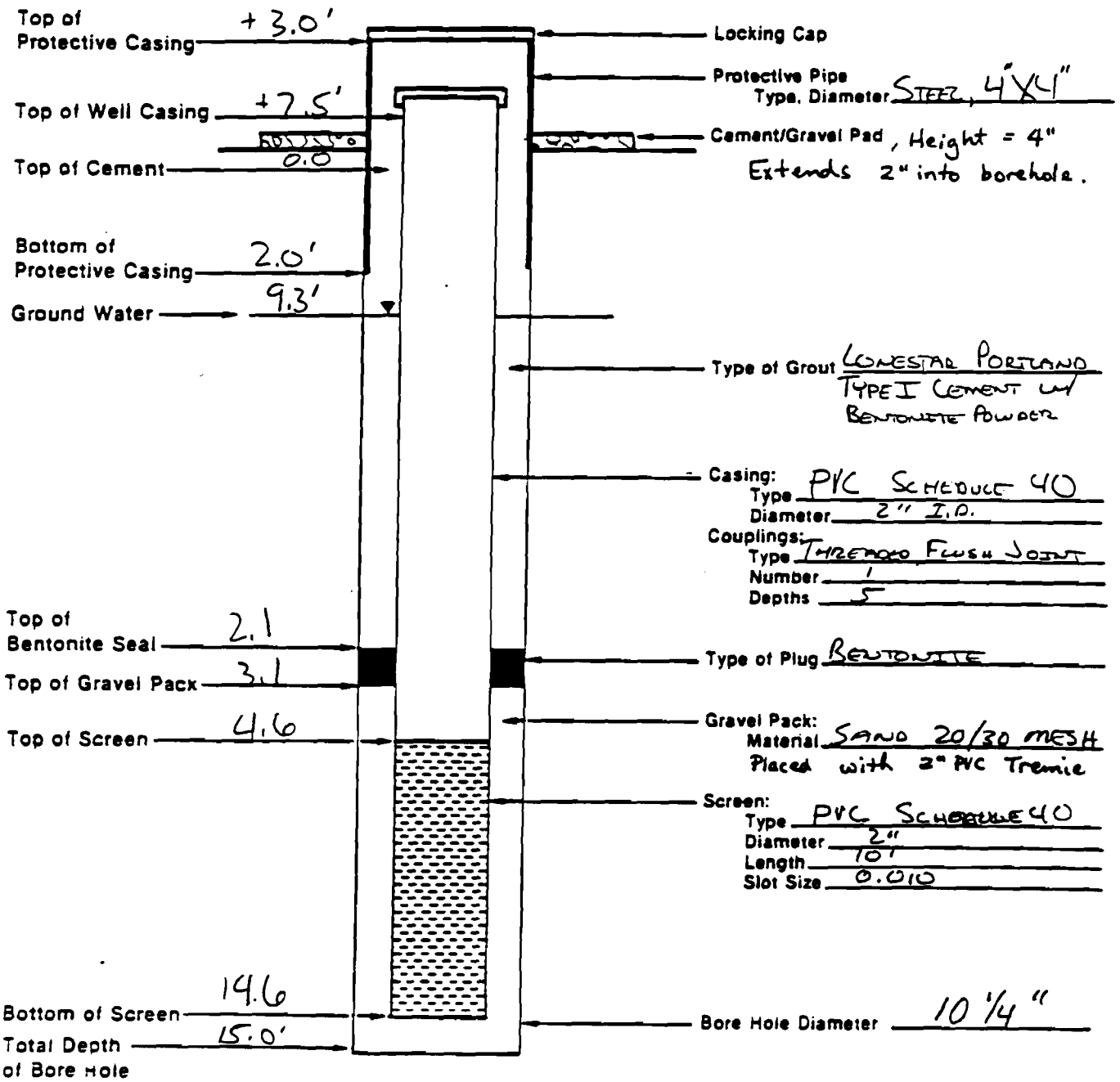
# MONITOR WELL CONSTRUCTION

Logged By: T. TRENT
Drilling Contractor: LAYNE ENVIRONMENTAL
Driller's Name: ~~JERRY~~ MARK RADTKE
Well Number: HMW-2

Client: ARMY CORPS OF ENGINEERS
Location: FT. STEWART - HUNTER AAF
Job Number: 3902018
Date/Time: Start 1600/2-9-90 Finish 1820/2-9-90

Comments (Lost circulation interval, Water level changes, Hole collapse interval, etc.):
Complete Grout : 1820, 2-9
Begin Development: 740, 2-13
Elapsed Time : 85.3 hrs.
Method of Development : Pumping
Total Volume of Water Extracted : 115 gal.

Depths in Reference to Ground Level




NOT TO SCALE

Hunter AAF, Fire Training Area
Fort Stewart, GA

# Log of Boring No. HMW-03



| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/6/90 |
| Project Number: | 3902018 | Boring Completed: | 2/9/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | 10 inch |
| Driller: | M. Barton | Well Casing Diameter: | 2 inch |
| Logged By: | T. Trent | Surface Elevation: | 26.6 ft |
| Drilling Method: | Hollow-Stem Auger | Elevation Datum: | NGVD |
| Boring Location: | N734719.69 E816011.23 | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent (20 40 60 80) / PL \| LL (20 40 60 80) |
|---|---|---|---|---|---|---|---|---|---|
| 25 | | SS | 1.5 | 1.5 | 2-3-5 | | | (SM) SAND,silty, fine grained, with organics, black, loose, moist (PID=0) | |
| | 5 | SS | 1.5 | 0.8 | 1-3-3 | | | 5 ft - fine to medium grained, black and gray (PID=0) | |
| 20 | | | | | | | | | |
| | 10 | SS | 1.5 | 1.1 | 4-5-4 | | | 9 ft - light brown and black (PID=0) | × |
| 15 | | | | | | | | | |
| | 15 | SS | 1.5 | 0.8 | 3-4-7 | | | 14 ft - gray, black, and brown, medium dense, saturated (PID=0) | |
| 10 | | | | | | | | | |
| | 20 | SS | 1.5 | 1.1 | 0-4-6 | | | 19 ft - medium to coarse grained, gray (PID=0) | |
| 5 | | | | | | | | | |
| | 25 | SS | 1.5 | | 3-4-3 | | | 24 ft - loose, moist (PID=0) | |
| 0 | | | | | | | | | |
| | 30 | SS | 1.5 | | 3-3-3 | | | 29 ft - wet (PID=0) | |
| -5 | | | | | | | | | |
| | | SS | 1.5 | | 3-4-4 | | | (SP) SAND, poorly graded, fine to medium grained, | |

SS = Splitspoon
▽ = Water Level Encountered During Drilling
▼ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

Hunter AAF, Fire Training Area
Fort Stewart, GA

# Log of Boring No. HMW-03

Sheet No. 2 of 2

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/8/90 |
| Project Number: | 3902016 | Boring Completed: | 2/9/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | 10 inch |
| Driller: | M. Barton | Well Casing Diameter: | 2 inch |
| Logged By: | T. Trent | Surface Elevation: | 26.6 ft |
| Drilling Method: | Hollow-Stem Auger | Elevation Datum: | NGVD |
| Boring Location: | N734719.69 E816011.23 | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent (20 40 60 80) / PL \| LL (20 40 60 80) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | loose, wet (PID=0) | |
| -10 | | | | | | | | | |
| | 40 | SS | 1.5 | | 2-4-9 | | | 39 ft - medium dense | × |
| -15 | | | | | | | | | |
| | 45 | SS | 1.5 | | | | | | |
| -20 | | | | | | | | | |
| | 50 | | | | | | | BORING TERMINATED AT 50.0 FT BGS | |

SS = Splitspoon
▽ = Water Level Encountered During Drilling
▼ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

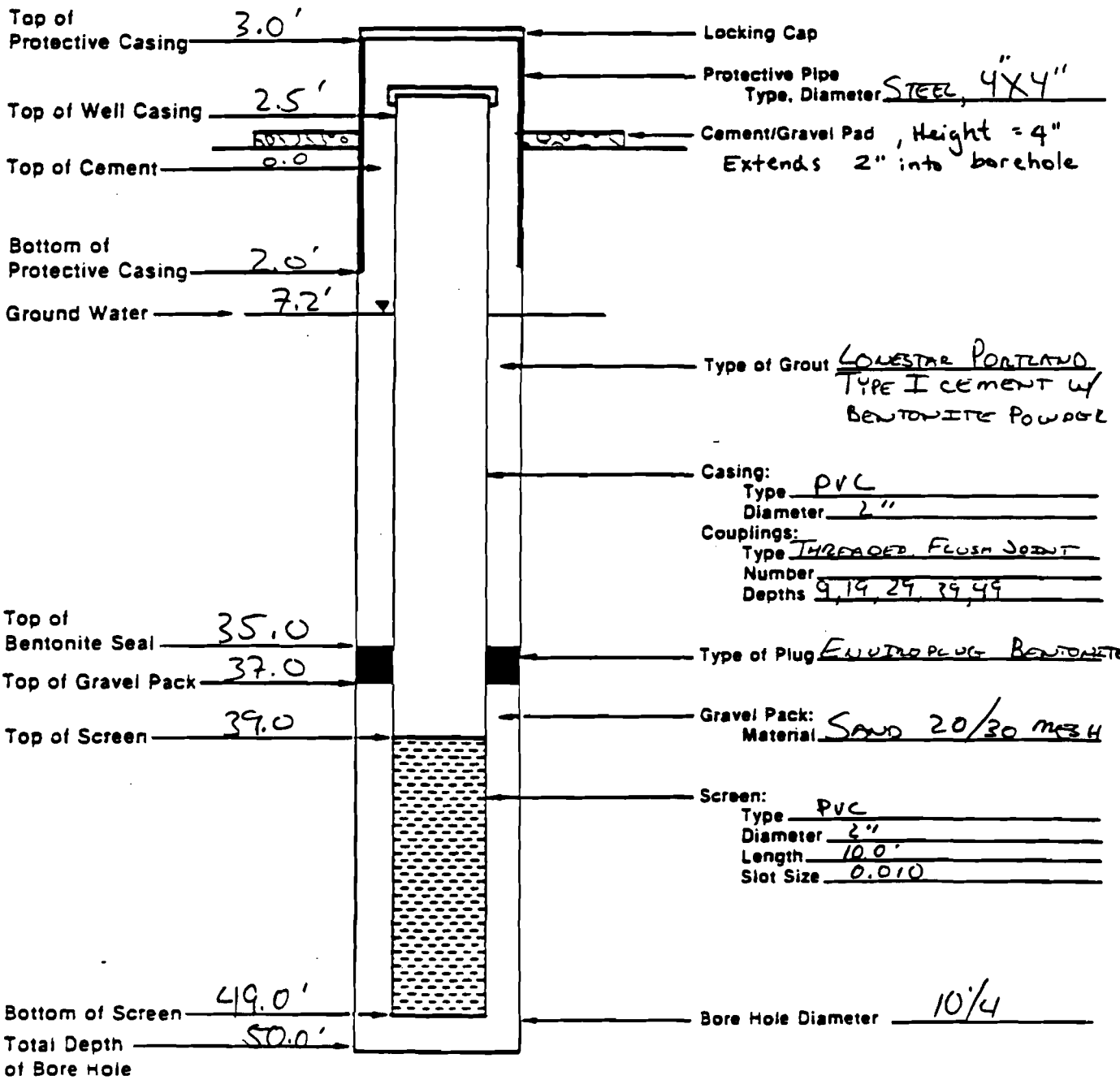
AAAP 10/4/85

# MONITOR WELL CONSTRUCTION

Logged By: TORGNT
Drilling Contractor: LAYNE ENVIRONMENTAL
Driller's Name: MARL BARTON
Well Number: H MW-3
Client: ARMY CORPS OF ENGINEERS
Location: FT. STEWART - HUNTER AAF
Job Number: 3902018
Date/Time: Start 2-10-90/1200 Finish 2-10-90/1630

Comments (Lost circulation interval, Water level changes, Hole collapse interval, etc.):
Complete Grout : 1630, 2-10
Begin Development: 1300, 2-13
Elapsed time : 68.5 hr
Method of Development : Pumping
Total Volume of Water Extracted: 260gal.

Depths in Reference to Ground Level




NOT TO SCALE

Hunter AAF, Fire Training Area
Fort Stewart, GA

# Log of Boring No. HMW-04

Sheet No. 1 of 1

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/12/90 |
| Project Number: | 3902018 | Boring Completed | 2/12/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter | 10 inch |
| Driller: | M. Barton | Well Casing Diameter | 2 inch |
| Logged By: | T. Trent | Surface Elevation: | 27.2 ft |
| Drilling Method: | Hollow-Stem Auger | Elevation Datum: | NGVD |
| Boring Location: | N734718.92 E816017.56 | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent (20 40 60 80) / PL \| LL \| (20 40 60 80) |
|---|---|---|---|---|---|---|---|---|---|
| 25 | 5 | | | | | | | NO SAMPLES COLLECTED | |
| 20 | 10 | | | | | | | | |
| 15 | 15 | | | | | | | BORING TERMINATED AT 15.0 FT BGS | |

SS = Splitspoon
▽ = Water Level Encountered During Drilling
▼ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

AAAP 10/4.85

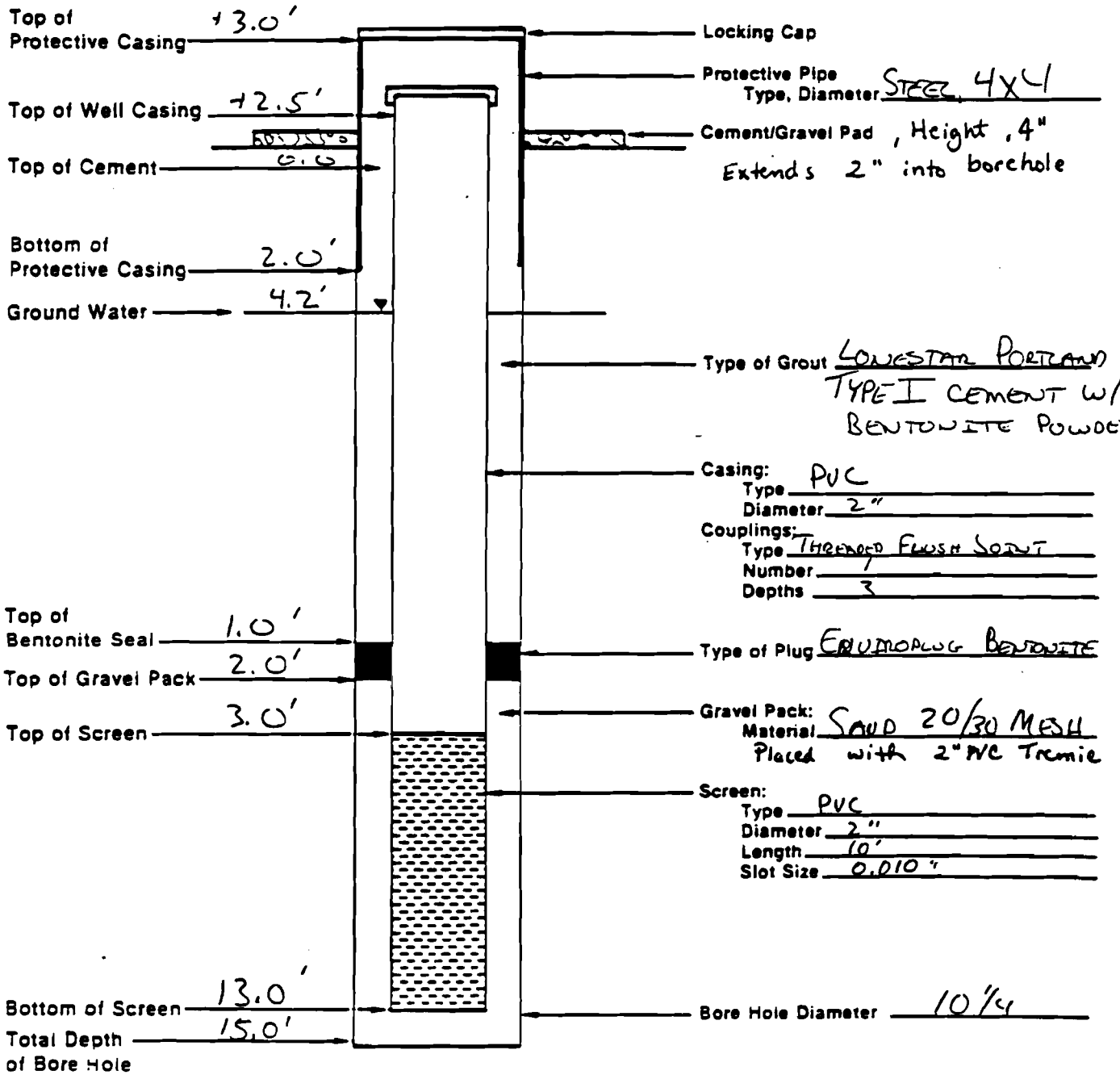
# MONITOR WELL CONSTRUCTION

Logged By: J. TRENT
Drilling Contractor: LAYNE ENVIRONMENTAL
Driller's Name: MARK BARTON
Well Number: HMW-4

Client: ARMY CORPS OF ENGINEERS
Location: FT. STEWART - HUNTER AAF
Job Number: 390208
Date/Time: Start 2-12-90/1430 Finish 2-12-90/1530

Comments (Lost circulation interval, Water level changes, Hole collapse interval, etc.):
Complete Grout: 1530, 2:12
Begin Well Development: 1500, 2-13
Elapsed Time: 23.5 hr.
Method of Development: Pumping
Total Volume of Water Extracted: 150 gal

Depths in Reference to Ground Level




NOT TO SCALE

| Hunter AAF, Fire Training Area<br>Fort Stewart, GA | **Log of Boring No. HMW-05** | Sheet No<br>1 of 2 |
|---|---|---|

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/11/90 |
| Project Number: | 3902018 | Boring Completed: | 2/11/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | 10 inch |
| Driller: | M. Barton | Well Casing Diameter: | 2 inch |
| Logged By: | T. Trent | Surface Elevation: | 28.8 ft |
| Drilling Method: | Hollow-Stem Auger | Elevation Datum | NGVD |
| Boring Location: | N734495.13 E816073.98 | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent (20 40 60 80) / PL \| LL (20 40 60 80) |
|---|---|---|---|---|---|---|---|---|---|
| 25 | 5 | SS | 1.5 | | 3-5-8 | | | (SM) SAND, silty, fine grained, with some organics, black, medium dense, moist (PID=0) | |
| | | SS | 1.5 | 1.1 | 5-8-9 | | | 5 ft - medium to coarse grained, light gray, wet (PID=1) | |
| 20 | 10 | SS | 1.5 | 0.6 | 2-2-3 | | | 10 ft - fine to medium grained, light brown, loose, saturated (PID=2) | |
| 15 | 15 | SS | 1.5 | | 2-3-0 | | | | |
| 10 | 20 | SS | 1.5 | 0.8 | 1-2-7 | | | 20 ft - gray (PID=1) | |
| 5 | 25 | SS | 1.5 | | 5-4-3 | | | 25 ft - (PID=0) | |
| 0 | 30 | SS | 1.5 | | 2-3-5 | | | 30 ft - (PID=0) | |
| -5 | | | | | | | | | |

SS = Splitspoon
▽ = Water Level Encountered During Drilling
▼ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

| Hunter AAF, Fire Training Area<br>Fort Stewart, GA | **Log of Boring No. HMW-05** | Sheet No<br>2 of 2 |
|---|---|---|

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/11/90 |
| Project Number: | 3902018 | Boring Completed: | 2/11/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | 10 inch |
| Driller: | M. Barton | Well Casing Diameter | 2 inch |
| Logged By: | T. Trent | Surface Elevation: | 28.8 ft |
| Drilling Method: | Hollow-Stem Auger | Elevation Datum: | NGVD |
| Boring Location: | N734495.13 E816073.98 | Type of Drill Rig | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent × 20 40 60 80 / PL \| LL \| 20 40 60 80 |
|---|---|---|---|---|---|---|---|---|---|
| | | SS | 1.5 | 1.5 | 2-2-7 | | | (SP) SAND, poorly graded, fine to medium grained, gray, loose, saturated (PID=0) | |
| -10 | 40 | SS | 1.5 | 1.1 | 3-5-9 | | | 40 ft - medium dense (PID=0) | |
| -15 | 45 | SS | 1.5 | | 3-3-5 | | | 45 ft - loose (PID=0) | |
| -20 | 50 | | | | | | | BORING TERMINATED AT 50.0 FT BGS | |

SS = Splitspoon
▽ = Water Level Encountered During Drilling
▼ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

# MONITOR WELL CONSTRUCTION

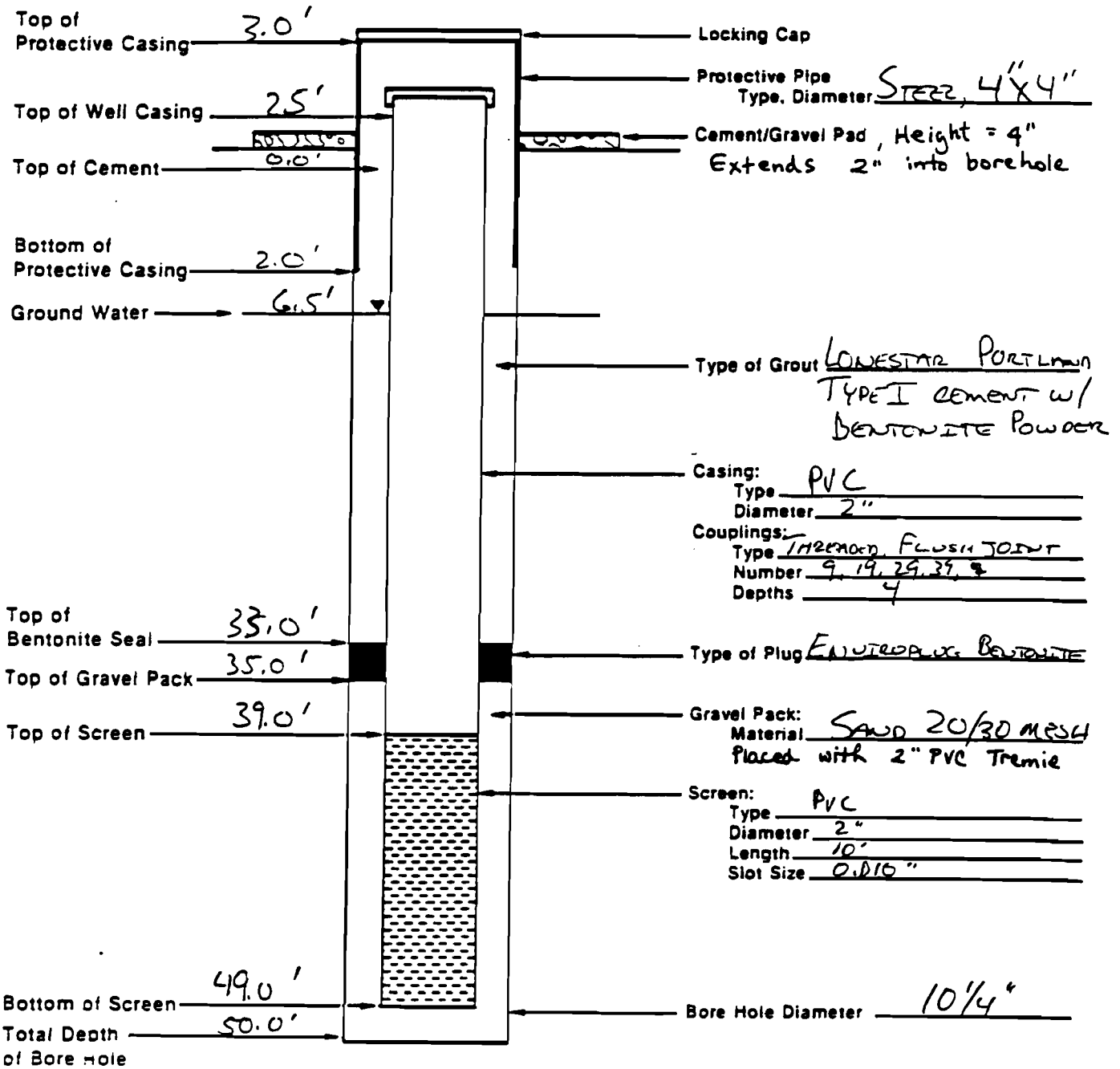
Logged By: I. TRENT
Drilling Contractor: LAYNE ENVIRONMENTAL
Driller's Name: MARK BARTON
Well Number: A MW-5

Client: ARMY CORPS OF ENGINEERS
Location: FT. STEWART - HUNTER AAF
Job Number: 3902016
Date/Time: Start 2-11-90/1520 Finish 2-11-90/1800

Comments (Lost circulation interval, Water level changes, Hole collapse interval, etc.):
Complete Grout : 1800, 2-11
Begin Well Development : 0950, 2-13
Elapsed Time : 39.8 hr.

Method of Development : Pumping
Total Volume of Water Extracted : 220 gal.

Depths in Reference to Ground Level




NOT TO SCALE

Hunter AAF, Fire Training Area
Fort Stewart, GA

# Log of Boring No. HMW-06

Sheet No. 1 of 1

| | | | |
|---|---|---|---|
| Client: | U.S. Army Corps of Engineers | Boring Started: | 2/12/90 |
| Project Number: | 3902018 | Boring Completed: | 2/12/90 |
| Drilling Contractor: | Layne Environmental, Inc. | Boring Diameter: | 10 inch |
| Driller: | M. Barton | Well Casing Diameter: | 2 inch |
| Logged By: | T. Trent | Surface Elevation: | 28.3 ft |
| Drilling Method: | Hollow-Stem Auger | Elevation Datum: | NGVD |
| Boring Location: | N734497.93 E816067.08 | Type of Drill Rig: | Mobile B-57 |

| Elevation | Depth | Samp. Type and Diam. | Samp. Adv. / Len Core | Sample Rec. / Core Rec. | Sample Blows "N" / % Core Recovery | Well Construction | Lithology | MATERIAL DESCRIPTION | Moisture Content Percent × (20 40 60 80) / PL \| LL \| (20 40 60 80) |
|---|---|---|---|---|---|---|---|---|---|
| 25 | 5 | | | | | | | NO SAMPLES COLLECTED | |
| 20 | 10 | | | | | | | | |
| 15 | 15 | | | | | | | BORING TERMINATED AT 15.0 FT BGS | |

SS = Splitspoon
▼ = Water Level Encountered During Drilling
▼ = Water Level After Well Development
LL = Liquid Limit
PL = Plastic Limit



HUNTER/ESE

AAAP 1D4.85

# MONITOR WELL CONSTRUCTION

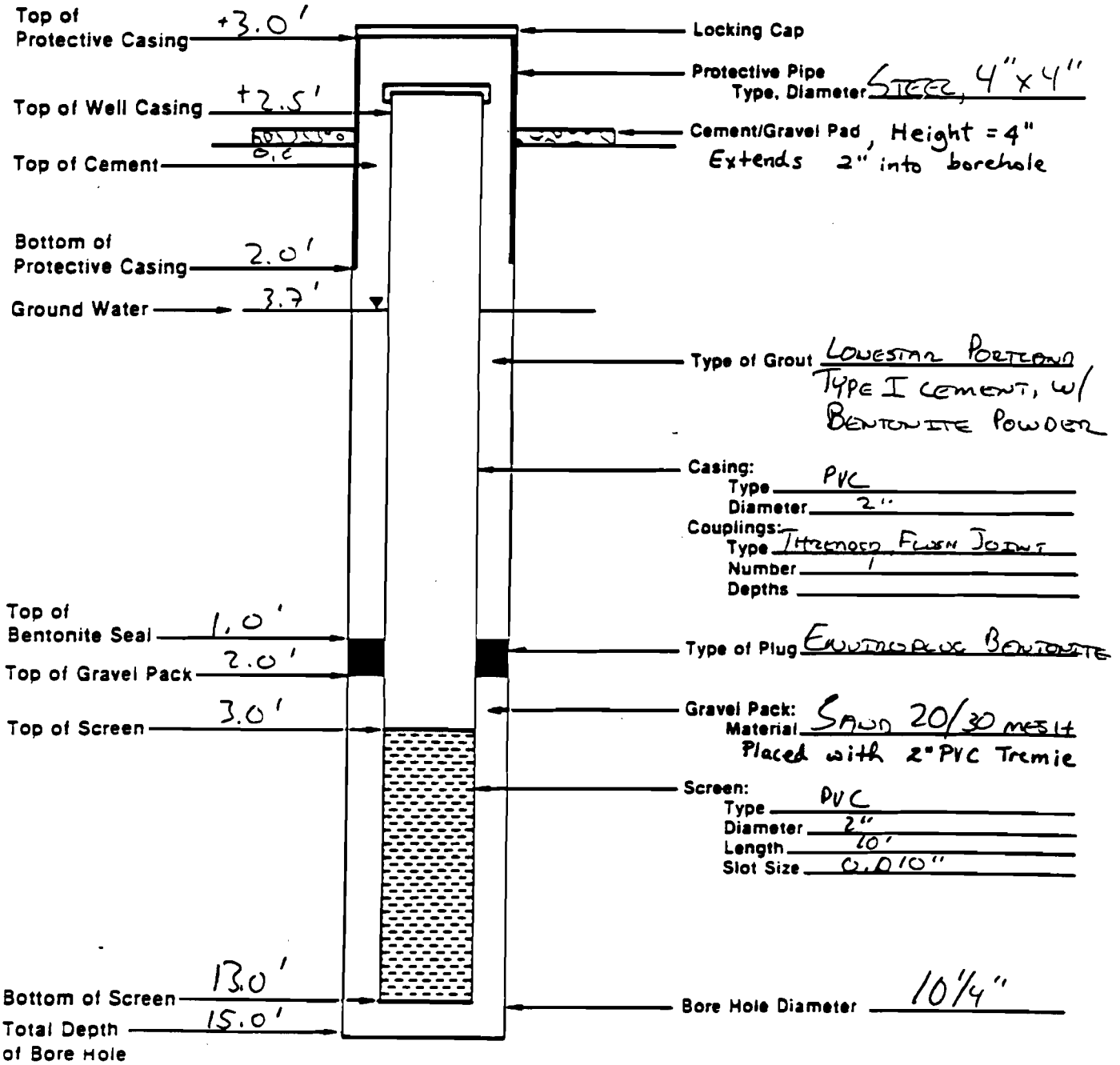
Logged By: J. TRENT
Drilling Contractor: LATNC ENVIRONMENTAL
Driller's Name: MARK BARLOW
Well Number: HMW-6

Client: ARMY CORPS OF ENGINEERS
Location: FT. STEWART - HUNTER AAF
Job Number: 2902018
Date/Time: Start 2-12-90/1315 Finish 2-12-90/1415

Comments (Lost circulation interval, Water level changes, Hole collapse interval, etc.):
Complete Grout : 1415, 2-12
Begin Development: 0915, 2-13
Elapsed Time : 19.0 hr.

Method of Development : Pumping
Total Volume of Water Extracted : 85 gal.

Depths in Reference to Ground Level




NOT TO SCALE

Hunter Army Airfield
Fort Stewart, Savannah, GA

# Log of Boring No. HMW-7

Sheet No. 1 of 1

| | | | |
|---|---|---|---|
| Client: | US Army Corps of Engineers, Kansas City Division | Boring Started: | 3/4/92 |
| Project Number: | 3912015G | Boring Completed: | 3/4/92 |
| Drilling Contractor: | Layne Environmental Services | Boring Diameter: | 8 inch |
| Driller: | D. Nichols | Well Casing Diameter: | 2 inch |
| Logged By: | G. Foster | Type of Drill Rig: | Mobile B-57 |
| Location: | | Drilling Method: | Hollow Stem Auger |

| Elevation | Depth | Samp Type | Samp Rec ft | PID ppm | Blows Per 6" | Well Construction | Lithology | MATERIAL DESCRIPTION | Dynamic Pentration Resistance Blows/ft × 8 16 24 32 / PID (ppm) □ 100 200 300 400 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | (SM) SAND, silty, fine-grained, dark brown, moist | |
| | 5 | CS | 5.0 | 3 | | | | 4 ft - becomes orangish-yellow, wet | |
| | 10 | CS | 5.0 | 0 | | | | | |
| | | | | | | | | (SM-ML) SAND AND SILT, intermixed silty sand and sandy silt, fine-grained sand, bluish-gray, wet, micaceous | |
| | | | | | | | | BORING TERMINATED AT 14 FT BGS | |

**WELL CONSTRUCTION DETAILS**
Well stickup from surface to 2.0 ft AGS
Volclay grout interval from surface to 1.5 ft BGS
Sand filter pack from 1.5 to 14.0 ft BGS
Well screen interval from 3.0 to 13.0 ft BGS
Pipe and well screen material = Sch 40 PVC
Pipe and well screen diameter = 2 inch
Well screen slot size = 0.010 inch

SS = Splitspoon CS = CMS Continous Sampler PID = Photoionization Detector (HNu)

| Hunter Army Airfield<br>Fort Stewart, Savannah, GA | Log of Boring No. HMW-8 | Sheet No.<br>1 of 1 |
|---|---|---|

| | | | |
|---|---|---|---|
| Client: | US Army Corps of Engineers, Kansas City Division | Boring Started: | 3/3/92 |
| Project Number: | 3912015G | Boring Completed: | 3/3/92 |
| Drilling Contractor: | Layne Environmental Services | Boring Diameter: | 8 inch |
| Driller: | D. Nichols | Well Casing Diameter: | 2 inch |
| Logged By: | G. Foster | Type of Drill Rig: | Mobile B-57 |
| Location: | | Drilling Method: | Hollow Stem Auger |

| Elevation | Depth | Samp Type | Samp Rec ft | PID ppm | Blows Per 6" | Well Construction | Lithology | MATERIAL DESCRIPTION |
|---|---|---|---|---|---|---|---|---|
| | | CS | 4.1 | 3 | | | | (SM) SAND, silty, dark brown, fine-grained, moist |
| | 5 | CS | 3.9 | 0 | | | | 4 to 5 ft - becomes tan mottled with gray<br>5 ft - becomes fine- to medium-grained, light to medium gray, wet |
| | 10 | CS | 3.5 | 0 | | | | |
| | 15 | | | | | | | (SM-ML) SAND-SILT, intermixed silty sand and sandy silt, fine-grained sand, greenish-gray, wet, micaceous<br>BORING TERMINATED AT 15 FT BGS |

Dynamic Pentration Resistance
Blows/ft ×
8 16 24 32

PID (ppm) □
100 200 300 400

**WELL CONSTRUCTION DETAILS**
Well stickup from surface to 2.0 ft AGS
Volclay grout interval from surface to 1.5 ft BGS
Sand filter pack from 1.5 to 15.0 ft BGS
Well screen interval from 3.0 to 13.0 ft BGS
Pipe and well screen diameter = 2 inch
Pipe and well screen material = Sch 40 PVC
Well screen slot size = 0.010 inch

SS = Splitspoon CS = CMS Continous Sampler PID = Photoionization Detector (HNu)

| Hunter Army Airfield<br>Fort Stewart, Savannah, GA | Log of Boring No. HMW-9 | Sheet No.<br>1 of 1 |
|---|---|---|

| | | | |
|---|---|---|---|
| Client: | US Army Corps of Engineers, Kansas City Division | Boring Started: | 3/2/92 |
| Project Number: | 3912015G | Boring Completed: | 3/2/92 |
| Drilling Contractor: | Layne Environmental Services | Boring Diameter: | 8 inch |
| Driller: | D. Nichols | Well Casing Diameter: | 2 inch |
| Logged By: | G. Foster | Type of Drill Rig: | Mobile B-57 |
| Location: | | Drilling Method: | Hollow Stem Auger |

| Elevation | Depth | Samp Type | Samp Rec ft | PID ppm | Blows Per 6" | Well Construction | Lithology | MATERIAL DESCRIPTION | Dynamic Pentration Resistance Blows/ft × (8, 16, 24, 32) / PID (ppm) □ (100, 200, 300, 400) |
|---|---|---|---|---|---|---|---|---|---|
| | | CS | 2.2 | 15 | | | | (SM) SAND, silty, medium-brown becoming dark brown with depth, fine-grained, moist | |
| | 5 | CS | 3.0 | 50 | | | | 4 ft - grades to medium gray | |
| | | SS | | | 1-1<br>2-3 | | | 9 to 10 ft - wood in sample interval | |
| | 10 | SS | 2.0 | 175 | 1-4<br>5-6 | | | 10 ft - becomes brown to orangish-brown, wet | |
| | | SS | 2.0 | 125 | 6-11<br>29-14 | | | | |
| | 15 | | | | | | | BORING TERMINATED AT 15 FT BGS | |

**WELL CONSTRUCTION DETAILS**
Well stickup from surface to 2.5 ft AGS
Volclay grout interval from 2.5 to 3.0 ft BGS
Sand filter pack from 3.0 to 15.0 ft BGS
Well screen interval from 5.0 to 15.0 ft BGS
Pipe and well screen diameter = 2 inch Pipe and well screen material = Sch 40 PVC
Well screen slot size = 0.010 inch

SS = Splitspoon CS = CMS Continous Sampler PID = Photoionisation Detector (HNu)

# HTW DRILLING LOG

HOLE No. FTASB-01 224

| | | |
|---|---|---|
| 1. COMPANY NAME: LAW Engineering & Environmental | 2. DRILLING SUBCONTRACTOR: hand auger | SHEET 1 OF 2 SHEETS |
| 3. PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA | |
| 5. NAME OF DRILLER: N/A | 6. MANUFACTURER'S DESIGNATION OF DRILL | |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3½ inch Stainless steel hand auger | 9. HOLE LOCATION (SITE): Fire training area | |
| | 10. SURFACE ELEVATION | |
| 8. WEATHER: Sunny; Very hot; slight breeze | 11. DATE STARTED: 08/21/95 13:40 | 12. DATE COMPLETED: 8/21/95 14:20 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: 9.9 bgs @ 14:20 | |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: — | |
| 15. TOTAL DEPTH OF HOLE: 10p | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): — | |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| — | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22. TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| — | ✓ | ✓ | semi VOC | — | — | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| bore hole | ~~✓~~ (X) | — | bent. chips | Heather Laswell |

| 25. CHECKED BY: | 26. NAME OF INSPECTOR |
|---|---|
| JKleiser | Heather A Laswell |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 1.0 | SAND, soft, silty, reddish black {2.5YR, 2.5/1} (SM) | Borehole 0 HS 0 | | A | | |
| | 2.0 | Same; color orange dark reddish grey {2.5 YR 4/1} (SM) | Borehole 9 HS 70 | | B | | fuel odor |
| | 4.0 | Same | Borehole 13 HS 13 | | C | | |

MRK FORM JUN 89 55

PROJECT NAME & NO.: Hunter Army Airfield 11-3551-0320

HOLE No. FTASB-01

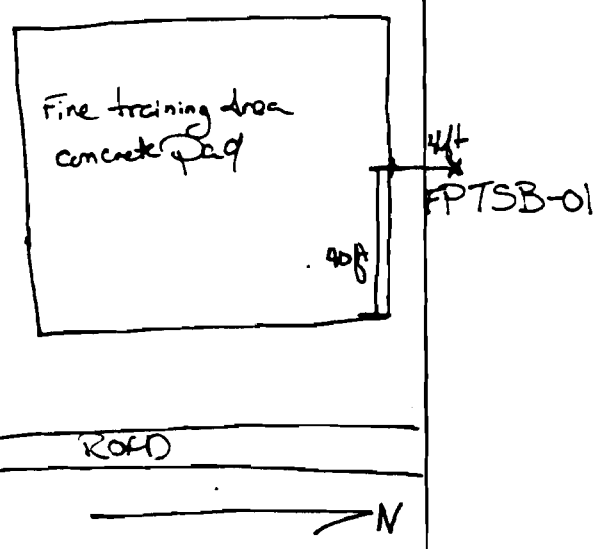
HF — Rev. 5/94

# HTW DRILLING LOG

HOLE No. FTASB-01

PROJECT Hunter AAF | INSPECTOR H. Laswell | SHEET 2 OF 2 SHEETS

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | same, soft, weak red {2.5YR 5/2} (SM) | | | | | |
| | 6.0 | | HS 50 | | D | | |
| | 7.0 | same, oil-like substance on auger | | | | | |
| | 8.0 | | HS 60 | | E | | fuel odor |
| | 9.0 | | | | | | |
| ▽ | 10.0 | wet | | | | | |
| | | Boring terminated at 10.0 ft bgs | | | | | |




MRK FORM JUN 80 55-2

PROJECT NAME & NO Hunter Army Airfield 11-355L-0390

HOLE No. FTASB-01

HF — Rev. 5/9

# HTW DRILLING LOG

HOLE No. FTASB-02

| | | |
|---|---|---|
| 1. COMPANY NAME: IAW Engineering & Environmental | 2. DRILLING SUBCONTRACTOR: hand auger | SHEET 1 OF 1 SHEETS |
| 3. PROJECT: Hunter Army Airfield - Fire Training Area | 4. LOCATION (CITY, STATE): Savannah GA | |
| 5. NAME OF DRILLER: NA | 6. MANUFACTURER'S DESIGNATION OF DRILL: NA | |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3½ in stainless steel hand auger | 9. HOLE LOCATION (SITE): Fire Training Area | |
| | 10. SURFACE ELEVATION | |
| 8. WEATHER: sunny; bright, very hot | 11. DATE STARTED: 8/21/95 14:50 | 12. DATE COMPLETED: 8/21/95 15:01 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: NA | |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA | |
| 15. TOTAL DEPTH OF HOLE: 3.0 ft bgs | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA | |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| — | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22. TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| — | ✓ | ✓ | Semi VOC | — | — | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| bore hole | ✓ | | | Heather A Laswell |

| 25. CHECKED BY: | 26. NAME OF INSPECTOR |
|---|---|
| gkemper | Heather A Laswell |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | | topsoil | | | | | |
| | 1.0 | SAND, silty, soft, brown {10YR 5/3} (SM) | Hs ND | | A | | fuel odor |
| | 2.0 | same, reddish black {2.5YR 2.5/1} greenish grey {5GY 7/1} discoloration {N2.5} black (SM) | Hole 30 HS 60 | | B | | fuel odor |
| | 3.0 | | | | | | |
| | 4.0 | concrete pad 40 24A FTASB-02 | | | | | |
| | | ROAD | | | | | |

MRK FORM JUN 89 55

PROJECT NAME & NO.: Hunter Army Airfield 11-3531-0320

HOLE No. FTASB-02

HF — Rev. 5/94

# HTW DRILLING LOG

HOLE No. FTASB-03

| | | |
|---|---|---|
| 1. COMPANY NAME: IAW Engineering & Environmental | 2. DRILLING SUBCONTRACTOR: hand auger | SHEET 1 OF 1 SHEETS |
| 3. PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA | |
| 5. NAME OF DRILLER: NA | 6. MANUFACTURER'S DESIGNATION OF DRILL: NA | |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3½ in stainless steel hand auger | 9. HOLE LOCATION (SITE): Fire Training Area | |
| | 10. SURFACE ELEVATION | |
| 8. WEATHER: sunny, hot, bright | 11. DATE STARTED: 8/21/95 15:10 | 12. DATE COMPLETED: 8/21/95 15:30 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: NA | |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA | |
| 15. TOTAL DEPTH OF HOLE: 30 | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA | |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| — | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22. TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| — | ✓ | ✓ | Semi VOC | — | — | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| borehole | ✓ | ← | — | Heather A. Laswell |

25. CHECKED BY: Joni Kerger

26. NAME OF INSPECTOR: Heather A. Laswell

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 1.0 | SAND, silty, soft, weak reac. 2.5YR 5/3 (SM) | Borehole 2.5 HS 0 | | A | | field color |
| | 2.0 | SAME | Borehole 2.5 HS 60 | | B | | |
| | 3.0 | | | | | | |
| | 4.0 | concrete pad 40 | 69 ft | FTASB-03 | | | |

MRK FORM JUN 89 55

PROJECT NAME & NO: Hunter Army Airfield 11-3551-0300

HOLE No. FTASB-03

HF — Rev. 5/94

# HTW DRILLING LOG

HOLE No. FTASB-04 228

| | | |
|---|---|---|
| 1. COMPANY NAME (AW) Engineering & Environmental | 2. DRILLING SUBCONTRACTOR hand auger | SHEET 1 OF 2 SHEETS |
| 3. PROJECT Hunter Army Airfield | 4. LOCATION (CITY, STATE) Savannah GA | |
| 5. NAME OF DRILLER NA | 6. MANUFACTURER'S DESIGNATION OF DRILL | |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3½ in stainless steel hand Auger | 9. HOLE LOCATION (SITE) Fire Training Area<br>10. SURFACE ELEVATION | |
| 8. WEATHER bright sunny, hot, breezy | 11. DATE STARTED 8/22/95 07:40 | 12. DATE COMPLETED 8/22/95 0850 |
| 13. OVERBURDEN THICKNESS NA | 16. DEPTH GROUNDWATER ENCOUNTERED NA | |
| 14. DEPTH DRILLED INTO ROCK NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA | |
| 15. TOTAL DEPTH OF HOLE 10.5 ft bgs | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA | |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| — | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22 TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| wt 6 6 | ✓ | ✓ | Semi VOC | — | — | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| borehole | ✓ | — | — | Heather A. Lasswell |

| 25. CHECKED BY | 26. NAME OF INSPECTOR |
|---|---|
| Joni Kemp | Heather A. Lasswell |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 1.0 | SAND, silty, soft, dark reddish brown {5YR 3/2} (SM) | HS 0.0<br>Borehole 0.0 | | A | | |
| | 2.0 | SAND, silty, soft, yellow {10YR 7/6} (SM) | Borehole 0<br>HS 0.0 | | B | | |
| | 3.0 | SAME | | | | | |
| | 4.0 | SAME | Borehole 0<br>HS 0.0 | | C | | |

MRK FORM JUN 89 55

PROJECT NAME & NO. Hunter Army Airfield 11-3551-0320

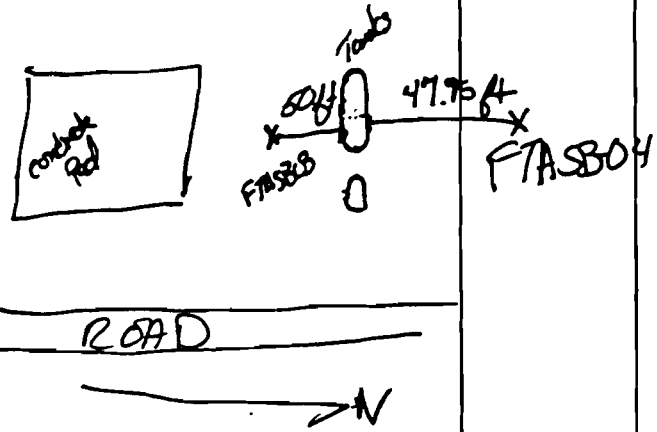
HOLE No. FTASB-04

HF — Rev. 5/94

# HTW DRILLING LOG

FTASB-04

| PROJECT | INSPECTOR | SHEET |
|---|---|---|
| Hunter AAF | H. Laswell | 2 OF 2 SHEETS |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | SAME; color change yellowish red {5YR 5/8} | | | | | |
| | 6.0 | SAME, very pale brown, {10YR 7/4} (SM) | Borehole 00 AS 0.0 | | D | | |
| | 7.0 | SAME | | | | | |
| | 8.0 | | Borehole 0.0 HS 0.0 | | E | | |
| | 9.0 | SAME, color change, greyish brown {10YR 5/2}, clay | | | | | |
| | 10.0 | | Borehole 0 HS 0 | | F | | |
| | | Boring terminated at 10.5 ft bgs | | | | | |
| | |   | | | | | |

MRK FORM JUN 89 55-2

PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320

HOLE No. FTASB-04

HF — Rev. 5

# HTW DRILLING LOG

HOLE No. FTASB-05 230

SHEET 1 OF 2 SHEETS

| | |
|---|---|
| 1. COMPANY NAME: LAW Engineering & Environmental | 2. DRILLING SUBCONTRACTOR: hand auger |
| 3. PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA |
| 5. NAME OF DRILLER: NA | 6. MANUFACTURER'S DESIGNATION OF DRILL |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3½ in stainless steel hand auger | 8. HOLE LOCATION (SITE): Fire Training Area<br>10. SURFACE ELEVATION |
| 9. WEATHER: Sunny, hot, breezy | 11. DATE STARTED: 8/22/95 0900 — 12. DATE COMPLETED: 8/22/95 1008 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: NA |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA |
| 15. TOTAL DEPTH OF HOLE: 10.0 ft bgs | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| — | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22 TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| — | ✓ | ✓ | Semi VOC | — | — | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| Borehole | — | | | Heather A. Laswell |

25. CHECKED BY: JKeeper

26. NAME OF INSPECTOR: Heather A. Laswell

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 1.0 | SAND, silty, soft dusky red {2.5YR 4/2} (SM) | 320 HSO | | A | | |
| | 2.0 | | BZ0 | | | | |
| | | SAME | HSO | | B | | |
| | 3.0 | Color change light brown {7.5YR 6/4} | | | | | |
| | 4.0 | | BZ 100 HS 20 | | C | | |

MRK FORM JUN 89 55

PROJECT NAME & NO.: Hunter Army Airfield 11-3551-0320

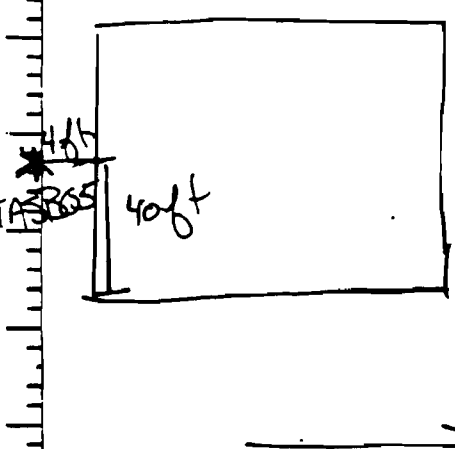
HOLE No. FTASB-05 HF — Rev. 5/94

# HTW DRILLING LOG

HOLE No. FTASB-05

PROJECT: Hunter AAF | INSPECTOR: | SHEET 2 OF 2 SHEETS

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | SAME | | | | | slight fuel odor |
| | 6.0 | SAME, ~~damp~~ @ | HS 70 | | D | | fuel odor |
| | 7.0 | Same, some black staining | | | | | |
| | 8.0 | | | | | | |
| | 9.0 | SAME | HS 60 | | E | | |
| | 10.0 | Boring terminated at 10ft bgs | | | | | |




MRK FORM JUN 89 55-2

PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320

HOLE No. FTASB-05

HF — Rev. 5/5

# HTW DRILLING LOG

HOLE No. FTASB06 232

| | | |
|---|---|---|
| 1. COMPANY NAME: AW Engineering & Environmental | 2. DRILLING SUBCONTRACTOR: hand auger | SHEET 1 OF 2 SHEETS |
| 3. PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA | |
| 5. NAME OF DRILLER: NA | 6. MANUFACTURER'S DESIGNATION OF DRILL: NA | |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3½ in stainless steel hand auger | 9. HOLE LOCATION (SITE): Fire Training Area | |
| | 10. SURFACE ELEVATION | |
| 8. WEATHER: Sunny hot breezy | 11. DATE STARTED: 8/22/95 1015 | 12. DATE COMPLETED: 8/22/95 1043 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: 9ft bgs @ 1243 8/22/95 | |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA | |
| 15. TOTAL DEPTH OF HOLE: 10.0 ft bgs | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA | |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| ~~5~~ NA | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22 TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| 5 | ✓ | ✓ | SemiVOC | — | — | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| borehole | — | — | — | Heather A. Laswell |

| 25. CHECKED BY: | 26. NAME OF INSPECTOR |
|---|---|
| Jim Keyser | Heather A. Laswell |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 1.0 | SAND, silty, dry, weak red 2.5YR 5/3 (SM) | HS 0 | | A | | |
| | 2.0 | SAME | | | B | | |
| | 3.0 | | BZ 0<br>HS 0 | | | | |
| | 4.0 | Color change reddish yellow 7.5YR 7/6 (SM) | | | | | |
| | | | HS 0 | | C | | |

MRK FORM JUN 89 55

PROJECT NAME & NO.: ~~Hunter~~ Hunter Army Airfield 11-3551-0320

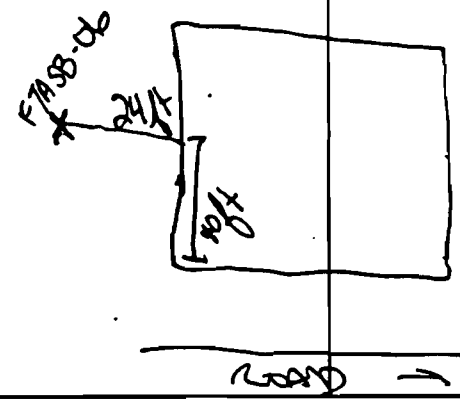
HOLE No. FTASB-06 HF — Rev. 5/94

# HTW DRILLING LOG

HOLE No. FTA SB-06

PROJECT Hunter AAF | INSPECTOR Haswell | SHEET 2 OF 2 SHEETS

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | same | BZ 0 | | | | |
| | 6.0 | | | | | | |
| | | | HS 0 | | D | | |
| | 7.0 | same, color change, light brown {7.5YR 6/3} | | | | | |
| | 8.0 | | BZ 0 | | | | |
| | | color change, black & brown {7.5YR 4/3} | | | E | | |
| | | | HS <1 | | | | |
| ▽ | 9.0 | wet | | | | | |
| | | ~~wet~~ | | | | | |
| | 10.0 | boring terminated 10.0 ft bgs | | | | | |




MRK FORM JUN 89 55-2 | PROJECT NAME & NO. Hunter Army Air field | HOLE No. FTASB-06 HF — Rev. 5/5

41-3551-0320

# HTW DRILLING LOG

HOLE No. FTASB07 2/4

| | | |
|---|---|---|
| 1. COMPANY NAME: AW Engineering & Environmental | 2. DRILLING SUBCONTRACTOR: hand auger | SHEET 1 OF 2 SHEETS |
| 3. PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA | |
| 5. NAME OF DRILLER: NA | 6. MANUFACTURER'S DESIGNATION OF DRILL: NA | |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3& in stainless steel hand auger | 9. HOLE LOCATION (SITE): Fire Training Area | |
| | 10. SURFACE ELEVATION | |
| 8. WEATHER: Sunny hot, breezy | 11. DATE STARTED: 8/22/95 1330 | 12. DATE COMPLETED: 8/22/95 1403 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: 9.7 @ 1403 | |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA | |
| 15. TOTAL DEPTH OF HOLE: 10.0 | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA | |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| — | | | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22 TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| — | ✓ | ✓ | semiVOC | | | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| borehole | ✓ | — | — | Heather Laswell |

| 25. CHECKED BY: | 26. NAME OF INSPECTOR |
|---|---|
| Joni Keyser | Heather A. Laswell |

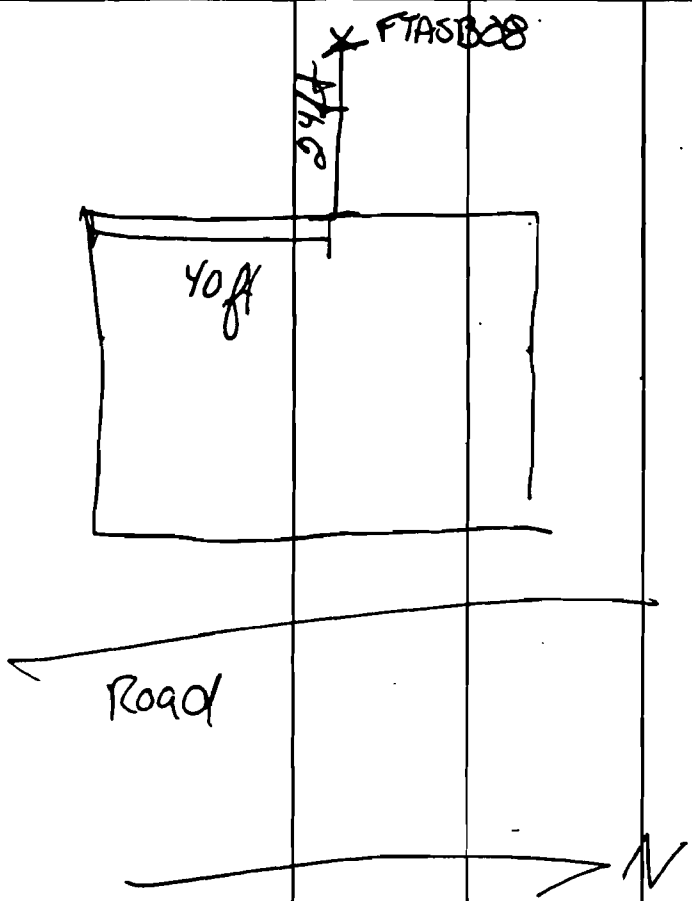
| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 1.0 | SAND, silty, soft, dark reddish brown 5YR 3/3 (SM) | BZ 0<br>HS 0 | | A | | |
| | 2.0 | SAME | Borehole ID<br>HS 16 | | B | | slight fuel odor |
| | 4.0 | SAME | HS 50 | | C | | |

# HTW DRILLING LOG

FTASB08

| PROJECT | INSPECTOR | SHEET |
|---|---|---|
| Hunter AAF | H Loewe II | 2 OF 2 SHEETS |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|




MRK FORM JUN 89 55-2

PROJECT NAME & NO
Hunter Army Airfield 11-3551-0320

HOLE No.
F-TA-SB-08

HF—Rev. 5/

# HTW DRILLING LOG

HOLE No. FTASB-09 236

SHEET 1 OF 2 SHEETS

| | |
|---|---|
| 1. COMPANY NAME: Law Engineering & Environmental | 2. DRILLING SUBCONTRACTOR: NA |
| 3. PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA |
| 5. NAME OF DRILLER: NA | 6. MANUFACTURER'S DESIGNATION OF DRILL: NA |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3½ in Stainless Steel hand auger | 9. HOLE LOCATION (SITE): Fire training Area |
| | 10. SURFACE ELEVATION: |
| 8. WEATHER: Sunny, hot, breezy | 11. DATE STARTED: 8/22/95 1432 — 12. DATE COMPLETED: 8/22/95 1455 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: 7.2 ft bgs @ 1455 |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA |
| 15. TOTAL DEPTH OF HOLE: 7.3 ft bgs | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| — | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22 TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| 2 | ✓ | ✓ | semi voc | — | — | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| bore hole | ✓ | — | — | Heather A Lasswell |

| 25. CHECKED BY: | 26. NAME OF INSPECTOR |
|---|---|
| J Kemp | Heather A Lasswell |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 1.0 | SAND, silty, soft, yellowish brown 10YR 5/6 (SM) | HS 0.0 | | A | | |
| | 2.0 | color change very dark grey 7.5YR 3/1 | HS 0.0 | | B | | |
| | 3.0 | | Borehole OD | | | | |
| | 4.0 | Same ~~wet~~ moist | HS 0.0 | | C | | |

MRK FORM JUN 89 55

PROJECT NAME & NO.: Hunter Army Airfield 11-3551-0320

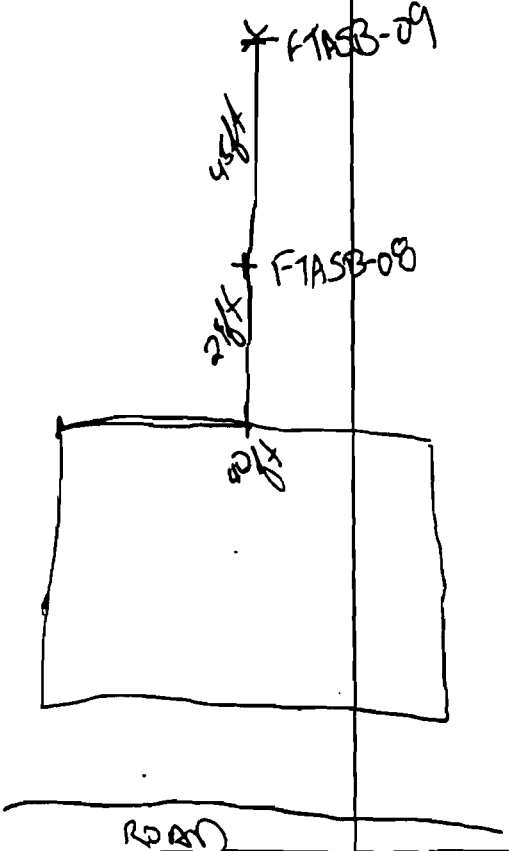
HOLE No. FTASB-09 Rev. 5/94

# HTW DRILLING LOG

F1ASB-09

| PROJECT | INSPECTOR | SHEET |
|---|---|---|
| Hunter AAF | HCaswell | 2 OF 2 SHEETS |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | same | | | | | |
| | 6.0 | same, few wood pieces | HS 0.0 | | D | | |
| | 7.0 | wet | | | | | |
| | | Boring terminated at 7.3 | | | | | |




MRK FORM JUN 89 55-2

PROJECT NAME & NO: Hunter Army Airfield 11-3651-0320

HOLE No. F1ASB-09

HF — Rev. 5/

# HTW DRILLING LOG

HOLE No. FTA SB-10 238

SHEET 1 OF 2 SHEETS

| | |
|---|---|
| 1. COMPANY NAME: Law Engineering & Environmental | 2. DRILLING SUBCONTRACTOR: hand auger |
| 3. PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA |
| 5. NAME OF DRILLER: NA | 6. MANUFACTURER'S DESIGNATION OF DRILL: NA |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3½ in stainless steel hand auger | 9. HOLE LOCATION (SITE): Fire training area |
| | 10. SURFACE ELEVATION: |
| 8. WEATHER: sunny, hot, breezy | 11. DATE STARTED: 8/22/95 0815 / 12. DATE COMPLETED: 8/22/95 1550 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: 10.4 @ ~~1548~~ |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA |
| 15. TOTAL DEPTH OF HOLE: 10.4 ft | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| — | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22 TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| — | — | — | — | — | — | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| borehole | ✓ | — | — | Heather A Laswell |

| 25. CHECKED BY: | 26. NAME OF INSPECTOR |
|---|---|
| JKeeper | Heather A Laswell |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 1.0 | Sand, silty, soft dark reddish gray 5YR 3/3 (SP) | HS 0 | 1 | A | | fuel odor |
| | 2.0 | | | | B | | |
| | 3.0 | SAME | HS 50 | | | | |
| | 4.0 | | HS 35 | | C | | |

MRK FORM JUN 89 55

PROJECT NAME & NO.: Hunter Army Airfield 11-3551-0320

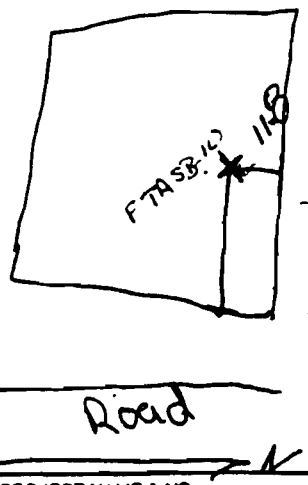
HOLE No. FTA SB-10

HF — Rev. 5/94

# HTW DRILLING LOG

PROJECT: Hunter AAF | INSPECTOR: H. Lesmell | SHEET 2 OF 2 SHEETS | FTASB-10

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | | | | | | |
| | 6.0 | SAME | | | | | |
| | 7.0 | | HS 60 | | D | | |
| | 8.0 | | | | | | |
| | 9.0 | SAME | HS 40 | | E | | |
| | 10. | | HS 70 | | F | | |
| | | wet | | | | | |
| | | Boring terminated at 10.4ft bgs | | | | | |




the location of FTASB-10 is also the location for FTASB-2

MRK FORM JUN 89 55-2 | PROJECT NAME & NO Hunter Army Airfield 11-3551-0320 | HOLE No. FTASB-10 | HF — Rev. 5

# HTW DRILLING LOG

HOLE No. FTASB-11 (40)

| | |
|---|---|
| 1. COMPANY NAME | 2. DRILLING SUBCONTRACTOR hand auger ~~NA~~ (NA) |
| SHEET 1 OF 2 SHEETS | |
| 3. PROJECT Hunter Army Airfield | 4. LOCATION (CITY, STATE) Savannah GA |
| 5. NAME OF DRILLER NA | 6. MANUFACTURER'S DESIGNATION OF DRILL NA |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 3½ in stainless steel hand auger | 9. HOLE LOCATION (SITE) Firetraining Area |
| | 10. SURFACE ELEVATION |
| 8. WEATHER wet rainy | 11. DATE STARTED 8/23/95 0730 |
| 12. DATE COMPLETED 8/23/95 0755 | |
| 13. OVERBURDEN THICKNESS NA | 16. DEPTH GROUNDWATER ENCOUNTERED 9.54 bgs @ 752 |
| 14. DEPTH DRILLED INTO ROCK NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA |
| 15. TOTAL DEPTH OF HOLE 10.0 ft bgs | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| — | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22. TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| — | — | — | — | — | — | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| borehole | — | — | bent chips | Heather Laswell |

| 25. CHECKED BY | 26. NAME OF INSPECTOR |
|---|---|
| | Heather A Laswell |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 1.0 | SAND, silty, soft light yellowish brown 2.5Y 6/3 (SM) | HSO | | A | | |
| | 2.0 | | | | | | |
| | 3.0 | | HSO | | B | | |
| | | SAME | | | | | |
| | 4.0 | | | | | | |
| | | same | HS 5 | | C | | |

MRK FORM JUN 89 55

PROJECT NAME & NO. Hunter Army airfield 11-3551-0320

HOLE No. FTASB-11

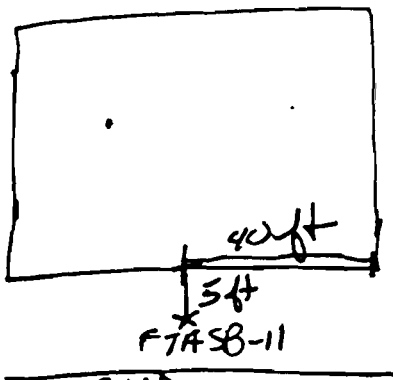
HF — Rev. 5/94

# HTW DRILLING LOG

FTASB11

PROJECT: Hunter AAF | INSPECTOR: H. Cowell | SHEET 2 OF 2 SHEETS

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 30 | same | | | | | |
| | 60 | SAND, clayey, brown 5YR 5/3 (SC) | | | | | |
| | | SAND, silty, very pale brown 10YR 7/3 (SM) | HS 2 | | D | | fuel odor |
| | 80 | same | | | | | |
| | 90 | | HS 10 | | E | | fuel odor |
| ▽ | | same, wet | HS 20 | | F | | |
| | 10.0 | Boring terminated at 100 ft bgs | | | | | |




MRK FORM JUN 89 55-2 | PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320 | HOLE No. FTASB-11

HF — Rev. 5

# HTW DRILLING LOG

HOLE No. FTA SB-12 of 12

| | | |
|---|---|---|
| 1. COMPANY NAME: CAW Engineering & Environmental | 2. DRILLING SUBCONTRACTOR: hand auger | SHEET 1 OF 2 SHEETS |
| 3. PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA | |
| 5. NAME OF DRILLER: NA | 6. MANUFACTURER'S DESIGNATION OF DRILL: NA | |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3½ in Stainless steel hand auger | 8. HOLE LOCATION (SITE): Firetraining Area | |
| | 10. SURFACE ELEVATION: | |
| 9. WEATHER: wet, rainy | 11. DATE STARTED: 8/23/95 0818 | 12. DATE COMPLETED: 8/23/95 0858 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: NA | |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA | |
| 15. TOTAL DEPTH OF HOLE: | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA | |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| — | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22. TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| 2 | ✓ | ✓ | semi VOC | — | — | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| borehole | — | — | bat chips | Heather Laswell |

| 25. CHECKED BY: | 26. NAME OF INSPECTOR |
|---|---|
| Jfleeper | Heather A Laswell |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 1.0 | SAND, silty, soft, dusky red {2.5YR ½} HS 15 (SM) | | | A | | |
| | 2.0 | SAME | HS 10 | | B | | |
| | 3.0 | SAME | | | | | |
| | 4.0 | | HS 10 | | C | | |

MRK FORM JUN 89 55

PROJECT NAME & NO.: Hunter Army Airfield 11-3551-0320

HOLE No. FTA SB-12

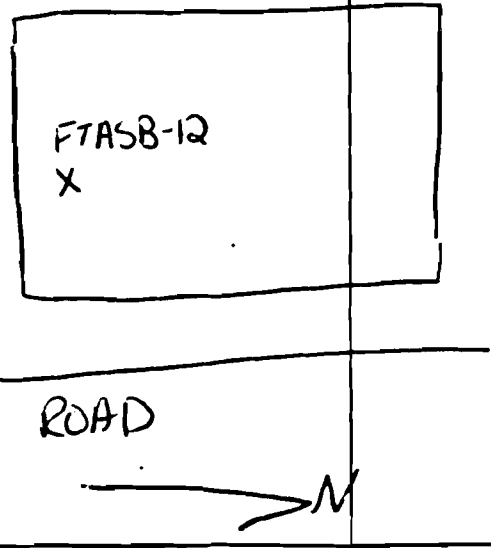
Rev. 5/94

# HTW DRILLING LOG

FTASB-12

PROJECT: Hunter Army Airfield | INSPECTOR: H. Laswell | SHEET 2 OF 2 SHEETS

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | SAME | | | | | |
| | 6.0 | | | | | | |
| | 7.0 | | HS 12 | | D | | |
| | 8.0 | SAME | | | | | |
| | 9.0 | | HS 11 | | E | | |
| ▽ | 10.0 | wet | | | | | |
| | | Boring terminated at 10.0 ft bgs | | | | | |




The location of FTASB-12 is also the location of FTACO-4

MRK FORM JUN 89 55-2 | PROJECT NAME & NO Hunter Army Airfield 11-3551-0320 | HOLE No FTASB-12

HF — Rev. 5

# HTW DRILLING LOG

PROJECT FTSB013 — SHEET OF 1 SHEETS 2 — 244

| | |
|---|---|
| 1 COMPANY NAME: Law Engineering & Environmental | 2. DRILLING SUBCONTRACTOR: NA - Hand Auger |
| 3. PROJECT: Hunter ARmy Airfield | 4. LOCATION (CITY, STATE): Savannah, GA |
| 5. NAME OF DRILLER: Jim Beaver | 6. MANUFACTURER'S DESIGNATION OF DRILL: NA (Hand Auger) |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Hand Auger (3" Stainless steel) | 9. HOLE LOCATION (SITE): Directly adjacent to HMW-10 (See attached map) |
| | 10. SURFACE ELEVATION |
| 8. WEATHER: 73°F, Breezy (from east) | 11. DATE STARTED: 10/3/95 — 12. DATE COMPLETED: 10/3/95 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: 5.0 |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: — |
| 15. TOTAL DEPTH OF HOLE: 5.0 ft. | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): — |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| — | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22 TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| 2 (A&B) | ✓ | ✓ | TPH | SV | | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| ~~Backfill~~ JLB | ✓ | | | Jim Beaver |

| 25. CHECKED BY | 26. NAME OF INSPECTOR |
|---|---|
| gkeegan | Jim Beaver |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 0 | Fine to medium SAND with minor fine gravel and silt; black 7.5YR 2.5/1 (SP) | 0 | | A | | Submitted for laboratory chemical analysis |
| | 1.0 | | | | | | |
| | 2.0 | | | | | | |
| | | same as above | 0 | | B | | Submitted for laboratory chemical analysis |
| | 3.0 | | | | | | |
| | 4.0 | | | | | | |
| | | same as above | 0 | | C | | |
| | | Boring Terminated at 5.0 ft. | | | | | |

MRK FORM JUN 89 55 — PROJECT NAME & NO: Hunter ARmy Airfield, Fire Training Area #2 — HOLE No: FTSB013 — RF — Rev. 5/94

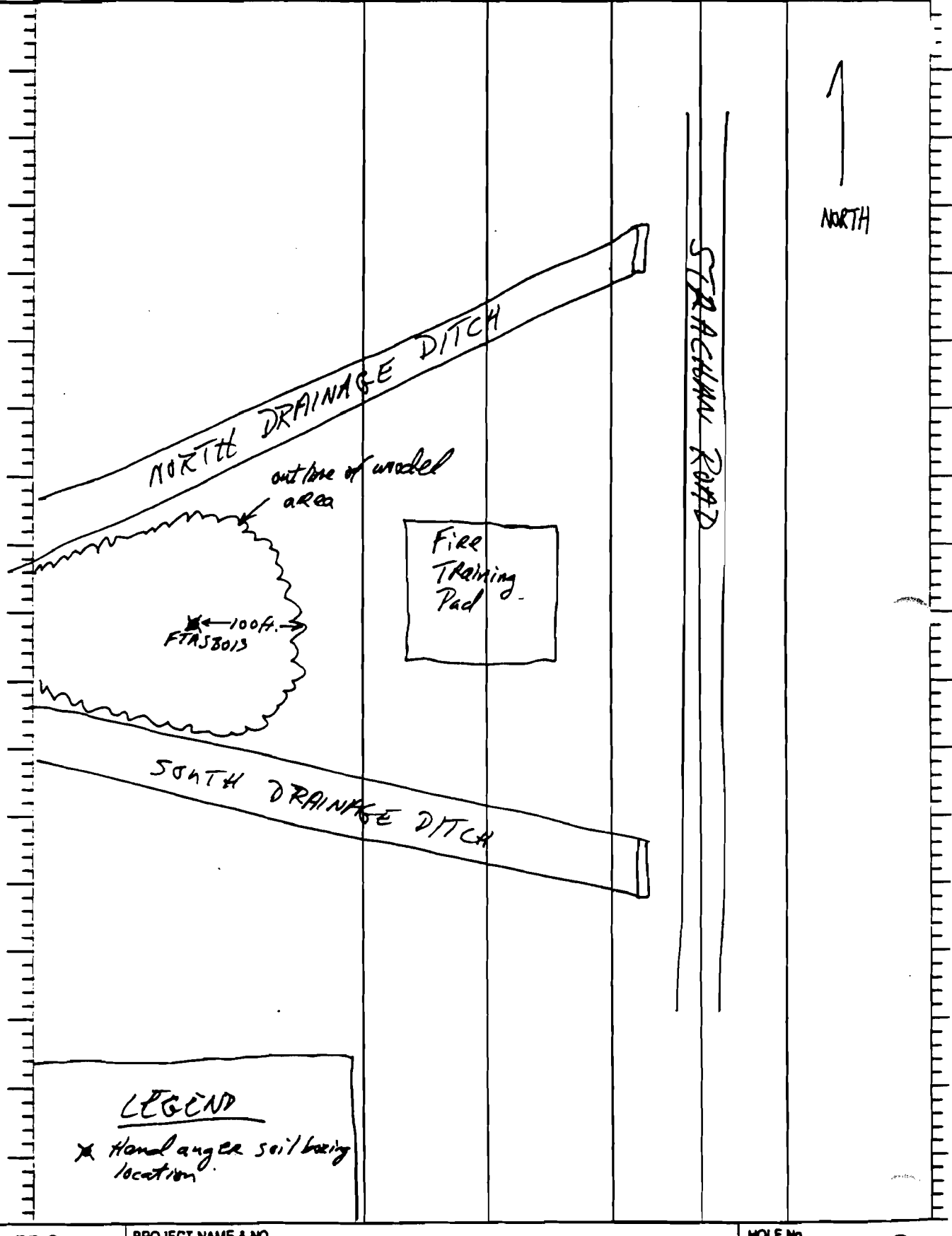
11-3551-0320

# MW DRILLING LOG

FTASB013

PROJECT: Hunter Army Airfield | INSPECTOR: Jim Bower | SHEET 2 OF 2 SHEETS

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|




MRK FORM JUN 89 55-2 | PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320 | HOLE No. FTAS8013

HF — Rev. 5/

# HTW DRILLING LOG

HOLE NO. FTASB-14 246

| | | |
|---|---|---|
| 1. COMPANY NAME: LAW Eng & Env. Services Inc | 2. DRILLING SUBCONTRACTOR: hand auger | SHEET 2 OF 2 SHEETS |
| 3. PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA | |
| 5. NAME OF DRILLER: NA | 6. MANUFACTURER'S DESIGNATION OF DRILL: NA | |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 3" stainless steel hand auger | 9. HOLE LOCATION (SITE): Fire training Area | |
| | 10. SURFACE ELEVATION | |
| 8. WEATHER: sunny, hot, 86°, wind from S | 11. DATE STARTED: 10-04-95 1436 | 12. DATE COMPLETED: 10-04-95 1512 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: 5.5 at 1512 | |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED | |
| 15. TOTAL DEPTH OF HOLE: 6.0 | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) | |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| NA | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22. TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| 2 (AEC) | ✓ | ✓ | TPH ✓ | semivocs ✓ | | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| | ✓ | | | Heather A Caswell |

| 25. CHECKED BY | 26. NAME OF INSPECTOR |
|---|---|
| JKenyon | Heather A Caswell |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 1.0 | SAND, fine to med grain, some roots and rocks, brown {7.5YR 4/2} [SP] | HS $\theta_{2}^{0}$ | | A | | |
| | 2.0 | | | | | | |
| | 3.0 | SAND, fine to med. grain, reddish brown {2.5YR 3/3} [SP] | HS $\theta_{50}$ | | B | | fuel odor |
| | 4.0 | | | | | | |
| | | same | HS $\theta_{1652}$ | | C | | fuel odor |

MRK FORM JUN 89 55

PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320

HOLE No: FTASB-14

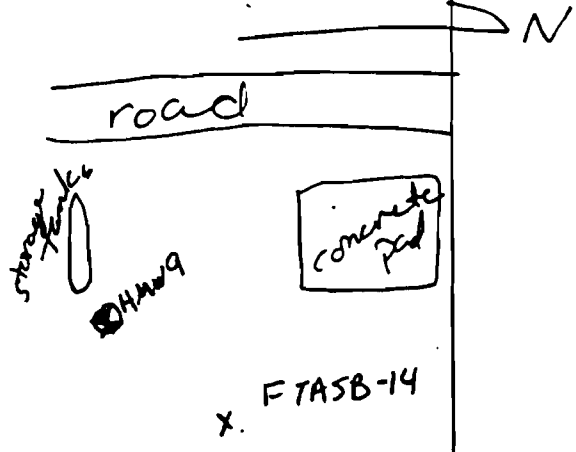
HF — Rev. 5/94

# HTW DRILLING LOG

FTASB 14

PROJECT: Hunter Army Airfield | INSPECTOR: Heather A Laswell | SHEET 2 OF 2 SHEETS

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | | | | | | CW at 55 at 1512 |
| | 6.0 | Boring terminated | | | | | |
| | 7.0 | | | | | | |




MRK FORM JUN 89 55-2 | PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320 | HOLE No FTASB-14

HF — Rev. 5/9

# HTW DRILLING LOG

FTASB-015 148

| | | |
|---|---|---|
| 1 COMPANY NAME: LAW Eng. & Env. Services Inc | 2. DRILLING SUBCONTRACTOR: hand auger | SHEET 1 OF 2 SHEETS |
| 3 PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA | |
| 5. NAME OF DRILLER: NA | 6. MANUFACTURER'S DESIGNATION OF DRILL: NA | |
| 7 SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 8in stainless steel hand auger | 9. HOLE LOCATION (SITE): Fire training area | |
| | 10. SURFACE ELEVATION | |
| 8. WEATHER: Sunny, 85° | 11. DATE STARTED: 10-04-95 1334 | 12. DATE COMPLETED: 10-04-95 1405 |
| 13 OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: 6.9 at 1415 | |
| 14 DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: — | |
| 15. TOTAL DEPTH OF HOLE: 7.0 | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): — | |

| 19 GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| NA | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22 TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| 2 (A&C) | ✓ | ✓ | TPH ✓ | semi VOCs ✓ | | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| | ✓ | | | Heather A Laswell |

| 25. CHECKED BY: | 26. NAME OF INSPECTOR |
|---|---|
| JHenson | Heather A Laswell |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 1.0 | SAND, fine to med grain, roots and some rocks, brown {7.5YR 4/3} [SP] | HS 0 | | A | | |
| | 2.0 | | | | | | |
| | 3.0 | SAME w/ some black {7.5YR 2.5/1} [SP] | HS 0 | | B | | |
| | 4.0 | | | | | | |
| | | SAND, silty, light brown {7.5YR 4/3} very dark gray {7.5YR 3/1} [SP] | HS 0 | | C | | |

MRK FORM JUN 89 55 | PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320 | HOLE No: FTASB-15 | AF — Rev. 5/94

# HTW DRILLING LOG

PTASB-15

PROJECT: Hunter Army Airfield | INSPECTOR: Heather A Caswell | SHEET 2 OF 2 SHEETS

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | | | | | | |
| | 6.0 | | | | | | |
| ▽ | 7.0 | Boring terminated at 7.0 ft bgs | | | | | GWat 6.9 at 9:15 |
| | 8.0 | | | | | | |
| | | road | → N | | | | |
| | | storage tank | | | | | |
| | | 138 ft HMW-9 FTASB 15 | | | | | |

MRK FORM JUN 89 55-2 | PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320 | HOLE No. FTASB-015 HF — Rev. 5/

# HTW DRILLING LOG

HOLE No. FTASB-16

| | | |
|---|---|---|
| 1. COMPANY NAME: LAW Eng. & Env. Services Inc | 2. DRILLING SUBCONTRACTOR: hand auger | SHEET 1 OF 2 SHEETS |
| 3. PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA | |
| 5. NAME OF DRILLER: NA | 6. MANUFACTURER'S DESIGNATION OF DRILL: NA | |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: hand auger (3in stainless steel) | 9. HOLE LOCATION (SITE): Fire Training Area | |
| | 10. SURFACE ELEVATION | |
| 8. WEATHER: overcast; 80's, windy winds from SW | 11. DATE STARTED: 10-04-95 0948 | 12. DATE COMPLETED: 10-04-95 1020 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: 7.8 at 10:19 | |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: — | |
| 15. TOTAL DEPTH OF HOLE: 8.1 ft bgs | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): — | |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| NA | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22. TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| 2 (A & C) | ✓ | ✓ | TPA ✓ | Semi: VOC ✓ | | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| | ✓ | | | Heather A Lasswell |

| 25. CHECKED BY | 26. NAME OF INSPECTOR |
|---|---|
| JKeyser | Heather A Laswell |

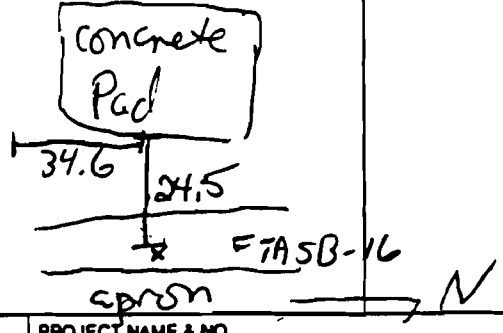
| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | | Asphalt | | | | | |
| | 1.0 | Sand, silt, fine to med grain dark yellow brown {10YR 4/4} (SP) | HS 30 | | A | | fuel odor |
| | 2.0 | color change to gray {10YR 5/1} (SP) | | | | | |
| | 3.0 | SAND, fine to med grain, brown {10YR 5/3} (SP) | HS 40 | | B | | |
| | 4.0 | (SP) SAND, fine to med grain light gray {10YR 7/2} | HS | | C | | |

# MW DRILLING LOG

FTA056

PROJECT: Hunter Army Airfield | INSPECTOR: Heather A Lasswell | SHEET 2 OF 2 SHEETS

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | | | | | | |
| | 6.0 | | | | | | |
| | 7.0 | Sand, silty fine to med grain yellowish brown 10YR 5/4 to light gray 5Y 10YR 7/1 | | | D | | |
| ▽ | 8.0 | | | | | | GW at 7.8 at 1019 |
| | | Boring terminated at 8.1 | | | | | |
| | 9.0 | | | | | | |
| | 10.0 | | | | | | |
| | 11.0 | | | | | | |




MRK FORM JUN 80 55-2 | PROJECT NAME & NO: Hunter Army Airfield | 11-3551-0320 | HOLE No. FTA5B-16 | HF — Rev. 5/5

# HTW DRILLING LOG

HOLE NO. F1ASB017 of 017 x2

| | | | |
|---|---|---|---|
| 1 COMPANY NAME: Law Eng. & Env. Services Inc | 2. DRILLING SUBCONTRACTOR: Hand auger | SHEET 1 OF 2 SHEETS | |
| 3. PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA | | |
| 5. NAME OF DRILLER: NA | 6. MANUFACTURER'S DESIGNATION OF DRILL: NA | | |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: hand auger (3 in stainless steel) | 9. HOLE LOCATION (SITE): Fire Training Area | | |
| | 10. SURFACE ELEVATION | | |
| 8. WEATHER: overcast, 80's windy from SW | 11. DATE STARTED: 10-04-95 1110 | 12. DATE COMPLETED: 10-04-95 1155 | |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: 6.9 at 1154 | | |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: — | | |
| 15. TOTAL DEPTH OF HOLE: 7.8 ft | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): — | | |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| NA | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22 TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| 2 (A & C) | ✓ | — | TPH ✓ | semi VOC ✓ | | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| | ✓ | | | Heather A Aswell |

| 25. CHECKED BY | 26. NAME OF INSPECTOR |
|---|---|
| JHempen | Heather Alaswell |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 0 | SAND, silty, brown, some rocks {7.5YR 4/3} [SP] | HS 0 | | A | | |
| | 1.0 | | | | | | |
| | | stone in borehole | | | | | 1.5 ft of rock |
| | 2.0 | | | | | | |
| | | SAME [SP] | HS 2 | | B | | |
| | 3.0 | | | | | | |
| | 4.0 | | | | | | |
| | | Sand, fine to med [SP] 1.3 ft brown {7.5YR 4/3} | HS 0 | | C | | |

MRK FORM JUN 89 55 | PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320 | HOLE No: F1ASB-017 | HF — Rev. 5/94

# HTW DRILLING LOG

FTASB-017

PROJECT: Hunter Army Airfield | INSPECTOR: Heather Laswell | SHEET 2 OF 2 SHEETS

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | | | | | | |
| | 6.0 | same, saturated | | | D HMS | | gw at 6.9 at 1154 |
| ▽ | 7.0 | | | | | | |
| | 8.0 | Boring terminated at 7.8ft | | | | | |

FTASB-017 X 13.5 — HMW5, HMW6

Concrete Pad

road

MRK FORM JUN 80 55-2 | PROJECT NAME & NO Hunter Army Airfield 11-3551-0320 | HOLE No FTASB-017

HF — Rev. 5/

# MW DRILLING LOG

HAW 10

| | | |
|---|---|---|
| 1 COMPANY NAME: LAW Eng & Env. Services Inc | 2 DRILLING SUBCONTRACTOR: LAW Eng. | SHEET 1 OF 3 SHEETS |
| 3 PROJECT: Hunter Army Airfield | 4 LOCATION (CITY, STATE): Savannah GA | |
| 5 NAME OF DRILLER: Russell Murdock | 6 MANUFACTURER'S DESIGNATION OF DRILL: CME 55 (ATV) | |
| 7 SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 140 lb hammer; 2in stainless steel split spoon | 9 HOLE LOCATION (SITE): Fire Training Area, within treeline | |
| | 10 SURFACE ELEVATION: 27.96' | |
| 8 WEATHER: Sunny, wind from E 78° | 11 DATE STARTED: 10-03-95 1230 | 12 DATE COMPLETED: 10-03-95 1343 |
| 13 OVERBURDEN THICKNESS: NA | 16 DEPTH GROUNDWATER ENCOUNTERED: 5.6' 1307 | |
| 14 DEPTH DRILLED INTO ROCK: NA | 17 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: (TOC) 7.36 1550 10/04/95 | |
| 15 TOTAL DEPTH OF HOLE: 14 ft | 18 OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 5.6 1311 5.5 1318 | |

| 19 GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20 TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 1 (F) | NA | NA | NA |

| 21 SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22 TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| 2 (AB) | ✓ | ✓ | semi-VOC | TPH ✓ | — | NA |

| 23 DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24 SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| | | ✓ | | Heather A Laswell |

| 25 CHECKED BY | 26 NAME OF INSPECTOR |
|---|---|
| [illegible] | Heather A Laswell |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | | SAND, fine to med grain. Some roots, organics dark reddish gray {10R 3/1} [SP] | HS 0 | | A | 3 | 100% recovery |
| | 1.0 | | | | | 3 | |
| | | | | | | 3 | |
| | | | | | | 4 | |
| | 2.0 | SAND, fine to med, dusky red [SP] {2.5YR 4/3} | HS 0 | | B | 5 | 90% recovery |
| | | | | | | 4 | |
| | 3.0 | | | | | 3 | |
| | | | | | | 3 | |
| | 4.0 | Sand, fine to med, dk reddish brown {5YR 3/2}, wet [SP] | HS 0 | | C | 4 | |
| | | | | | | 2 | |

MRK FORM JUN 89 55 | PROJECT NAME & NO: Hunter Army Airfield 11-355I-0320 | HOLE No: HMW-10 | HF — Rev. 5/94

# HTW DRILLING LOG

HA W 10

PROJECT: Hunter Army Airfield | INSPECTOR: Heather A Laswell | SHEET 2 OF 3 SHEETS

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | | | | | 2 | |
| ▽ | | | | | | 2 | Gw at 5.6 at 1307 |
| | 6.0 | Sand fine to med V. dark brown {7.5YR2.5/2} saturated [SP] | HS 0 | D | | 3 | 100% recovery some wood fragments |
| | | | | | | 1 | |
| | 7.0 | | | | | 1 | |
| | | | | | | 4 | |
| | 8.0 | same {2.5YR 5/1} gray, saturated [SP] | HS <1 | E | | 5 | 150% recovery |
| | | | | | | 3 | |
| | 9.0 | | | | | 5 | |
| | | | | | | 2 | |
| | 10.0 | SAND Fine to med grain, Saturated gray {2.5Y 6/1} [SP] | HS <1 | F | | 2 | 100 recovery |
| | | | | | | 2 | |
| | | | | | | 2 | |
| | 11.0 | w/color change to v.dark gray {5Y 3/1} [SP] | | | | 6 | |
| | 12.0 | SAND, gray {2.5Y 5/1} Saturated, fine to med [SP] | HS <1 | G | | 2 | 100% recovery |
| | | | | | | 2 | |
| | 13.0 | | | | | 2 | |
| | | | | | | 2 | |
| | | Boring terminated 14ft bgs | see attached map | | | | |

MRK FORM JUN 80 55-2 | PROJECT NAME & NO Hunter Army Airfield 11-3551-0320 | HOLE No HMW-10

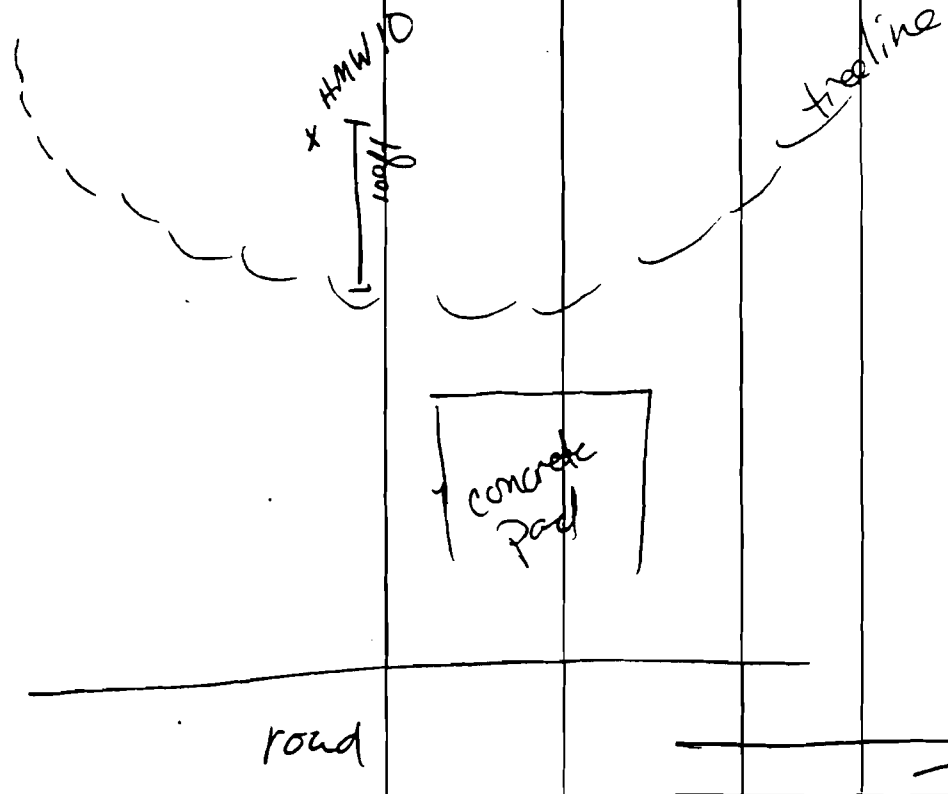
HF — Rev. 5/5

# HTW DRILLING LOG

HMW10

| PROJECT | INSPECTOR | SHEET / OF SHEETS |
|---|---|---|
| Hunter Army Airfield | Heather Laswell | 3 OF 3 SHEETS |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|




MRK FORM JUN 80 55-2 | PROJECT NAME & NO Hunter Army Airfield | 11-3551-0320 | HOLE No HMW10

HF — Rev. 5'

# MW DRILLING LOG

PAGE NO. HMW11

| | | |
|---|---|---|
| 1 COMPANY NAME: LAW Environmental & Engineering | 2. DRILLING SUBCONTRACTOR: LAW Engineering | SHEET 1 OF 3 SHEETS |
| 3. PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA | |
| 5. NAME OF DRILLER: Russell Murdock | 6. MANUFACTURER'S DESIGNATION OF DRILL: CME 55 (ATV) | |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2in split spoon; 140lb hammer (cathead) | 9. HOLE LOCATION (SITE): Fire training area | |
| | 10. SURFACE ELEVATION: 28.82' | |
| 8. WEATHER: Sunny 74°, slight breeze from E | 11. DATE STARTED: 10-03-95 0740 | 12. DATE COMPLETED: 10-03-95 0920 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: 8.58 0840 | |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 16.83 1544 10/04/95 | |
| 15. TOTAL DEPTH OF HOLE: 15 ft | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 0904 @ 7.8 | |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 1 (F) | NA | NA | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22. TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| 2 (B&D) | ✓ | ✓ | PPH ✓ | semivols | NA | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| | | ✓ | | Heather Laswell |

| 25. CHECKED BY | 26. NAME OF INSPECTOR |
|---|---|
| Kaiser | Heather A Laswell |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | | SAND, fine to med grain, yellowish brown {10YR 5/6} Some roots [SP] | HS 0 | | 4A | 4 | 20% recovery |
| | | | | | 6 | 6 | |
| | | | | | ~~5A~~ | 7 | |
| | 1.0 | | | | | 1 | |
| | 2.0 | SAND, fine to med grain, black {10YR 2/1} [SP] | HS X1 | | B | 10 | 75% recovery |
| | | | | | | 9 | |
| | 3.0 | | | | | 6 | |
| | | | | | | 6 | |
| | 4.0 | SAND, fine to med grain, sl. silt black {10YR 2/1} [SP] | HS 9 | | C | 4 | 50% recovery |
| | | | | | | 3 | |

MRK FORM JUN 89 55

PROJECT NAME & NO: Hunter Army Airfield D-58

HOLE No: HMW11

HF — Rev. 5/94

11-3551-0320

# RTW DRILLING LOG

HMW11

| PROJECT | INSPECTOR | SHEET |
|---|---|---|
| Hunter Army Airfield | Heather Laswell | 2 OF 3 SHEETS |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | | | | | 3 | |
| | | | | | | 3 | |
| | 6.0 | SAND, fine to med, silty, black {10YR 2/1} to very pale brown {10YR 7/3}; moist [SP] | HS 9 | | D | 4 | 90% recovery |
| | | | | | | 3 | |
| | | | | | | 2 | |
| | 7.0 | | | | | 2 | |
| | | same, wet | | | | | |
| | 8.0 | SAND, yellowish brown {10YR 5/4} wet [SP] | | | E | 11 | 100% recovery |
| ▽ | | 2 in of saturated at 8.5 ft bgs | | | | 9 | GW at 8.58 at 0841 |
| | 9.0 | | | | | 3 | |
| | | | | | | 3 | |
| | 10.0 | SAND, black {10YR 2/1} | | F | | 8 | 90% recovery |
| | | do grey {5Y 5/1} wet | | | | 5 | |
| | 11.0 | do saturated [SP] | | | | 3 | |
| | | | | | | 3 | |
| | 12.0 | SAME, saturated | | | | 9 | |
| | | | | G | | 7 | |
| | 13.0 | | | | | 7 | |
| | | | | | | 9 | |

MRK FORM JUN 89 55-2

PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320

HOLE No: HMW 11

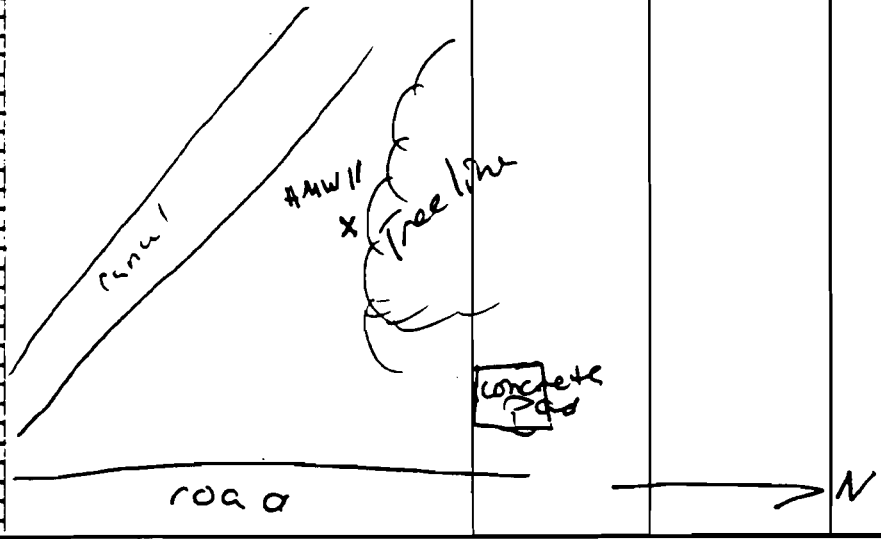
HF — Rev. 5/94

# RTW DRILLING LOG

HMW 11

| PROJECT | INSPECTOR | SHEET |
|---|---|---|
| Hunter Army Airfield | Heather Laswell | 3 OF 3 SHEETS |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 14.0 | SAND, fine to med grain saturated black {5Y 2.5/1} [SP] | | H | | 2<br>5 | |
| | 15.0 | color change to gray {5Y 5/1} [SP] | | | | 4<br>5 | |
| | 16.0 | sampled to 16 ft bgs<br>augered to 15 ft bgs | | | | | |




MRK FORM JUN 89 55-2 | PROJECT NAME & NO Hunter Army Airfield 11-3551-0320 | HOLE No HMW11 | HF — Rev. 5/9

# MW DRILLING LOG

HOLE NO. HMW-12

| | | |
|---|---|---|
| 1. COMPANY NAME [illegible] Env Service, Inc | 2. DRILLING SUBCONTRACTOR [illegible] | SHEET 1 OF 3 SHEETS |
| 3. PROJECT Hunter Army Airfield | 4. LOCATION (CITY, STATE) Savannah GA | |
| 5. NAME OF DRILLER Russell Murdock | 6. MANUFACTURER'S DESIGNATION OF DRILL CME 55 (ATV) | |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2in steel split spoon; 140lb hammer; [illegible] | 9. HOLE LOCATION (SITE) Fire training area - opposite side of canal | |
| | 10. SURFACE ELEVATION 29.29' | |
| 8. WEATHER Sunny, mid 80s, breeze from [illegible] | 11. DATE STARTED 10-02-95 1410 | 12. DATE COMPLETED 10-02-95 1810 |
| 13. OVERBURDEN THICKNESS N/A | 16. DEPTH GROUNDWATER ENCOUNTERED [illegible] 27-9.2 ft bgs | |
| 14. DEPTH DRILLED INTO ROCK N/A | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 10-03-95 1700 @ 11.48ft TOC | |
| 15. TOTAL DEPTH OF HOLE 16 ft | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) 1735 9.2 ft bgs | |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 1 | NA | NA | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22. TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| 2 (BD) | ✓ | ✓ | TPH | Semi VOC | NA | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| | | ✓ | | Heather A Lessard |

| 25. CHECKED BY | 26. NAME OF INSPECTOR |
|---|---|
| glenger | Heather A Lessard |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | | fine to med SAND; rich in organic; roots & thin medeling or bedding, reddish brown to yellowbrown to black; Reddish black {5YR 2.5/1} [SP] | HS 0 | | A | 6 | 75% recovery |
| | 1.0 | | | | | 4 | |
| | | | | | | 4 | |
| | 2.0 | SAND, sl. silty, black [SP] {5YR 2.5/1} | HS X | | B | | 50% recovery |
| | | | | | | 6 | |
| | 3.0 | | | | | 4 | |
| | | | | | | 4 | |
| | 4.0 | SAND, fine to med. sl. silt med grade, damp, black {5YR 2.5/1} [SP] | HS 1 | | C | 4 | 75% recovery |
| | | | | | | 4 | |

MRK FORM JUN 89 55

PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320

HOLE No: HMW12

HF — Rev. 5/94

# HTW DRILLING LOG

HMW 12

PROJECT: Hunter Army Airfield | INSPECTOR: Heather A Caswell | SHEET 2 OF 3 SHEETS

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | | | | | 3 | |
| | | Color change to Hgray {5YR 7/1} | | | | | |
| | 6.0 | SAND, fine to med grain, black {5YR 2.5/1} [SP] | HS 2 | | D | 4<br>1<br>1 | 20% recovery |
| | 7.0 | med grain SAND, moist, black {5YR 2.5/1} & reddish brown {5YR 5/3} [SP] Sl. silty | 1 | | E | 1<br>0<br>1 | 60% recovery |
| | 8.0 | SAND [SP] black {5YR 2.5/1} & reddish brown {5YR 5/3} | X1 | | F | 1<br>2<br>3 | 60% recovery |
| | 9.0 | Sand, brownish yellow {10YR 6/6} saturated to moist [SP] | | G | F | 11<br>21<br>24 | GWat 9.2 ft @ 1727 |
| | 10.0 | | | | | 18 | 75% recovery |
| | | SAND, fine to med, brownish yellow {10YR 6/6} wet [SP] | | H | G | 16<br>14 | |
| | 11.0 | | | | | | |
| | 12. | SAND, light yellowish brown {10YR 6/4} saturated fine to med. grain [SP] | | I | | 4<br>8<br>8 | 100% recovery |
| | 13. | | | | | | |

MRK FORM JUN 89 55-2 | PROJECT NAME & NO Hunter Army Airfield 11-3551-0320 | HOLE No HMW-12

HF — Rev. 5/9

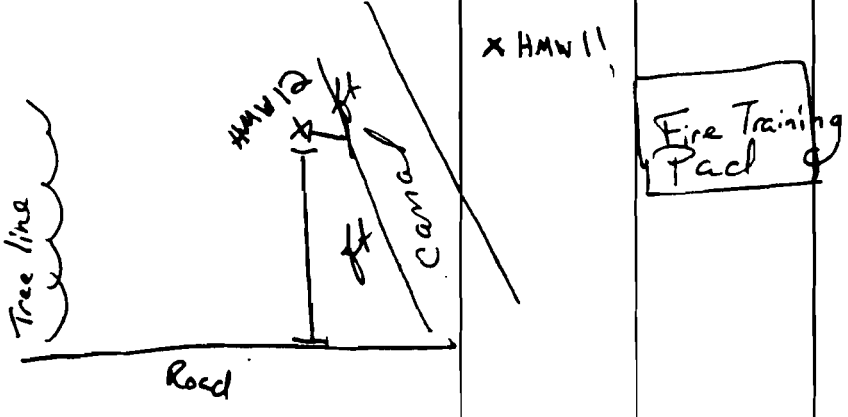
# MW DRILLING LOG

HMW12

262

| PROJECT | INSPECTOR | SHEET |
|---|---|---|
| Hunter Army Airfield | Heather A Laswell | 3 OF 3 SHEETS |

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 14 | SAND; fine grain, sl. silty, saturated, gray {5Y 6/1} [SP] | | J | | 4 | 5% recovery |
| | | | | | | 2 | |
| | 15 | | | | | 4 | |
| | | | | K | | 4 | 95% recovery |
| | 16 | SAME | | | | 2 | |
| | | | | | | 2 | |
| | 17 | | | | | | |
| | | Sampler driven to 17 ft bgs | | | | | |
| | | Augers drilled to 16 ft bgs | | | | | |




MRK FORM JUN 89 55-2

PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320

HOLE No: HMW12

HF — Rev. 5/9

# HTW DRILLING LOG

HOLE No. HMW 13

| | | |
|---|---|---|
| 1. COMPANY NAME: LAW Eng & Env Services Inc | 2. DRILLING SUBCONTRACTOR: LAW Engineering | SHEET 1 OF 3 SHEETS |
| 3. PROJECT: Hunter Army Airfield | 4. LOCATION (CITY, STATE): Savannah GA | |
| 5. NAME OF DRILLER: Russell Murdock | 6. MANUFACTURER'S DESIGNATION OF DRILL: CME 55 (ATV) | |
| 7. SIZE AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 140 lb Hammer (cathead); 2 in Stainless Steel split spoon | 9. HOLE LOCATION (SITE): fire training area | |
| | 10. SURFACE ELEVATION: 32.54' | |
| 8. WEATHER: Sunny ; 79 , breeze from E | 11. DATE STARTED: 10-03-95 1445 | 12. DATE COMPLETED: 10-03-95 1613 |
| 13. OVERBURDEN THICKNESS: NA | 16. DEPTH GROUNDWATER ENCOUNTERED: 11.7 at 1542 | |
| 14. DEPTH DRILLED INTO ROCK: NA | 17. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 12.64 (TOC) 1548 10-04-95 | |
| 15. TOTAL DEPTH OF HOLE: 18 ft | 18. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 11.0 at 1547 | |

| 19. GEOTECHNICAL SAMPLES (#) | DISTURBED | UNDISTURBED | 20. TOTAL NUMBER OF CORE BOXES |
|---|---|---|---|
| 1 (D) | — | — | NA |

| 21. SAMPLES FOR CHEMICAL ANALYSIS | VOC | METALS | OTHER (SPECIFY) | OTHER (SPECIFY) | OTHER (SPECIFY) | 22. TOTAL CORE RECOVERY% |
|---|---|---|---|---|---|---|
| 2 (B&E) | ✓ | ✓ | TPH ✓ | service ✓ | | NA |

| 23. DISPOSITION OF HOLE | BACKFILLED | MONITORING WELL | OTHER (SPECIFY) | 24. SIGNATURE OF INSPECTOR |
|---|---|---|---|---|
| | | ✓ | | Heather A Laswell |

| 25. CHECKED BY | 26. NAME OF INSPECTOR |
|---|---|
| JKleyer | Heather A. Laswell |

| ELEV. a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | | Sand, fine to med, reddish brown {2.5YR 3/1} some roots [SP] | HS 16 | | A | 4 | 100% recovery |
| | | | | | | 4 | |
| | 1.0 | | | | | 5 | |
| | | | | | | 6 | |
| | 2.0 | SAND, fine to med grain, brown {7.5YR 4/3} [SP] | HS 30 | | B | 5 | 90% recovery |
| | | | | | | 5 | |
| | 3.0 | | | | | 5 | |
| | | | | | | 4 | |
| | 4.0 | color changing to light brown {7.5YR 6/4} SAND, fine to med grain pale yellow {2.5Y 7/4} [SP] | HS 40 | | C | 3 | slight fuel odor 100% recovery |
| | | | | | | 3 | |

MRK FORM JUN 89 55

PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320

HOLE No HMW 13

HF — Rev. 5/94

# HTW DRILLING LOG

HMW 13

PROJECT: Hunter Army Airfield | INSPECTOR: Heather Laswell | SHEET 2 OF 3 SHEETS

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 5.0 | | | | | 4 | |
| | | | | | | 4 | |
| | 6.0 | SAME, some roots, wood fragements. some black staining [SP] | HS 130 | | D | 5 | 90% recovery |
| | | | | | | 4 | fuel odor |
| | 7.0 | | | | | 3 | |
| | | | | | | 4 | |
| | 8.0 | same | HS 90 | | E | 6 | 100% recovery |
| | | | | | | 3 | fuel odor |
| | 9.0 | | | | | 3 | |
| | | | | | | 8 | |
| | 10.0 | SAND, pale yellow (2.5Y 7/4) wet, some wood fragments [SP] | HS 100 | | F | 6 | 80% recovery |
| | | | | | | 6 | |
| | 11.0 | | | | | 3 | GW at 11.7 ft bgs at 1547 |
| | | Color Change to: black (2.5Y 2.5/1) [SP] | | | | 5 | |
| | 12.0 | SAND; pale yellow (2.5Y 7/4) saturated, wood fragments [SP] | HS 1 | G | G MS | 7 | 100% recvy |
| | | | | | | 7 | |
| | 13.0 | | | | | 12 | |
| | | | | | | 14 | |

MRK FORM JUN 89 55-2 | PROJECT NAME & NO: Hunter Army Airfield 11-3551-0320 | HOLE No: HMW 13 | HF — Rev. 5/9

# HTW DRILLING LOG

HMW13

PROJECT: Hunter Army Airfield | INSPECTOR: Heather Laswell | SHEET 3 OF 3 SHEETS

| ELEV a | DEPTH b | DESCRIPTION OF MATERIALS c | FIELD SCREENING RESULTS (ppm) d | GEOTECH SAMPLE OR CORE BOX No. e | ANALYTICAL SAMPLE No. f | BLOW COUNTS g | REMARKS h |
|---|---|---|---|---|---|---|---|
| | 14.0 | same | HS 2 | H | | 9 | 100% recovery |
| | | | | | | 8 | |
| | 15.0 | | | | | 7 | |
| | | | | | | 6 | |
| | 16.0 | same, color change to gray (2.5Y 5/1) [SP] | HS 0 | I | | 3 | 100% recovery |
| | | | | | | WR 46 | |
| | 17.0 | | | | | 4 | |
| | | | | | | 2 | |
| | 18.0 | same. | HS 2 | J | | 1 | 100% recovery |
| | | | | | | 2 | |
| | | | | | | 2 | |
| | 19.0 | augers drilled to 18 ft bgs<br>Samplers taken to 20 ft bgs | | | | 1 | |
| | 20.0 | | | | | | |
| | | concrete pad | | | | | |
| | | | | | | | |
| | | | | | | | |
| | |