FINAL

FORSCOM

CORRECTIVE ACTION PLAN

Part A

3d Inf Div (Mech)

Underground Storage Tanks 21 & 22
Building 1327
Facility Identification Number: 9-025053
Hunter Army Airfield, Georgia

Prepared for

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT

Contract No. DACA21-95-D-0022
Delivery Order 0019

March 1999

98-171P(PPT)/022299

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FINAL

CORRECTIVE ACTION PLAN - PART A REPORT FOR UNDERGROUND STORAGE TANKS 21 & 22 BUILDING 1327 FACILITY IDENTIFICATION NUMBER: 9-025053 HUNTER ARMY AIRFIELD, GEORGIA

Prepared for:

U.S. Army Corps of Engineers - Savannah District
and
Fort Stewart Directorate of Public Works
Under Contract Number DACA21-95-D-0022
Delivery Order 0019

Prepared by:

Science Applications International Corporation
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831

March 1999

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List of Appendices

Attachments

List of Abbreviations and Acronyms

ACE	Anderson Columbia Environmental, Inc.
ASTM	American Society for Testing and Materials
ATL	alternate threshold level
BDL	below detection limit
BGS	below ground surface
BLS	below land surface
BTEX	benzene, toluene, ethylbenzene, and xylene
BTL	below threshold level
CAP	Corrective Action Plan
CL	clay
COE	(U.S. Army) Corps of Engineers
CX	Center of Excellence
DOT	U.S. Department of Transportation
DPW	Directorate of Public Works
DQA	data quality assessment
DQCR	Daily Quality Control Report
DQO	date quality objective
DRO	diesel-range organics

EPA	U.S. Environmental Protection Agency
EPD	Environmental Protection Division
FS	Fort Stewart
GA DNR	Georgia Department of Natural Resources
GEL	General Engineering Laboratories
gpm	gallons per minute
GRO	gasoline-range organics
GUST	Georgia Underground Storage Tank
HAAF	Hunter Army Airfield
ID	inside diameter
IDW	investigation-derived waste
IWTP	Industrial Waste Treatment Plant
LCS	laboratory control sample
MCL	maximum contaminant level
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
mg/kg	milligrams per kilogram
MPR	Monthly Progress Report
MS	matrix spike
N/A	not applicable
NCO	noncommissioned officer
NRC	no regulatory criteria
OVM	organic vapor meter
PAHs	polynuclear aromatic hydrocarbons
PID	photoionization detector
ppm	parts per million
PVC	polyvinyl chloride
QA	quality assurance
QA/QC	quality assessment/quality control
QAPjP	Quality Assurance Project Plan
QC	quality control
QCSR	Quality Control Summary Report
RCRA	Resource Conservation and Recovery Act
RPD	relative percent difference
SAIC	Science Applications International Corporation
SAS	South Atlantic Savannah (Division)
SC	clayey sand
SC-SM	clayey, silty sand
SM	silty sand
SP-SC	poorly graded, clayey sand
SW	sand
TBD	to be determined
TCLP	Toxicity Characteristic Leaching Procedure
TOC	total organic carbon
TPH	total petroleum hydrocarbon
UNK	unknown
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
UST	underground storage tank
USTMP	Underground Storage Tank Management Program
VOC	volatile organic compound

CORRECTIVE ACTION PLAN PART A

Facility Name: USTs 21 & 22, Building 1327 Street Address: White Dr. and Wilson Blvd., HAAF

Facility ID: 9-025053 City: Savannah County: Chatham Zip Code: 31406

Latitude: 32°00'59"N Longitude: 81°07'27"W

Submitted by UST Owner/Operator:
Name: Thomas C. Fry/Environmental Branch
Company: U.S. Army/HQ 3d, Inf. Div. (Mech)
Address: DPW ERD ENV. Br. (Fry)
1557 Frank Cochran Drive
City: Fort Stewart State: Georgia
Zip Code: 31314-4928
Telephone: (912) 767-1078

Prepared by Consultant/Contractor:
Name: C. Allison Bailey
Company: SAIC
Address: P.O. Box 2502

City: Oak Ridge State: TN
Zip Code: 37831
Telephone: (423) 481-8719

I. PLAN CERTIFICATION:

A. UST Owner/Operator Certification

I hereby certify that the information contained in this plan and in all the attachments is true, accurate, and the plan satisfies all criteria and requirements of rule 391-3-15-09 of the Georgia Rules for Underground Storage Tank Management.

Name: Thomas C. Fry
Signature: Thomas C. Fry Date: 03/22/99

B. Registered Professional Engineer or Professional Geologist Certification

I hereby certify that I have directed and supervised the field work and preparation of this plan, in accordance with State Rules and Regulations. As a registered professional geologist and/or professional engineer, I certify that I am a qualified groundwater professional, as defined by the Georgia State Board of Professional Geologists. All of the information and laboratory data in this plan and in all of the attachments are true, accurate, complete, and in accordance with applicable State Rules and Regulations.

Name: John B. Reeves, P.E.
Signature: John B Reeves
Date: 3-16-99

Georgia Stamp or Seal

General: READ THE GUIDANCE DOCUMENT FOR CAP PART-A BEFORE COMPLETING THIS FORM. FAILURE TO READ THE GUIDANCE DOCUMENT WILL MOST LIKELY RESULT IN PREPARATION OF AN UNACCEPTABLE REPORT. All text, figures, and tables requested in their respective sections should be prepared strictly in accordance with the Georgia EPD CAP-A guidance document. Please fill out this form as provided. Do not change the size of the fields or alter the placement of each section on each page.
(Appendix I: All Report Figures)
(Appendix II: All Report Tables)

II. INITIAL RESPONSE REPORT

A. Initial Abatement

Were initial abatement actions initiated? YES ____ NO X

If Yes, please summarize. If No, please explain why not.

Actions were not required to abate imminent hazards and/or emergency conditions at the underground storage tanks (USTs) 21 & 22, Building 1327 site. Therefore, contaminant migration and release prevention, fire and vapor mitigation, or emergency free product removal were not performed prior to, or during, the removal of USTs 21 & 22.

B. Free Product Removal

(Table 1: Summary of Free Product Removal – must include Free Product thickness in each well in which it was detected, and volume of product removed)

Free Product Detected? YES X NO ____

If Yes, please summarize free product recovery efforts.

Approximately 0.19-foot of free product was discovered in piezometer L-9 (Figure 2) on April 23, 1998. Free product was detected by placing a sample of groundwater extracted from the piezometer into a 50-mL glass vial and allowing the sample to equilibrate for 24 hours. Upon discovery of the free product, a passive removal system consisting of a 5.0-foot-long, threaded steel rod wrapped with absorbent material (i.e., absorbent sock) fastened with chemically inert plastic ties was installed in piezometer L-9. To maximize free product absorption, the absorbent material was installed across the water table. As of September 1998, the absorbent sock has been removed and replaced on three separate occasions (Table 1). On June 25, 1998, a water product interface meter was used for the detection of free product thickness. However, none was detected (Table 1).

Continuing free product recovery proposed? YES X NO ____

If yes, please indicate the method and frequency of removal.

A permanent monitoring well will be installed to replace the L-9 piezometer (Figure 8). Refer to the Site Investigation Plan (Section IV) for monitoring well installation details. If free product is detected in the permanent well, then a passive removal system, similar to that used in piezometer L-9, will be placed in the monitoring well for the extraction of free product. However, if >6 inches of free product is detected, an active free product system (i.e., ferret) will be installed. The following schedule for free product removal and detection is proposed:

- the absorbent material used in the passive removal system will be replaced monthly and contained as investigation-derived waste (IDW); and
- measurement of free product will be implemented on a 3-month (quarter-annual) basis.

If free product is not identified in the permanent well, then the aforementioned product recovery methods will not be implemented.

C. Tank History

List current and former UST's operated at site based on owner/operator knowledge consistent with EPA 7530-1 Form). Systems must be illustrated on Figure 2 (Site Plan), as described in section D below.

CURRENT UST SYSTEMS (if applicable)

Tank ID Number	Capacity (gal)	Substance Stored	Age (yrs)	Meets 1998 Upgrade Standards (Yes/No)
N/A	N/A	N/A	N/A	N/A

FORMER UST SYSTEMS (if applicable)

Tank ID Number	Capacity (gal)	Substance Stored	Date Removed
21	8,000	diesel	September 12, 1996
22	2,000	gasoline	September 12, 1996

D. Initial Site Characterization

(Figure 1: Vicinity/Location Map)
(Figure 2: Site Plan)

1. Regulated Substance Released (gasoline, diesel, used oil, etc.): gasoline and diesel .
   Discuss how this determination was made and circumstances of discovery.

Characterization of petroleum-related contamination at the site was initiated during UST system closure activities on September 12, 1996, by Anderson Columbia Environmental, Inc. (ACE). After removal of the tanks, the ancillary piping was purged and closed in place by filling with grout. Two soil samples (8102-TK21/22-D1E-S and 8102-TK21/22-D2W-S) were collected from locations in the vicinity of the dispenser island, and a groundwater sample (8102-TK21/22-GW) was collected when groundwater invaded the bottom of the tank pit excavation. However, their locations were not documented by ACE (1996); therefore, the locations of sampling points in Figure 7 are estimated. The soil samples did not contain contaminant concentrations that exceeded Georgia Environmental Protection Division (GA EPD) applicable soil threshold levels (Table A, column 2). However, elevated concentrations of total petroleum hydrocarbon–diesel-range organics (TPH–DRO) and TPH–gasoline-range organics (TPH–GRO) were detected in sample 8102-TK21/22-D1W-S. In addition, concentrations of toluene and xylene exceeded the U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL) in the groundwater sample.

2. Source(s) of Contamination: Unknown; piping leakage or tank overflow suspected .
   Discuss how this determination was made.

Although ACE (1996) presented a diagram showing approximate locations of the former USTs and associated ancillary piping, a detailed schematic diagram is not available. During tank removal activities by ACE, holes in the tanks were not reported. During the Corrective Action Plan (CAP)-Part A investigation, free product and soil contamination (with high concentrations of TPH–DRO) were detected in direct-push boring L-9, which was installed adjacent to the former location of the diesel (JP-8) dispenser and product line. Therefore, the major source of contamination at the USTs 21 and 22, Building 1327 site is believed to have been product line or dispenser leakage.

3. Local Water Resources

(Figure 3: Quadrangle Map - Public and Private drinking water and surface water)
(Appendix III: Water resources survey documentation, including, but not limited to: USGS database search, interview forms, and documentation of field survey)

a. *Site located in high/average* X *OR low* ____ *groundwater pollution susceptibility area?*

b. *Water Supplies within applicable radii?* YES X NO ____
If yes,
i. *Nearest public water supply located within:* 2,160 *feet*

ii. *Nearest down-gradient public water supply located within:* 3,300 *feet*

iii. *Nearest non-public water supply located within:* 14,400 *feet*

iv. *Nearest down-gradient non-public water supply located within:* >14,400 *feet*

c. *Surface Water Bodies and sewers:*

i. *Nearest surface water supply located within:* 200 *feet*

ii. *Nearest down-gradient surface water located within:* 200 *feet*

iii. *Nearest storm or sanitary sewer located within:* 60 *feet*

iv. *Depth to bottom of sewer at a point nearest the plume:* 5.41 *feet*

4. Impacted Environmental Media

a. *Soil Impacted*
(Table 2: Soil Analysis Results)
(Figure 4: Soil Quality Map)
(Appendix IV: Soil Boring Logs)
(Appendix V: Soil Laboratory Reports)
(Appendix VI: ATL Calculations, if applicable)

Provide a brief discussion of soil sampling.

Continuous direct-push soil cores were collected at 2.0-foot intervals during the installation of six boreholes (L-1 through L-5 and L-9). Field headspace gas analyses were performed on each sample to determine organic vapor concentration. Two soil samples were selected from each borehole for laboratory chemical analysis of benzene, toluene, ethylbenzene, and xylene (BTEX), TPH–GROs/DROs, and polynuclear aromatic hydrocarbons (PAHs). In boreholes where organic vapors were detected, one sample was collected from the 2.0-foot interval where the highest vapor concentration was recorded, and the other from the 2.0-foot interval located immediately above the saturated zone. If organic vapors were not detected, one sample was collected from the 2.0-foot interval directly below ground surface, and the other from the 2.0-foot interval located immediately above the saturated zone. In addition, an undisturbed (Shelby-tube) soil sample L-8 was collected and analyzed for geotechnical parameters to determine vadose zone and aquifer characteristics at the site. The results are presented in Appendix VI, Table VI-A. Refer to Attachment A for complete documentation of the technical approach implemented during this investigation.

i. Soil contamination above applicable threshold levels?

YES _____ NO X

If yes, indicate highest concentrations in soil along with locations and depths detected.

ii. ATLs calculated? YES _____ NO X

If yes, present ATLs.

iii. If ATL's calculated, is soil contamination above ATL's?

YES ____ NO ____ N/A X

b. Groundwater Impacted

(Table 3: Groundwater Analysis Results)
(Figure 5: Groundwater Quality Map)
(Appendix VII: Monitoring Well Details)
(Appendix VIII: Groundwater Laboratory Results)

Provide a brief discussion of groundwater sampling.

At each borehole location (L-1 through L-5 and L-9), one groundwater sample was collected from a depth interval of approximately 1.0 to 5.0 feet below the water table using a direct-push sampling device. At the vertical profile locations (L-6 and L-7), discrete groundwater samples were collected every 10 feet below the water table down to approximately 45 feet BGS (the estimated depth of the Hawthorn confining unit). Although the Hawthorn was not encountered at 45 feet BGS, the vertical profile was terminated at this depth because of the difficulty experienced during the extraction of groundwater samples. Chemical parameters for groundwater samples submitted for laboratory analysis included BTEX and PAH. Refer to Attachment A for complete documentation of the technical approach used during this investigation.

i. Groundwater contamination above MCLs? YES X NO _____

ii. Groundwater contamination above In-Stream Water Quality Standards?

YES X NO _____

If yes, indicate highest concentrations in groundwater along with the locations.

Benzene was detected in groundwater samples from direct-push locations L-1, L-2, L-3, L-4, L-7, and L-9 (Figures 5 and 5a). All detected concentrations of benzene, which ranged from 7.2 µg/L to 217 µg/L, exceeded the EPA MCL of 5.0 µg/L (Table 3). In addition, the benzene concentration of 217 µg/L, which was detected in the groundwater sample collected from L-2, exceeded the GA EPD In-Stream Water Quality Standard (IWQS) of 71.28 µg/L.

c. *Surface Water Impacted?* YES _____ NO X
If Yes, indicate concentration(s) of surface water sample(s) taken from the surface water body/bodies impacted.

d. *Point of Withdrawal Impacted?* YES _____ NO _____ N/A X
If Yes, indicate concentration(s) of water sample(s) taken from withdrawal point(s).

5. Other Geologic/Hydrogeologic Data

a. *Depth to Groundwater:* 4.21 to 5.15 feet BGS *(Table 4: Groundwater Elevations)*

b. *Groundwater Flow Direction:* northeast *(Figure 6: Potentiometric Surface Map)*

c. *Hydraulic Gradient:* 0.007 feet/feet

d. *Geophysical Province:* Coastal Plain

e. *Unique geologic/hydrogeological conditions:* None

6. Corrective Action Completed or In-Progress (if applicable)
(Table 5: UST System Closure Sampling)
(Figure 7: UST System Closure Sampling)
(Appendix IX: Contaminated Soil Disposal Manifests)

a. *Underground Storage Tank (UST) System Closure:* N/A _____
If applicable, summarize UST system closure activities conducted.

ACE removed USTs 21 & 22 on September 12, 1996. The UST piping was drained into the tank, and all remaining contents were subsequently removed using a vacuum truck and/or compressor-driven barrel vacuum device. The piping was then closed in place by filling with grout. A backhoe was used to excavate down to the tank top. After the tank atmosphere was tested with a combustible gas indicator, all accessible tank openings were capped and the tank was lifted from the excavation pit.

b. Excavation and Treatment/Disposal of Backfill Materials and Native Soils
Check one: *No UST removal performed* ____
Returned to UST excavation ____
Excavated soils treated or disposed off site X
If soils were excavated, summarize excavation and treatment/disposal activities:

Approximately 235 tons of soil were removed from the Building 1327 site and stockpiled at the ACE temporary soil containment area located at Hunter Army Airfield (HAAF) where it was tested in accordance with the disposal facility requirements. The soil was transported to Kedesh, Inc., Highway 84, Ludowici, GA 31316. The Installation has records of all manifests and weight tickets for the total project. However, site-specific information is not available.

7. Site Ranking:
Environmental Site Sensitivity Score: *27,760*
(Appendix X: Site Ranking Form)

8. Conclusions and Recommendations
Complete applicable section below, one section only

a. No Further Action Required (if applicable) N/A X
(provide justification)

b. Monitoring Only (if applicable) N/A X
(provide justification)

c. CAP-B (if applicable N/A ____
(provide justification)

Further investigation of the USTs 21 & 22, Building 1327, Facility ID: 9-025053 site is warranted based on the following site conditions: (1) the presence of free product >1/8 inch in thickness in piezometer L-9 and (2) benzene detected in the groundwater at concentrations ranging from 7.2 µg/L to 217 µg/L, which exceed the MCL of 5 µg/L and the GA EPD IWQS of 71.28 µg/L.

III. MONITORING ONLY PLAN (if applicable): N/A X

A. Monitoring points

B. Period/Frequency of monitoring and reporting

C. Monitoring Parameters

D. Milestone Schedule

E. Scenarios for site closure or CAP-Part B

IV. SITE INVESTIGATION PLAN (if applicable): N/A _____
(Figure 8: Proposed additional boring/monitoring well location)

A. Proposed Investigation of Horizontal and Vertical Extent of Contamination In:

1. Soil N/A X

2. Groundwater

a. Free Product N/A_____

In order to delineate the free product plume at the USTs 21 & 22 site, the installation of two, 2-inch-diameter polyvinyl chloride groundwater monitoring wells is proposed (Figure 8). The proposed locations are: (1) the former dispenser island area in the vicinity of piezometer L-9, and (2) the former UST 21 area in the vicinity of piezometer L-2.

b. Dissolved phase NA_____

To horizontally delineate the dissolved benzene contamination plume (Figure 5a), three 2-inch-diameter groundwater monitoring wells are proposed (Figure 8). The proposed monitoring well locations include: (1) southeast of piezometer L-3, (2) north of the site in the vicinity of L-8, and (3) downgradient of the site northeast of L-4 near the unnamed canal.

3. Surface Water N/A_____

To assess the potential impact of petroleum contaminants to the surface water body, two surface water and two sediment samples will be collected from the unnamed ditch located approximately 200 feet downgradient (northeast) of the site. One sediment and one water sample will be collected upgradient of the site with the other sample pair collected downgradient of the site (Figure 8).

B. Proposed Investigation of Vadose Zone And Aquifer Characteristics:

During the CAP-Part A investigation, vadose zone and aquifer characteristics at the USTs 21 & 22, Building 1327 site were determined by collecting an undisturbed (Shelby-tube) soil sample (L-8), which was analyzed for geotechnical parameters. The results are presented in Appendix VI, Table VI-A. Therefore, additional sampling is not being proposed.

V. PUBLIC NOTICE

(Figure 9. Tax Map)
(Appendix XI: Copies of public notification letters & certified return receipts or newspaper notice if approved)

USTs 21 & 22, Building 1327, Facility ID: 9-025053, is located within the confines of HAAF, which is part of the Fort Stewart Military Reservation, a federally owned facility. All of the property contiguous to the site is owned by the U.S. Government. The Fort Stewart Directorate of Public Works has complied with the public notice requirements defined by Georgia Department of Natural Resources (GA DNR) guidance by publishing an announcement in the local newspaper over a period of 2 weeks. Publication of this announcement has been completed simultaneously with the submittal of this CAP-Part A report for review by the GA DNR EPD Underground Storage Tank Management Program (USTMP). A copy of the newspaper announcement used for public notification is presented in Appendix XI.

VI. CLAIM FOR REIMBURSEMENT (for GUST Trust Fund sites only): N/A X

(Appendix XII: GUST Trust Fund Reimbursement Application and Claim for reimbursement)

The HAAF is a federally owned facility and has funded the investigation for the USTs 21 & 22, Building 1327 site, Facility ID: 9-025053, using Environmental Restoration Account funds. Application for Georgia Underground Storage Tank Trust Fund reimbursement is not being pursued at this time.

APPENDIX I

REPORT FIGURES

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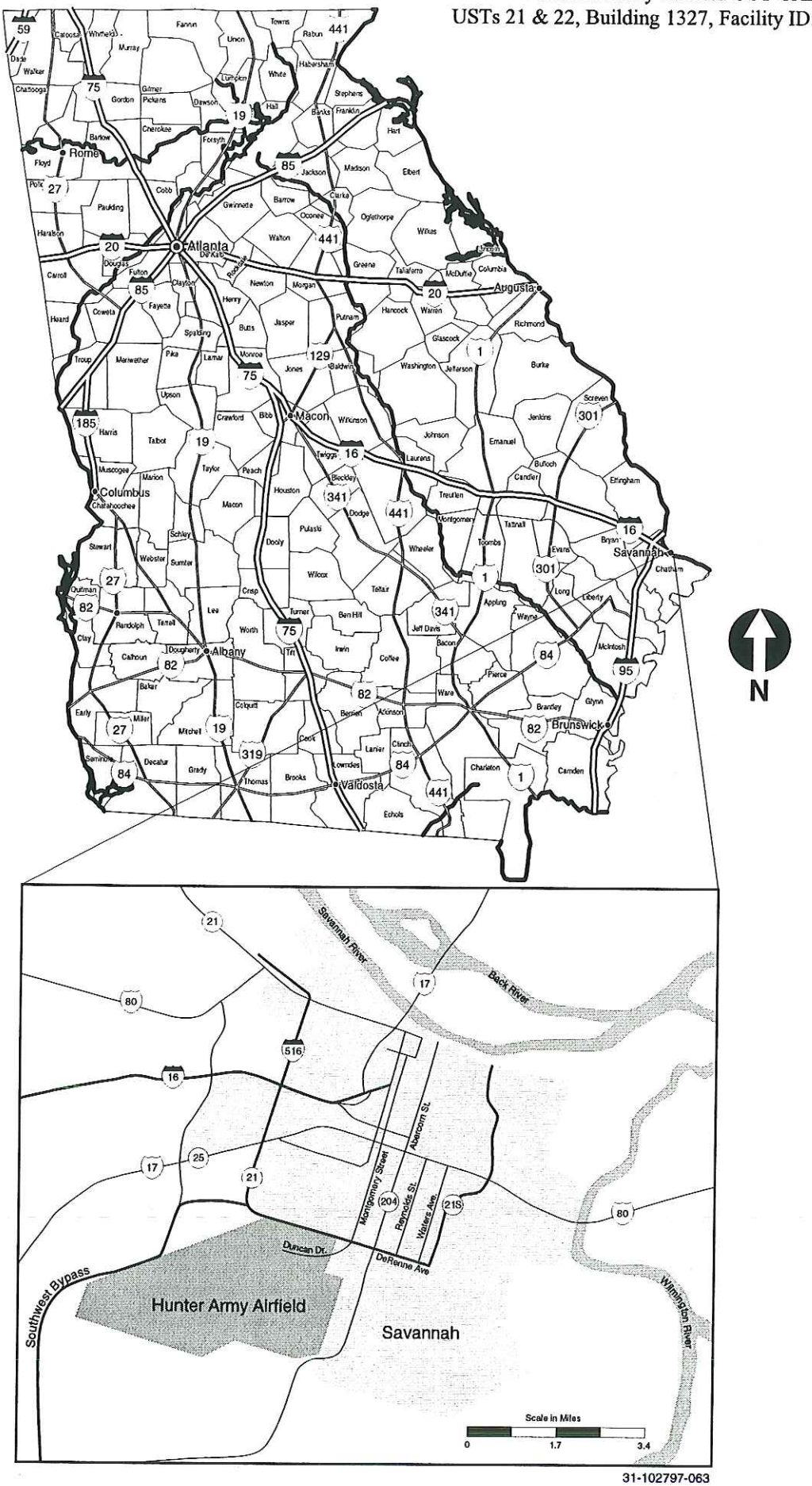

Figure 1. Location Map of Hunter Army Airfield, Chatham County, Georgia

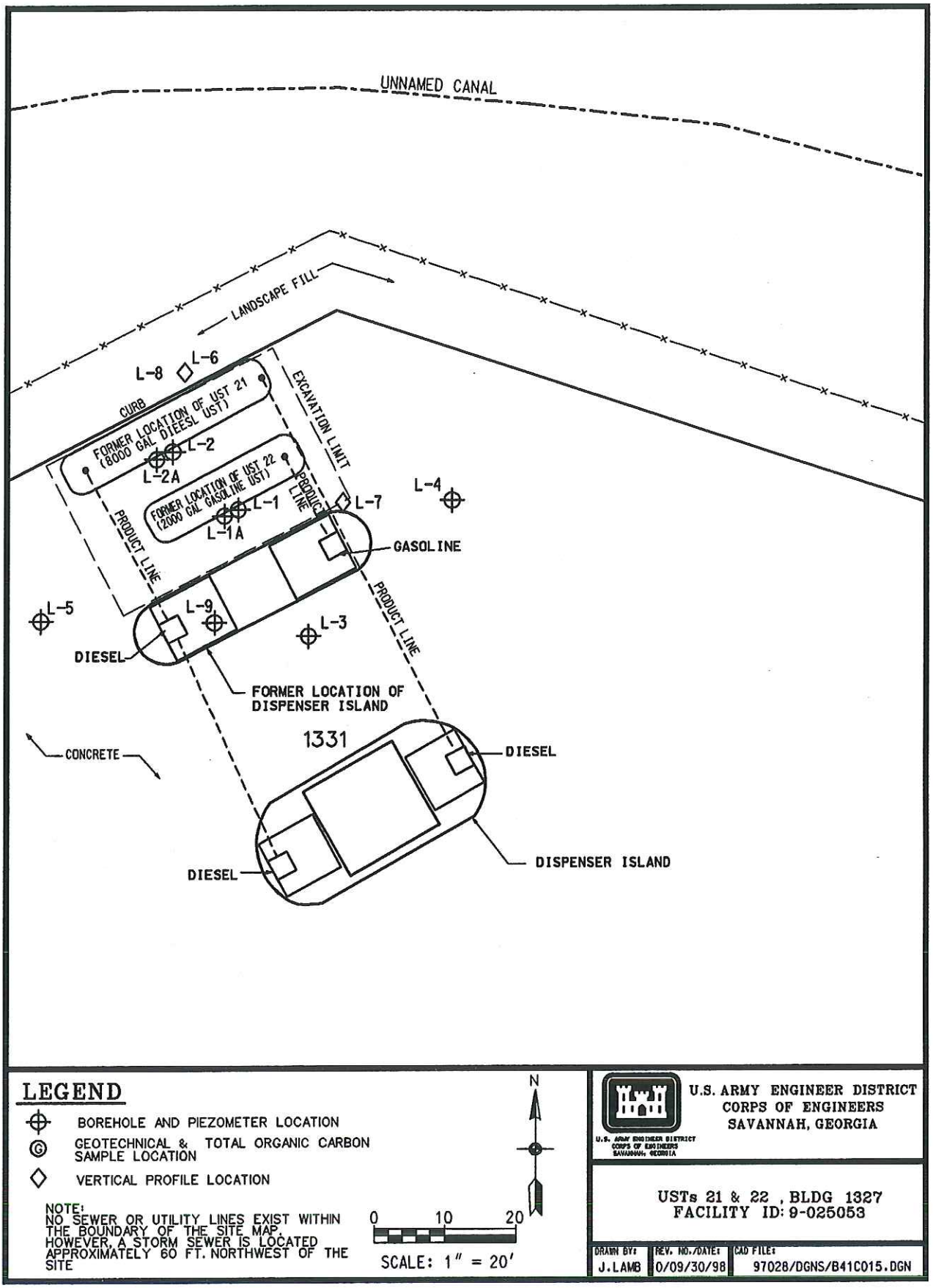

Figure 2. Site Plan for the USTs 21 & 22, Building 1327 Site

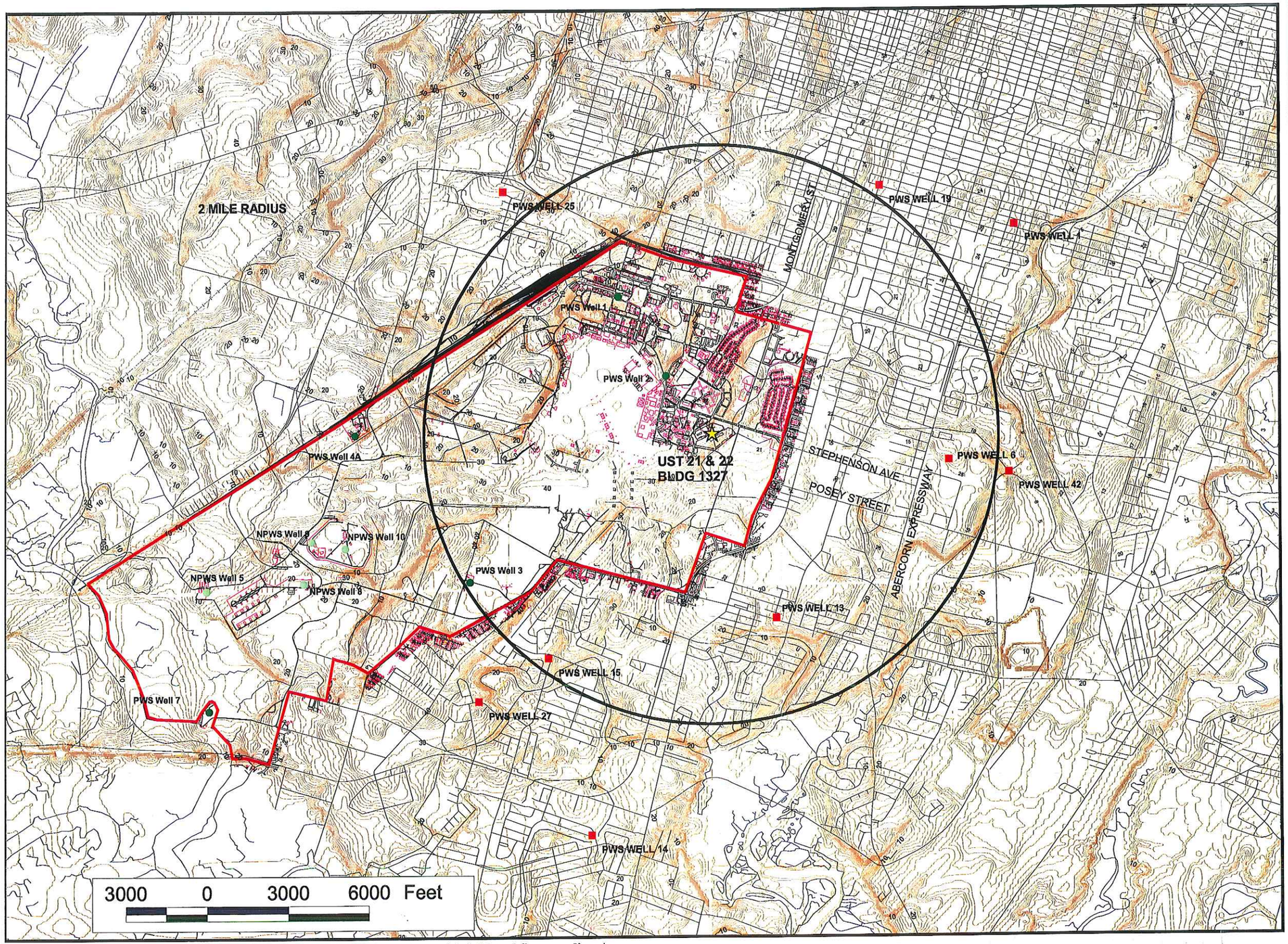

Figure 3a. Topographic Quadrangle Map of Hunter Army Airfield and Surrounding Area

Legend:

- Hunter Army Airfield Boundary
- Surface Water (streams/rivers/drains)
- Railroad
- Roads (primary)
- Buildings and Planimetric Features
- Ground Contour (1 FT Intervals)
- HAAF Non-Public Water Supply Well
- HAAF Public Water Supply Well
- City of Savannah Public Water Supply Well

NOTE:
Contours were created from Digital Elevation Models translated from http://mapping.usgs.gov/, which were obtained from the following U.S.G.S. 7.5 minuteTopographic Quad sheets: Borroughs, Isle of Hope, Savannah, and Garden City. Roads, surface water, and railroad were translated from http://www.gis.state.ga.us/ . Hunter Army Airfield BaseMap received as Microstation files from Fort Stewart.

N

GA State Plane NAD83 (feet)

SAIC
Science Applications International Corporation

UST 21 & 22, BLDG 1327
FACILITY ID: 9-025053

REVISION	DRAWN BY:	CHKD BY:	DATE:
0	M.Norris	A. Bailey	10/27/98

FILE REFERENCES

051rds_polyline	burroughsctrf
051hyd_polyline	isleofhopectrf
051rr	savannahctrf
hunterarea	gardencityctrf
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	bggen.dgn

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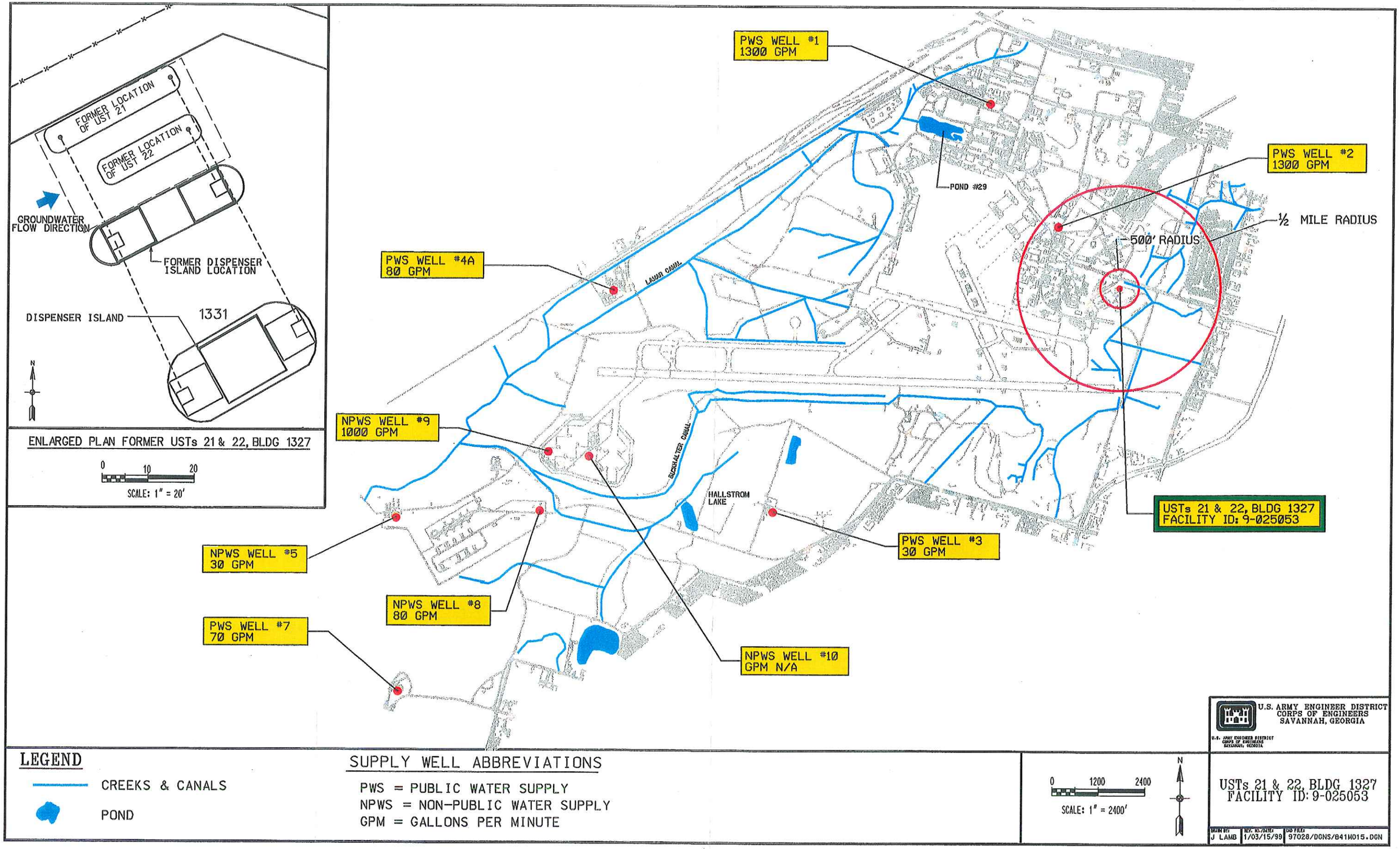

Figure 3b. Detailed Map Showing Public and Private Drinking Water Sources and Surface Water Bodies at Hunter Army Airfield

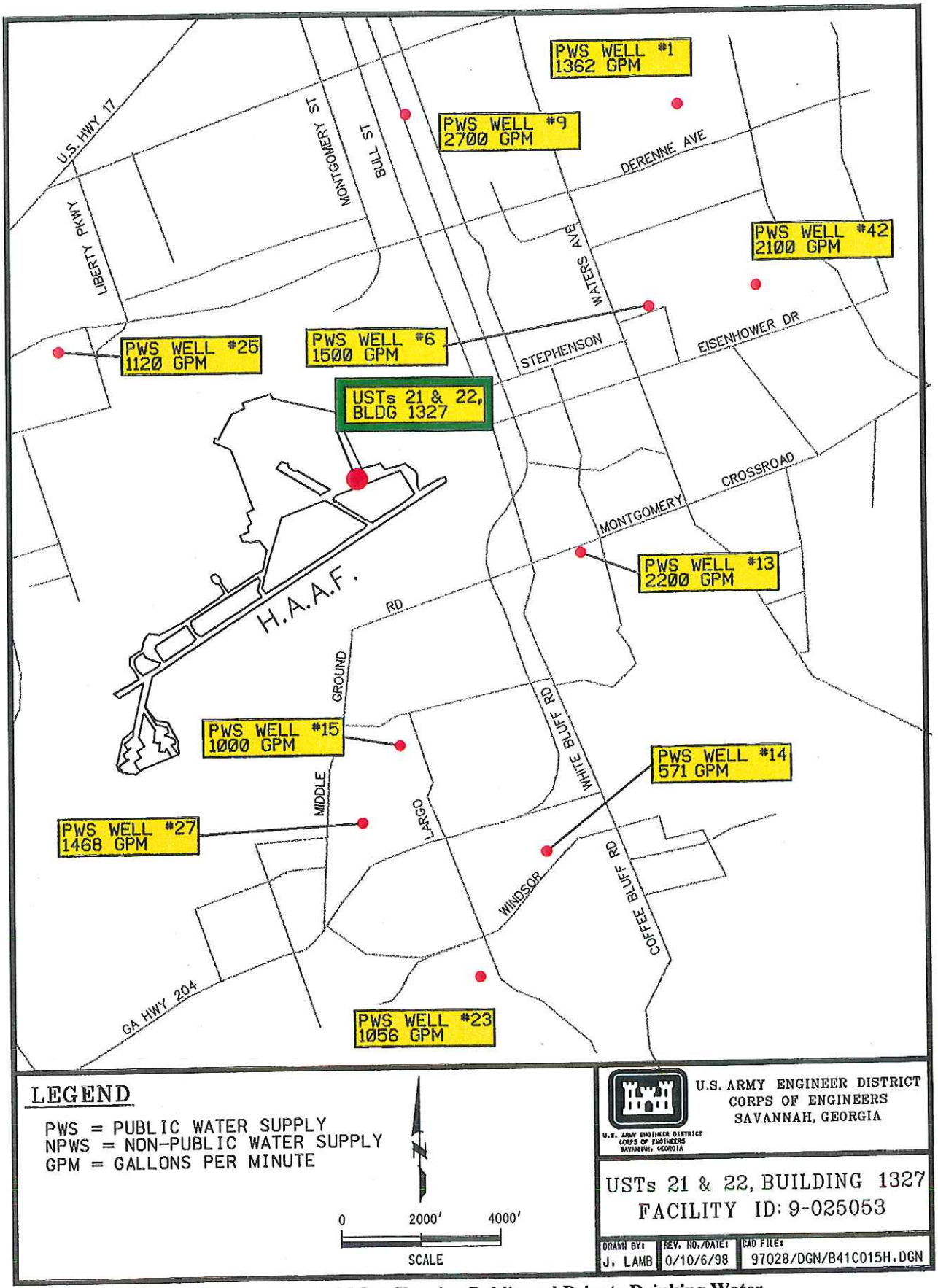

Figure 3c. Detailed Map Showing Public and Private Drinking Water Sources in Areas Adjacent to Hunter Army Airfield

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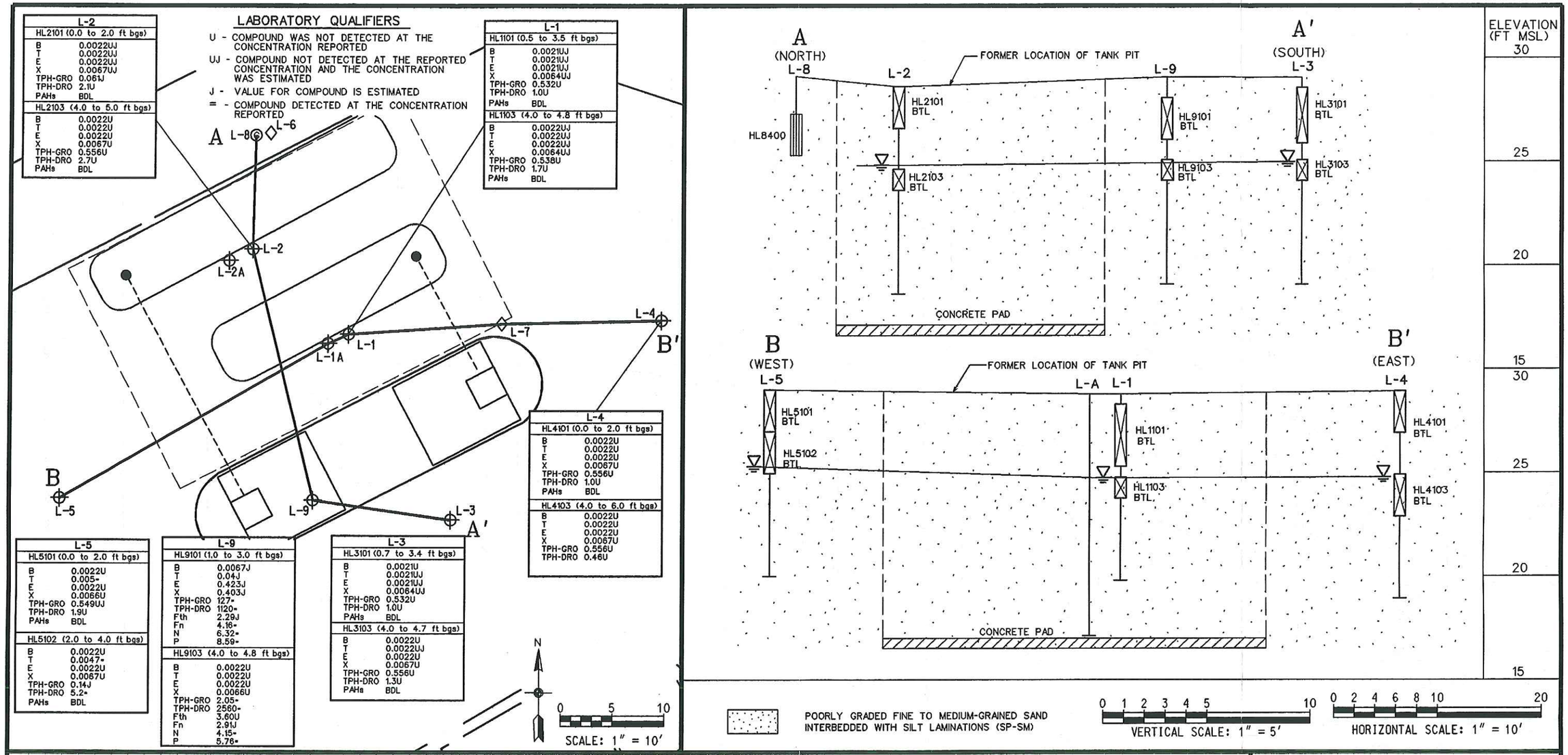

LEGEND

- BOREHOLE AND PIEZOMETER LOCATION
- SOIL SAMPLE LOCATION EXCEEDING THRESHOLD LEVELS
- VERTICAL PROFILE LOCATION
- GEOTECHNICAL & TOTAL ORGANIC CARBON SAMPLE LOCATION
- SOIL SAMPLE INTERVAL AND SAMPLE ID
- SOIL SAMPLE INTERVAL EXCEEDING THRESHOLD LEVELS
- GEOTECHNICAL & TOTAL ORGANIC CARBON SAMPLE INTERVAL
- WATER LEVEL (FT MSL) MEASURED IN PIEZOMETER (4/18/98)
- A —— A' CROSS SECTION LINE
- B —— B' CROSS SECTION LINE

NOTE:
L-1A & L-2A WERE ORIGINAL LOCATIONS FOR VERTICAL PROFILE INSTALLATION, BUT CONCRETE PAD WAS ENCOUNTERED AT ~ 12 FT BGS

B	BENZENE	(mg/kg)
T	TOLUENE	(mg/kg)
E	ETHYLBENZENE	(mg/kg)
X	XYLENES, TOTAL	(mg/kg)
PAHs	POLYNUCLEAR AROMATIC HYDROCARBONS	(mg/kg)
Fth	FLUORANTHENE	(mg/kg)
Fn	FLUORENE	(mg/kg)
N	NAPHTHALENE	(mg/kg)
P	PHENANTHRENE	(mg/kg)
TPH-GRO	TOTAL PETROLEUM HYDROCARBONS-GASOLINE RANGE ORGANICS	(mg/kg)
TPH-DRO	TOTAL PETROLEUM HYDROCARBONS-DIESEL RANGE ORGANICS	(mg/kg)
BDL	BELOW DETECTION LIMIT	
BTL	BELOW THRESHOLD LEVELS	
BGS	BELOW GROUND SURFACE	
MSL	MEAN SEA LEVEL	

THRESHOLD LEVELS
B - 0.008 mg/kg
T - 6.0 mg/kg
E - 10.0 mg/kg
X - 700 mg/kg

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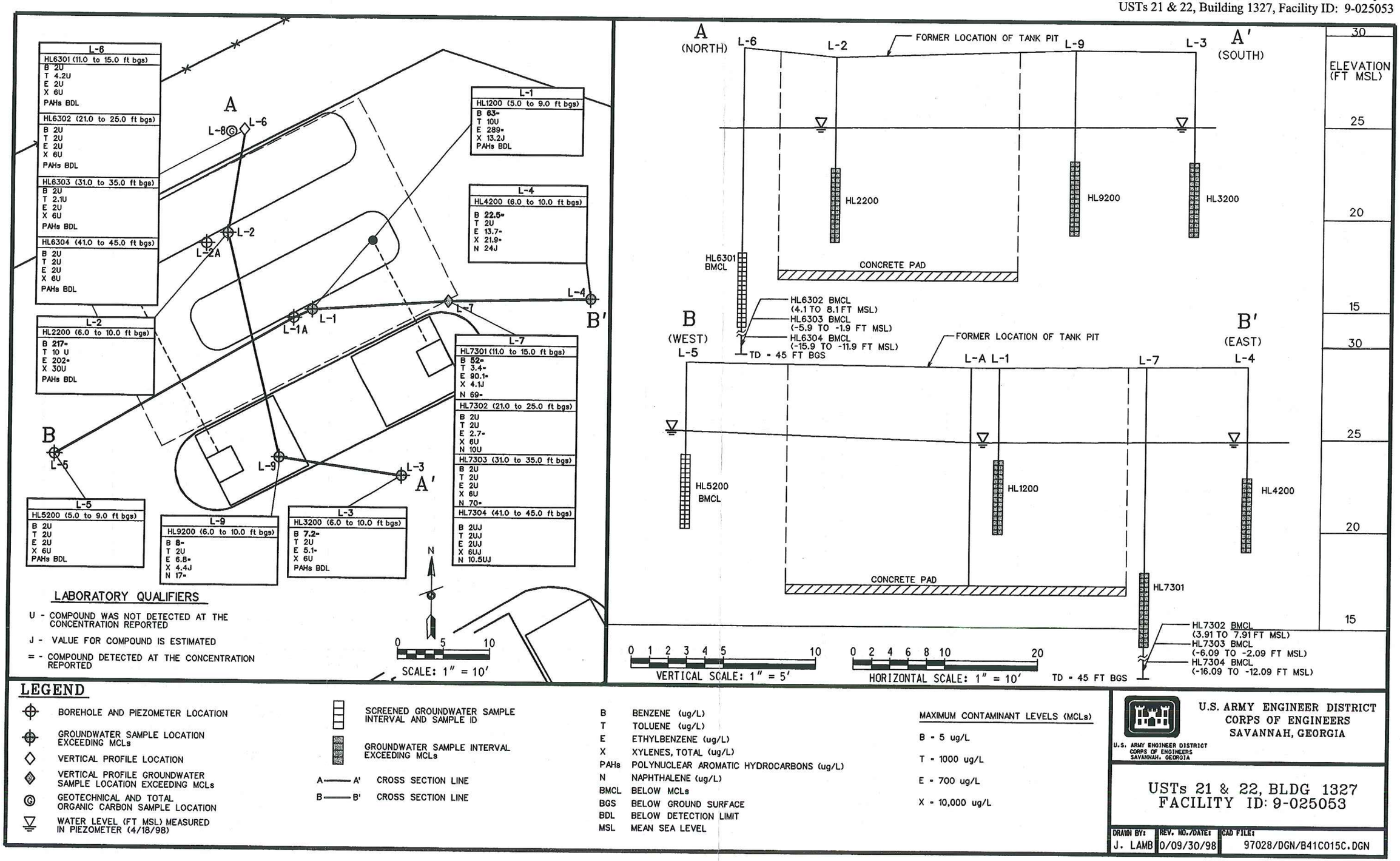
USTs 21 & 22, BLDG 1327
FACILITY ID: 9-025053

DRAWN BY:	REV. NO./DATE:	CAD FILE:
J. LAMB	0/09/30/98	97028/DGN/B41C015B.DGN

Figure 4. Soil Quality Map of USTs 21 & 22, Building 1327 Site



LEGEND

- BOREHOLE AND PIEZOMETER LOCATION
- GROUNDWATER SAMPLE LOCATION EXCEEDING MCLs
- VERTICAL PROFILE LOCATION
- VERTICAL PROFILE GROUNDWATER SAMPLE LOCATION EXCEEDING MCLs
- GEOTECHNICAL AND TOTAL ORGANIC CARBON SAMPLE LOCATION
- WATER LEVEL (FT MSL) MEASURED IN PIEZOMETER (4/18/98)
- SCREENED GROUNDWATER SAMPLE INTERVAL AND SAMPLE ID
- GROUNDWATER SAMPLE INTERVAL EXCEEDING MCLs
- A—A' CROSS SECTION LINE
- B—B' CROSS SECTION LINE

B	BENZENE (ug/L)
T	TOLUENE (ug/L)
E	ETHYLBENZENE (ug/L)
X	XYLENES, TOTAL (ug/L)
PAHs	POLYNUCLEAR AROMATIC HYDROCARBONS (ug/L)
N	NAPHTHALENE (ug/L)
BMCL	BELOW MCLs
BGS	BELOW GROUND SURFACE
BDL	BELOW DETECTION LIMIT
MSL	MEAN SEA LEVEL

MAXIMUM CONTAMINANT LEVELS (MCLs)

- B = 5 ug/L
- T = 1000 ug/L
- E = 700 ug/L
- X = 10,000 ug/L

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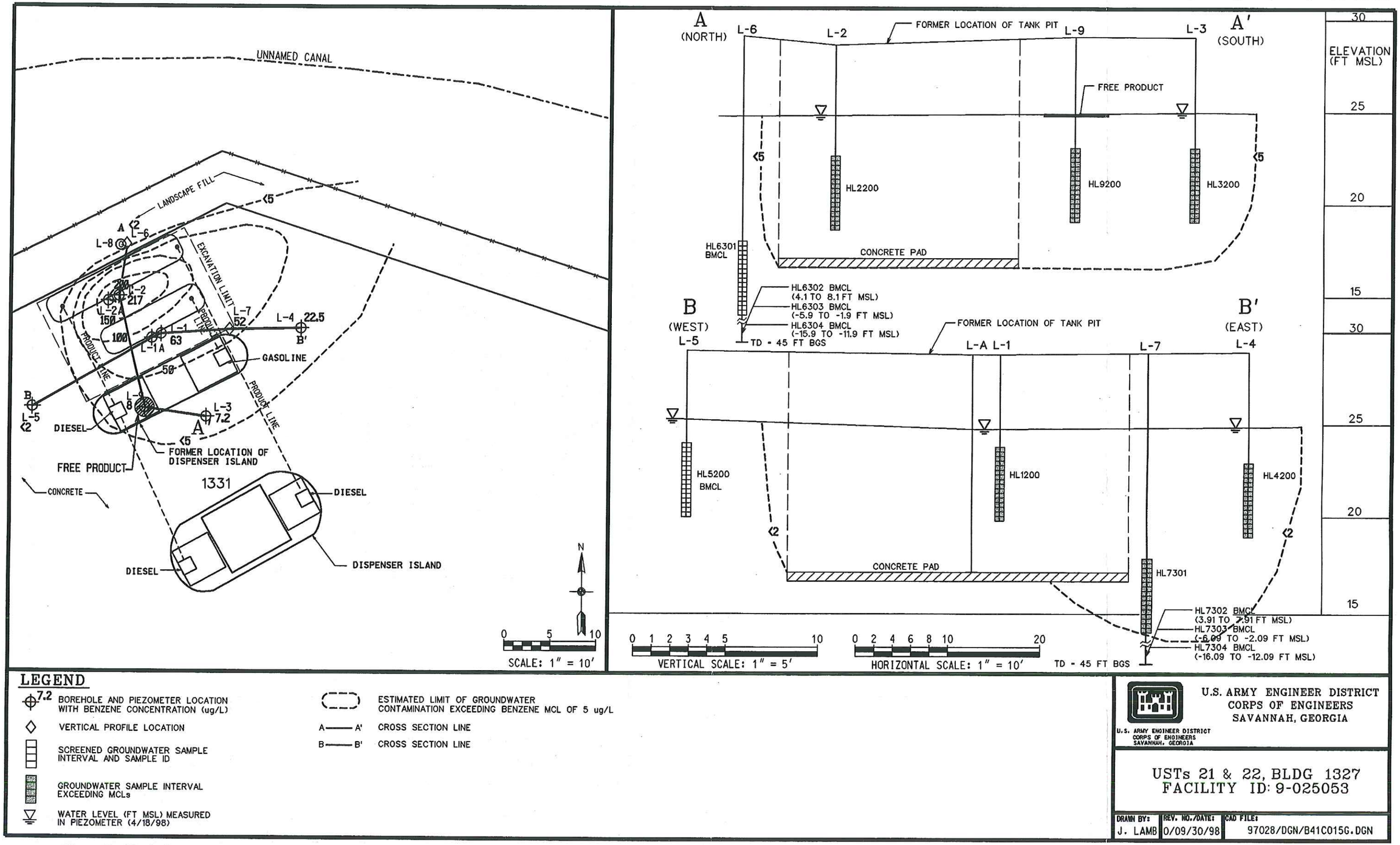
J. LAMB	0/09/30/98	97028/DGN/B41C015C.DGN

Figure 5. Groundwater Quality Map of the USTs 21 & 22, Building 1327 Site



LEGEND

- 7.2 — BOREHOLE AND PIEZOMETER LOCATION WITH BENZENE CONCENTRATION (ug/L)
- VERTICAL PROFILE LOCATION
- SCREENED GROUNDWATER SAMPLE INTERVAL AND SAMPLE ID
- GROUNDWATER SAMPLE INTERVAL EXCEEDING MCLs
- WATER LEVEL (FT MSL) MEASURED IN PIEZOMETER (4/18/98)
- ESTIMATED LIMIT OF GROUNDWATER CONTAMINATION EXCEEDING BENZENE MCL OF 5 ug/L
- A—A' CROSS SECTION LINE
- B—B' CROSS SECTION LINE

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J. LAMB	0/09/30/98	97028/DGN/B41C015G.DGN

Figure 5a. Vertical and Horizontal Extent of Benzene Contamination in Groundwater at the USTs 21 & 22, Building 1327 Site

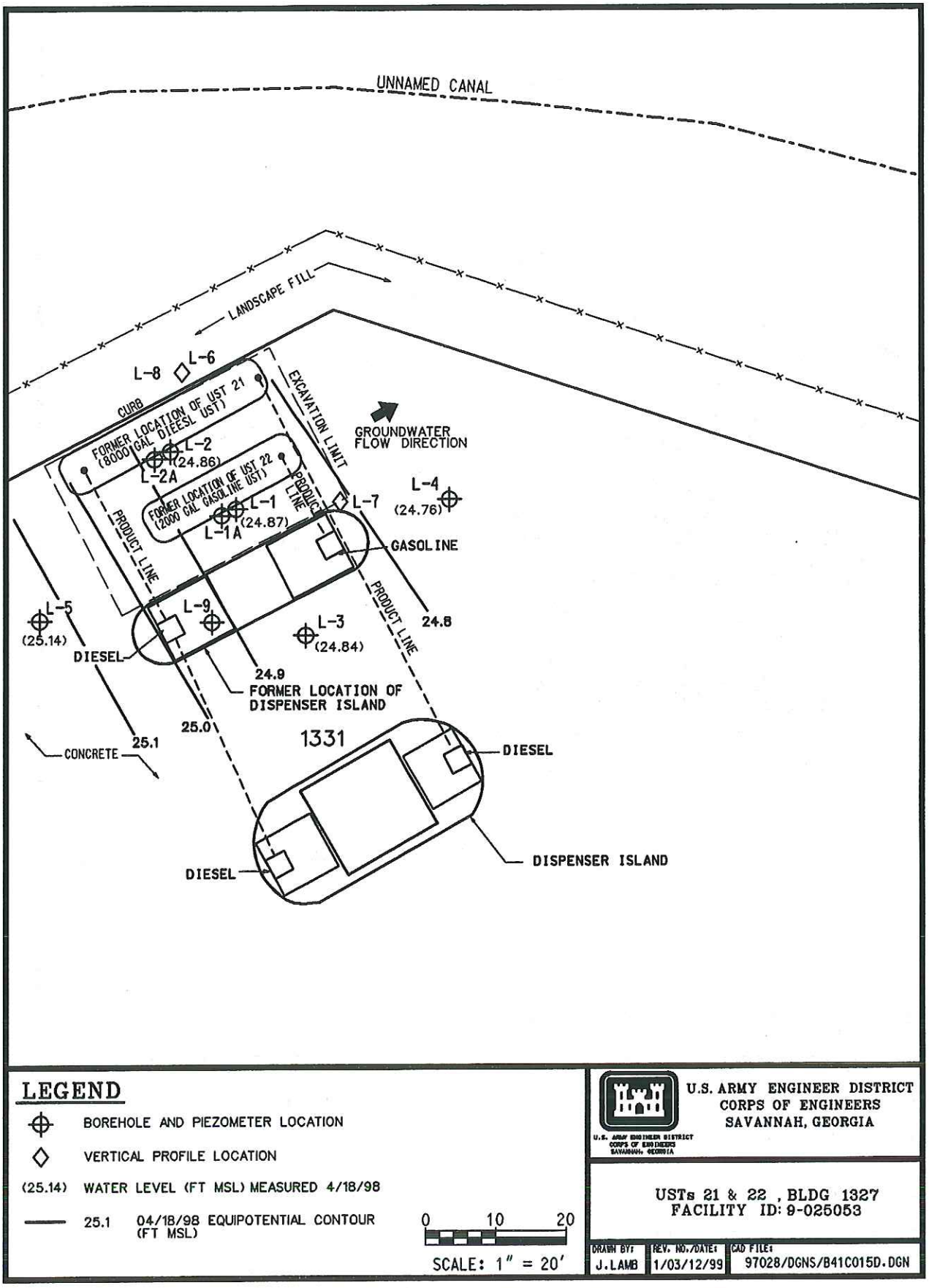

Figure 6. Potentiometric Surface Map of the USTs 21 & 22, Building 1327 Site

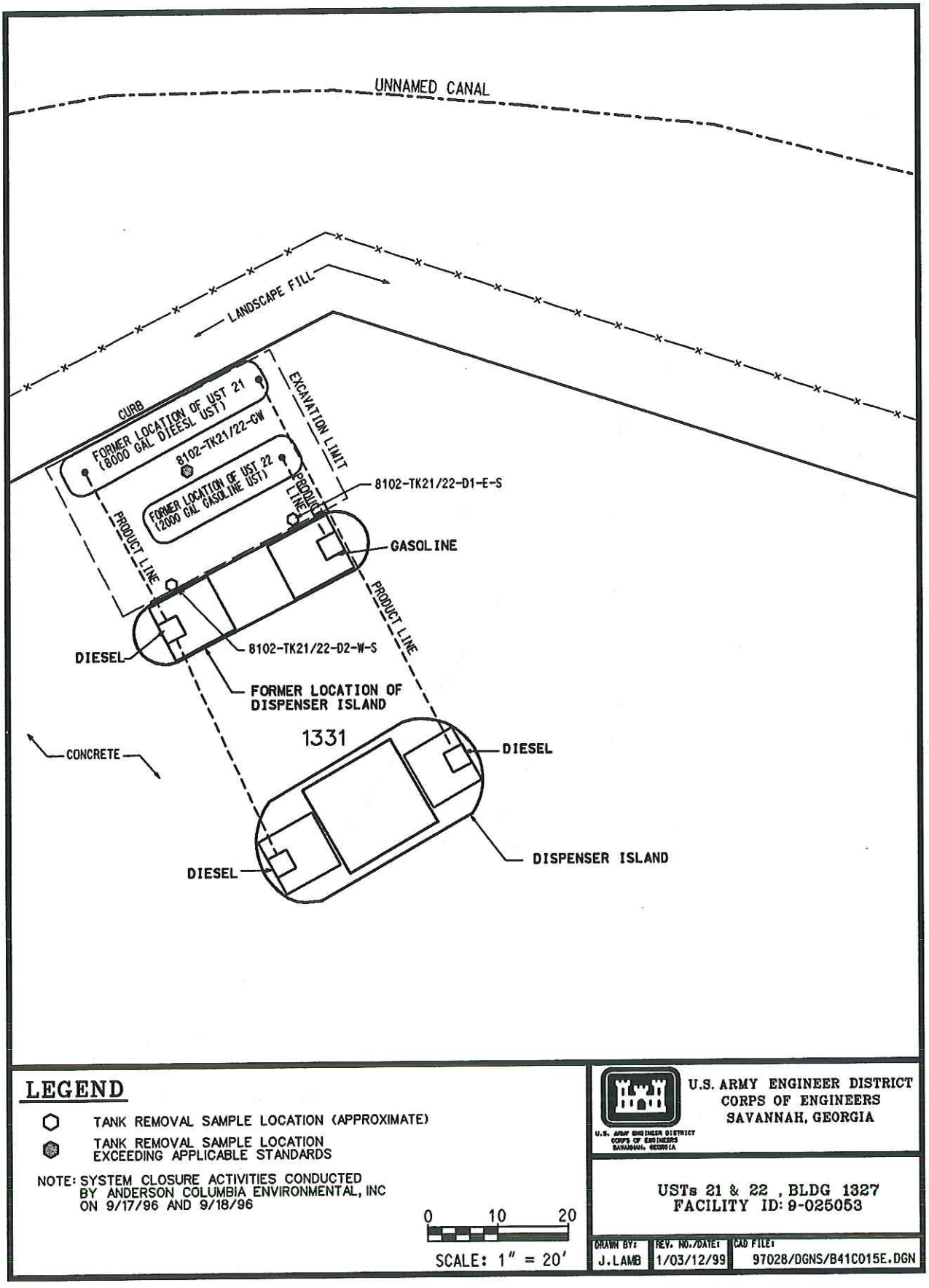

Figure 7. UST System Closure Sampling Locations at the USTs 21 & 22, Building 1327 Site

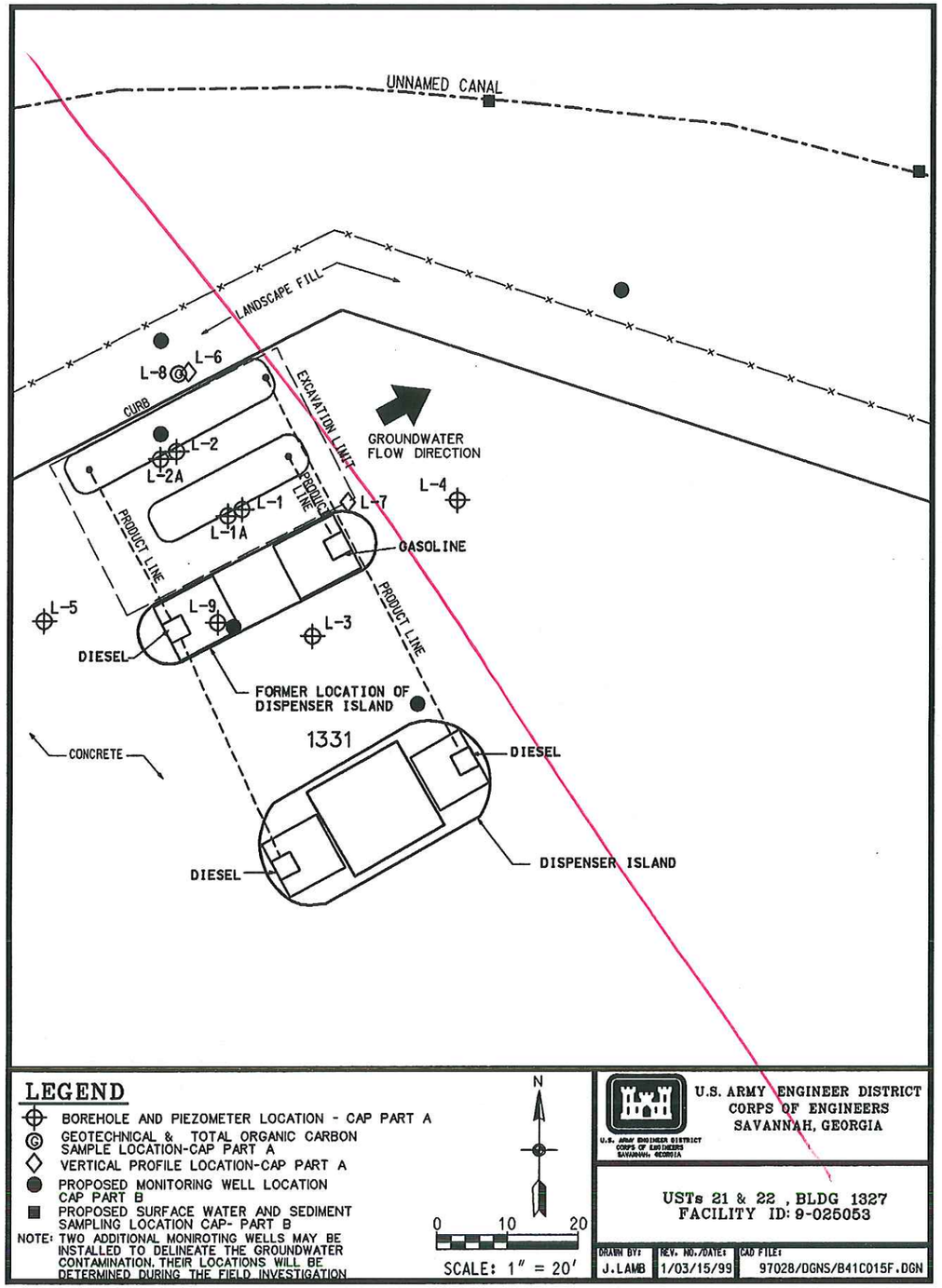

Figure 8. Proposed Additional Boring/Monitoring Well Locations for the USTs 21 & 22, Building 1327 Site

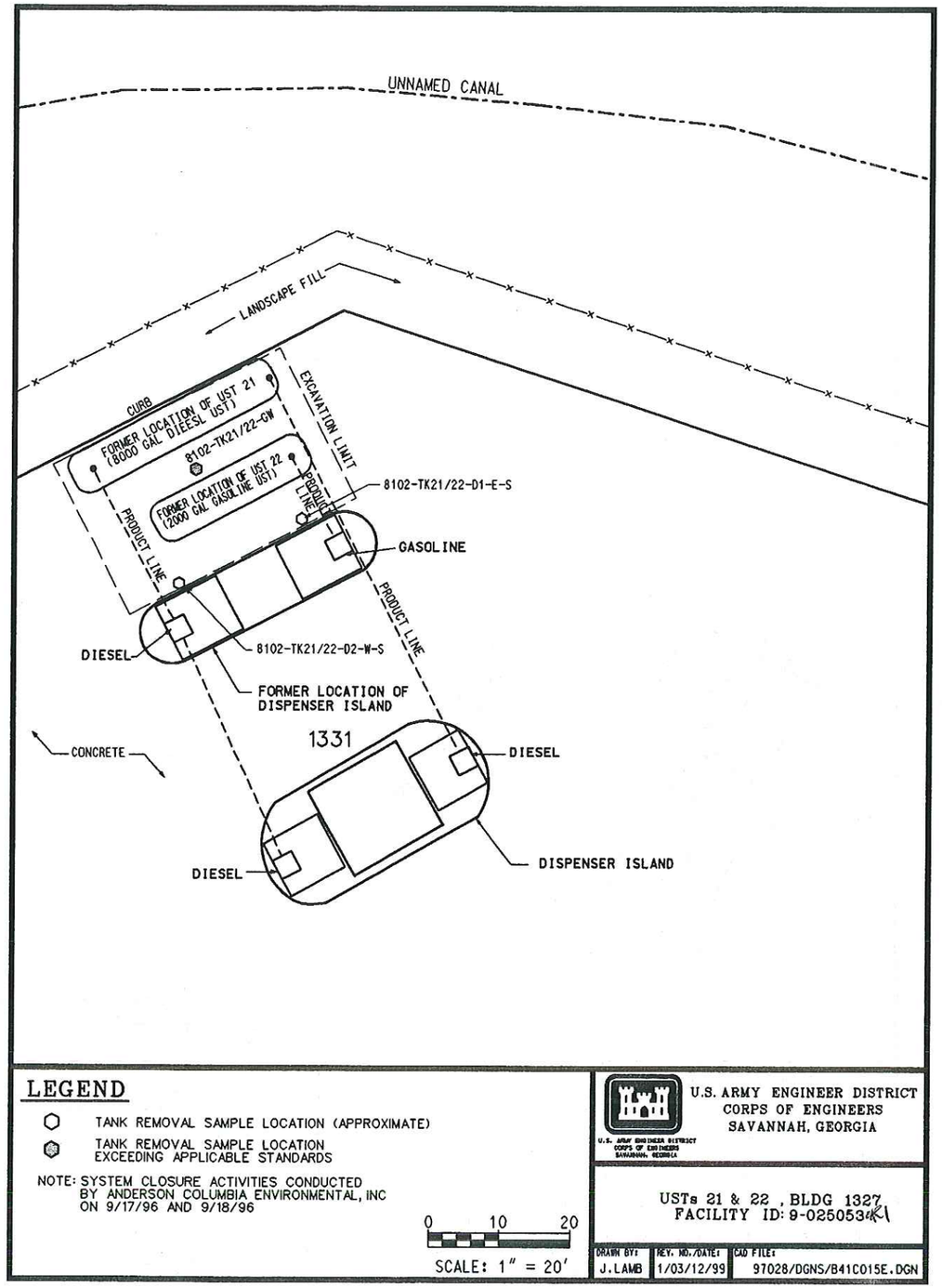

Figure 7. UST System Closure Sampling Locations at the USTs 21 & 22, Building 1327 Site

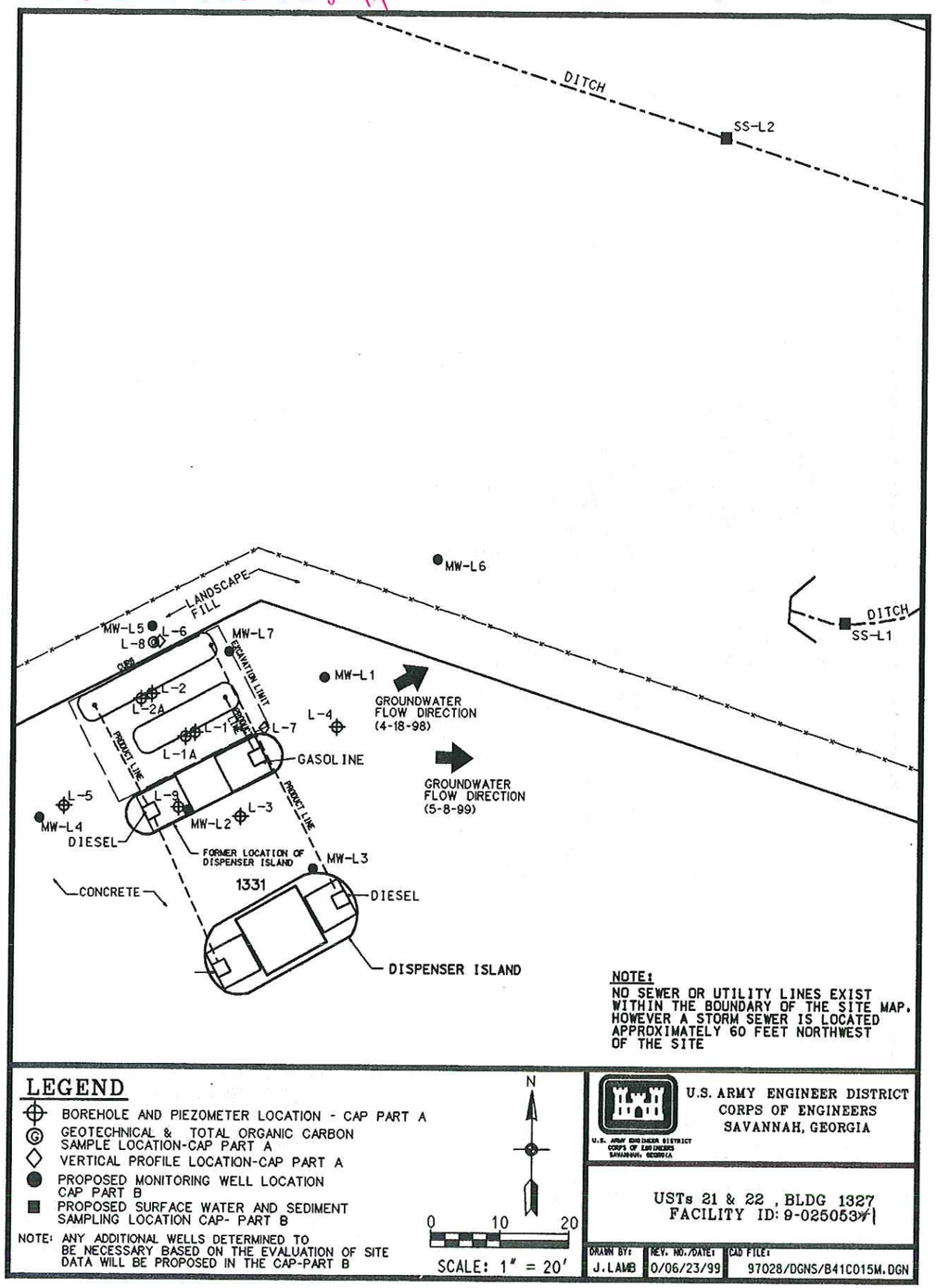

Figure 8. Proposed Additional Boring/Monitoring Well Locations for the USTs 21 & 22, Building 1327 Site (Revised 6/28/99)

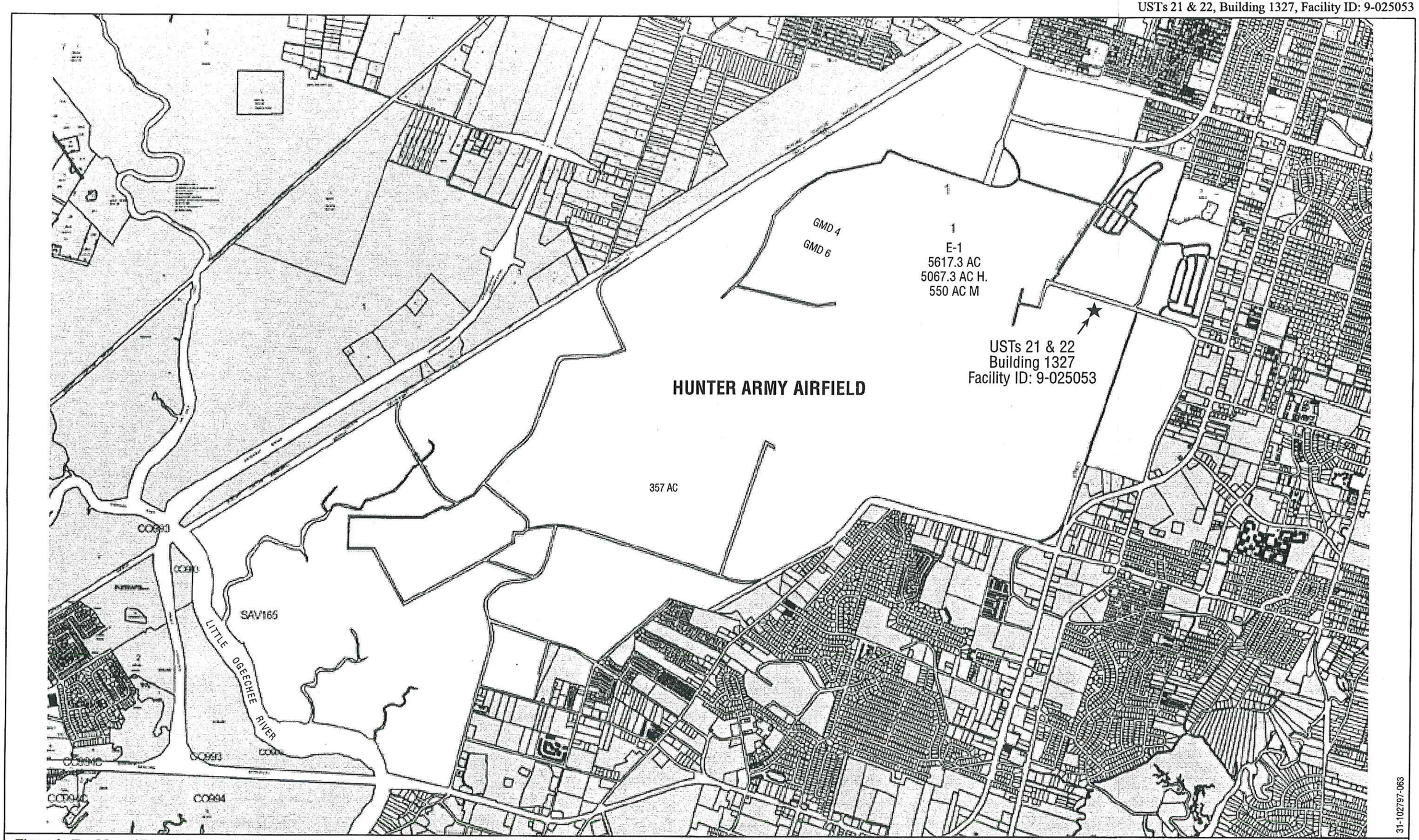

Figure 9. Tax Map of Hunter Army Airfield and Vicinity, Chatham County, Georgia

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APPENDIX II

REPORT TABLES

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USTs 21 & 22, Building 1327
Hunter Army Airfield
Chatham County, Facility ID: 9-025053

TABLE 1: FREE PRODUCT REMOVAL

Monitoring Well Number: L-9[5]				
Date of Measurement	Groundwater Elev. (ft MSL)	Product Thickness[1] (ft)	Corrected Water Elev. (ft MSL)	Product Removed (gal)[4]
04/23/98	24.88	0.19	24.88	0.00
06/25/98	23.86	N/A[2]	23.86	0.02
07/21/98	N/A[3]	N/A[3]	N/A[3]	0.02
09/22/98	N/A[3]	N/A[3]	N/A[3]	0.02
			TOTAL	0.06

Monitoring Well Number: N/A[5]				
Date of Measurement	Groundwater Elev. (ft MSL)	Product Thickness (ft)	Corrected Water Elev. (ft MSL)	Product Removed (gal)
			TOTAL	NONE

NOTE: MSL - mean sea level.
[1]Free product thickness measurement explained in Section IIB on page 2.
[2]Free product thickness determination attempted with water-product interface meter; no product was detected.
[3]The passive removal system (i.e., absorbent sock) impeded the measurement of accurate groundwater elevation and free product thickness; therefore, the measurements were not obtained.
[4]Volume of product removal is an estimated value.
[5]Free product was only found in piezometer L-9.

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TABLE 2a: SOIL ANALYTICAL RESULTS[3]
(VOLATILE ORGANIC COMPOUNDS)

Sample Location	Sample ID	Depth (ft BGS)	Date Sampled	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX[2] (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)
L-1	HL1101	0.5 to 3.5	04/03/98	0.0021 UJ	0.0021 UJ	0.0021 UJ	0.0064 UJ	BDL	1.0 U	0.532 U
L-1	HL1103	4.0 to 4.8	04/03/98	0.0022 UJ	0.0022 UJ	0.0022 UJ	0.0064 UJ	BDL	1.7 U	0.538 U
L-1	HL1110[4]	4.0 to 4.8	04/03/98	0.0022 U	0.0022 U	0.0022 UJ	0.0066 U	BDL	6.9 =	0.549 U
L-2	HL2101	0.0 to 2.0	04/03/98	0.0022 UJ	0.0022 UJ	0.0022 UJ	0.0067 UJ	BDL	2.1 U	0.061 J
L-2	HL2103	4.0 to 5.0	04/03/98	0.0022 U	0.0022 U	0.0022 U	0.0067 U	BDL	2.7 U	0.556 U
L-3	HL3101	0.7 to 3.4	04/03/98	0.0021 UJ	0.0021 UJ	0.0021 UJ	0.0064 UJ	BDL	1.0 U	0.532 U
L-3	HL3103	4.0 to 4.7	04/03/98	0.0022 U	0.0022 U	0.0022 U	0.0067 U	BDL	1.3 U	0.556 U
L-4	HL4101	0.0 to 2.0	04/06/98	0.0022 U	0.0022 U	0.0022 U	0.0067 U	BDL	1.0 U	0.556 U
L-4	HL4103	4.0 to 6.0	04/06/98	0.0022 U	0.0022 U	0.0022 U	0.0067 U	BDL	0.46 U	0.556 U
L-5	HL5101	0.0 to 2.0	04/06/98	0.0022 U	0.005 =	0.0022 U	0.0066 U	0.005	1.9 U	0.549 UJ
L-5	HL5102	2.0 to 4.0	04/06/98	0.0022 U	0.0047 =	0.0022 U	0.0067 U	0.0047	5.2 =	0.140 J
L-9	HL9101	1.0 to 3.0	04/22/98	0.0067 J	0.040 J	0.423 J	0.403 J	0.8727	1120 =	127 =
L-9	HL9103	4.0 to 4.8	04/22/98	0.0022 U	0.0022 U	0.0022 U	0.0066 U	BDL	2560 =	2.05 =
Applicable Standards[1]				0.008	6.000	10	700	NRC	NRC	NRC

NOTE:
[1] Georgia Department of Natural Resources (GA DNR) Applicable Soil Threshold Levels (i.e., Table A, column 2).
[2] The total value reported represents the sum of all detected compounds. A total is not reported if all the compounds are below the laboratory detection limits.
[3] **All field work and analytical sampling were performed prior to the release of the new GA DNR Corrective Action Plan (CAP)-Part A Guidance (i.e., May 1998); therefore, the new analytical methods specified were not used.**
[4] Duplicate sample for sample collected from location L-1 at a depth of 4.0 to 4.8 feet BGS.
BDL - Below detection limit
BGS - Below ground surface.
BTEX - Benzene, toluene, ethylbenzene, and xylene.
NRC - No regulatory criteria.
TPH-DRO - Total petroleum hydrocarbon-diesel-range organics.
TPH-GRO - Total petroleum hydrocarbon-gasoline-range organics.

Laboratory Qualifiers
U - Indicates the compound was not detected at the concentration reported.
J - Indicates the value for the compound is an estimated value.
UJ - Indicates the compound was not detected at the reported concentration and the concentration was estimated.
= - Indicates the compound was detected at the concentration reported.

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Hunter Army Airfield
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TABLE 2b: SOIL ANALYTICAL RESULTS[3]
(POLYNUCLEAR AROMATIC HYDROCARBONS)

Sample Location	Sample ID	Depth (ft BGS)	Date Sampled	Detected PAH Compounds (mg/kg)					Total PAHs (mg/kg)
				Fluoranthene	Fluorene	Naphthalene	Phenanthrene	BDL[2]	
L-1	HL1101	0.5 to 3.5	04/03/98	0.355 U	0.355 U	0.355 U	0.355 U		BDL[2]
L-1	HL1103	4.0 to 4.8	04/03/98	0.357 U	0.357 U	0.357 U	0.357 U		BDL
L-1	HL1110[5]	4.0 to 4.8	04/03/98	0.366 U	0.366 U	0.366 U	0.366 U		BDL
L-2	HL2101	0.0 to 2.0	04/03/98	0.374 U	0.374 U	0.374 U	0.374 U		BDL
L-2	HL2103	4.0 to 5.0	04/03/98	0.370 U	0.370 U	0.370 U	0.370 U		BDL
L-3	HL3101	0.7 to 3.4	04/03/98	0.353 U	0.353 U	0.353 U	0.353 U		BDL
L-3	HL3103	4.0 to 4.7	04/03/98	0.369 U	0.369 U	0.369 U	0.369 U		BDL
L-4	HL4101	0.0 to 2.0	04/06/98	0.367 U	0.367 U	0.367 U	0.367 U		BDL
L-4	HL4103	4.0 to 6.0	04/06/98	0.362 U	0.362 U	0.362 U	0.362 U		BDL
L-5	HL5101	0.0 to 2.0	04/06/98	0.361 U	0.361 U	0.361 U	0.361 U		BDL
L-5	HL5102	2.0 to 4.0	04/06/98	0.367 U	0.367 U	0.367 U	0.367 U		BDL
L-9	HL9101	1.0 to 3.0	04/22/98	2.29 J	4.16 =	6.32 =	8.59 =		21.36
L-9	HL9103	4.0 to 4.8	04/22/98	3.60 U	2.91 J	4.15 =	5.76 =		12.82
Applicable Standards[1]				N/A[4]	N/A[4]	N/A[4]	N/A[4]		NRC

NOTE:
[1] Georgia Department of Natural Resources (GA DNR) Applicable Soil Threshold Levels (i.e., Table A, column 2).
[2] BDL – Below detection limit; PAH compounds were not detected above the laboratory detection limit. Refer to Appendix V, Table V-A, for a complete list of PAH results.
[3] **All field work and analytical sampling were performed prior to the release of the new GA DNR Corrective Action Plan (CAP)-Part A Guidance (i.e., May 1998); therefore, the new analytical methods specified were not used.**
[4] N/A – Not applicable; the health-based threshold level exceeds the expected soil concentration under free product condition.
[5] Duplicate sample for sample collected from location L-1 at a depth of 4.0 to 4.8 feet BGS.
BGS - Below ground surface.
NRC - No regulatory criteria.
PAHs - Polynuclear aromatic hydrocarbons.
Laboratory Qualifiers
U - Indicates the compound was not detected at the concentration reported.
J - Indicates the value for the compound is an estimated value.
UJ - Indicates the compound was not detected at the reported concentration and the concentration was estimated.
= - Indicates the compound was detected at the concentration reported.

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TABLE 3a: GROUNDWATER ANALYTICAL RESULTS[4]
(VOLATILE ORGANIC COMPOUNDS)

Sample Location	Sample ID	Depth (ft BGS)	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX[3] (µg/L)
L-1	HL1200	5.0 to 9.0	04/03/98	63 =	10 U	289 =	13.2 J	365.2
L-2	HL2200	6.0 to 10.0	04/03/98	217 =	10 U	202 =	30 U	419.0
L-3	HL3200	6.0 to 10.0	04/03/98	7.2 =	2 U	5.1 =	6 U	12.3
L-4	HL4200	6.0 to 10.0	04/06/98	22.5 =	2 U	13.7 =	21.9 =	58.1
L-5	HL5200	5.0 to 9.0	04/06/98	2 U	2 U	2 U	6 U	BDL[2]
L-5	HL5210[5]	5.0 to 9.0	04/06/98	2 U	2 U	2 U	6 U	BDL
L-6	HL6301	11.0 to 15.0	04/18/98	2 U	4.2 U	2 U	6 U	BDL
L-6	HL6302	21.0 to 25.0	04/18/98	2 U	2 U	2 U	6 U	BDL
L-6	HL6303	31.0 to 35.0	04/18/98	2 U	2.1 U	2 U	6 U	BDL
L-6	HL6304	41.0 to 45.0	04/18/98	2 U	2 U	2 U	6 U	BDL
L-7	HL7301	11.0 to 15.0	04/18/98	52 =	3.4 =	90.1 =	4.1 J	149.6
L-7	HL7310[6]	11.0 to 15.0	04/18/98	47.9 J	2.4 J	143 J	6 UJ	193.3
L-7	HL7302	21.0 to 25.0	04/18/98	2 U	2 U	2.7 U	6 U	2.7
L-7	HL7303	31.0 to 35.0	04/18/98	2 U	2 U	2 U	6 U	BDL
L-7	HL7304	41.0 to 45.0	04/18/98	2 UJ	2 UJ	2 UJ	6 UJ	BDL
L-9	HL9200	6.0 to 10.0	04/22/98	8 =	2 U	6.8 =	4.4 J	19.2
Applicable Standards[1]				5	1,000	700	10,000	NRC

NOTE: [1] U.S. Environmental Protection Agency maximum contaminant level.
[2] BDL - Below detection limit.
[3] The total value reported represents the sum of all detected compounds. A total is not reported if all the compounds are below the laboratory detection limits.
[4] **All field work and analytical sampling were performed prior to the release of the new Georgia Department of Natural Resources (GA DNR) Corrective Action Plan (CAP)-Part A Guidance (i.e., May 1998); therefore, the new analytical methods specified were not used.**
[5] Duplicate sample for sample collected from location L-5 at a depth of 5.0 to 9.0 feet BGS.
[6] Duplicate sample for sample collected from location L-7 at a depth of 11.0 to 15.0 feet BGS.
BGS - Below ground surface.
BTEX - Benzene, toluene, ethylbenzene, and xylene.
NRC - No regulatory criteria.
PAHs - Polynuclear aromatic hydrocarbons.

Laboratory Qualifiers
U - Indicates the compound was not detected at the concentration reported.
J - Indicates the value for the compound is an estimated value.
UJ - Indicates the compound was not detected at the reported concentration and the concentration was estimated.
= - Indicates the compound was detected at the concentration reported.

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TABLE 3b: GROUNDWATER ANALYTICAL RESULTS[4]

(POLYNUCLEAR AROMATIC HYDROCARBONS)

Sample Location	Sample ID	Depth (ft BGS)	Date Sampled	Detected PAH Compounds (µg/L)				Total PAHs[3] (µg/L)
				Naphthalene	Acenaphthene	BDL[2]	BDL[2]	
L-1	HL1200	5.0 to 9.0	04/03/98	408 U	408 U			BDL[2]
L-2	HL2200	6.0 to 10.0	04/03/98	408 U	408 U			BDL
L-3	HL3200	6.0 to 10.0	04/03/98	9.9 U	9.9 U			BDL
L-4	HL4200	6.0 to 10.0	04/06/98	24 J	11.6 R			24
L-5	HL5200	5.0 to 9.0	04/06/98	11.4 U	11.4 U			BDL
L-5	HL5210[5]	5.0 to 9.0	04/06/98	10.5 U	10.5 U			BDL
L-6	HL6301	11.0 to 15.0	04/18/98	10.1 U	10.1 U			BDL
L-6	HL6302	21.0 to 25.0	04/18/98	10.2 U	10.2 U			BDL
L-6	HL6303	31.0 to 35.0	04/18/98	10.4 U	10.4 U			BDL
L-6	HL6304	41.0 to 45.0	04/18/98	10.2 U	10.2 U			BDL
L-7	HL7301	11.0 to 15.0	04/18/98	69 =	10.3 U			69
L-7	HL7310[6]	11.0 to 15.0	04/18/98	77.7 =	1.1 J			78.8
L-7	HL7302	21.0 to 25.0	04/18/98	10 U	10 U			BDL
L-7	HL7303	31.0 to 35.0	04/18/98	70 =	10.3 U			70
L-7	HL7304	41.0 to 45.0	04/18/98	10.5 UJ	10.5 UJ			BDL
L-9	HL9200	6.0 to 10.0	04/22/98	17 =	10.2 U			17
Applicable Standards[1]				NRC	NRC			NRC

NOTE: [1] U.S. Environmental Protection Agency maximum contaminant level.
[2] BDL - Below detection limit; PAH compounds were not detected above the laboratory detection limit. Refer to Appendix VIII, Table VIII-A, for complete list of PAH results.
[3] The total value reported represents the sum of all detected compounds. A total is not reported if all the compounds are below the laboratory detection limits.
[4] **All field work and analytical sampling were performed prior to the release of the new Georgia Department of Natural Resources (GA DNR) Corrective Action Plan (CAP)-Part A Guidance (i.e., May 1998); therefore, the new analytical methods specified were not used.**
[5] Duplicate sample for sample collected from location L-5 at a depth of 5.0 to 9.0 feet BGS.
[6] Duplicate sample for sample collected from location L-7 at a depth of 11.0 to 15.0 feet BGS.
BGS - Below ground surface.
NRC - No regulatory criteria.
PAHs - Polynuclear aromatic hydrocarbons.

Laboratory Qualifiers
U - Indicates the compound was not detected at the concentration reported.
J - Indicates the value for the compound is an estimated value.
UJ - Indicates the compound was not detected at the reported concentration and the concentration was estimated.
= - Indicates the compound was detected at the concentration reported.
R - Indicates compound was rejected. See Appendix VIII, Table VIII-A, for explanation.

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TABLE 4: GROUNDWATER ELEVATIONS

Well Number	Date Measured	Ground Surface Elev. (ft MSL)	Top of Casing Elev. (ft MSL)	Depth of Screened Interval (ft BGS)	Depth of Free Product (ft BTOC)	Water Depth (ft BTOC)	Product Thickness (ft)	Specific Gravity Adjustment	Corrected Groundwater Elev. (ft MSL)
L-1	4/18/98	28.77	29.19	4.0 to 9.0	N/A	4.32	N/A	N/A	24.87
L-2	4/18/98	28.60	29.31	5.0 to 10.0	N/A	4.45	N/A	N/A	24.86
L-3	4/18/98	29.05	29.12	5.0 to 10.0	N/A	4.28	N/A	N/A	24.84
L-4	4/18/98	29.91	30.08	5.0 to 10.0	N/A	5.32	N/A	N/A	24.76
L-5	4/18/98	28.98	30.21	4.0 to 9.0	N/A	5.07	N/A	N/A	25.14
L-9	4/23/98	29.06	29.91	5.0 to 10.0	4.84	5.03	0.19	N/A	24.88

NOTE: MSL - Mean sea level.
BGS - Below ground surface.
BTOC – Below top of casing.
N/A - Not applicable.

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TABLE 5a: UST SYSTEM CLOSURE[1] - SOIL ANALYTICAL RESULTS
(VOLATILE ORGANIC COMPOUNDS)

Sample Location	Depth (ft BGS)	Date Sampled	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)
8102-TK21/22-D1E-S	2.0	9/18/96	BDL	BDL	BDL	BDL	BDL	BDL	BDL
8102-TK21/22-D1W-S	2.0	9/18/96	BDL	BDL	0.424	0.620	1.044	2675	229
Applicable Standards[2]			0.008	6	10	700	NRC	NRC	NRC

NOTE: [1]Underground storage tank system closure performed by Anderson Columbia Environmental, Inc. (1996).
[2]Georgia Department of Natural Resources Applicable Soil Threshold Levels (i.e., Table A, column 2).
BDL - Below detection limit.
BGS - Below ground surface.
BTEX - Benzene, toluene, ethylbenzene, and xylene.
NRC - No regulatory criteria.
TPH-DRO - Total petroleum hydrocarbon–diesel-range organics.
TPH-GRO - Total petroleum hydrocarbon–gasoline-range organics.

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TABLE 5b: UST SYSTEM CLOSURE[1] - SOIL ANALYTICAL RESULTS
(POLYNUCLEAR AROMATIC HYDROCARBONS)

Sample Location	Depth (ft BGS)	Date Sampled	Detected PAH Compounds (mg/kg)									Total PAHs (mg/kg)
			Acenaphthylene	Anthracene	Benz(a)-anthracene	Chrysene	1-Methyl-Naphthalene	2-Methyl-Naphthalene	Naphthalene	Phenanthrene	Pyrene	
8102-TK21/22-D1E-S	2	9/18/96	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
8102-TK21/22-D1W-S	2	9/18/96	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Applicable Standards[2]			N/A[3]	N/A[3]	N/A[3]	N/A[3]	NRC	NRC	N/A[3]	N/A[3]	N/A[3]	NRC

NOTE: [1]Underground storage tank system closure performed by Anderson Columbia Environmental, Inc. (1996).
[2]Georgia Department of Natural Resources Applicable Soil Threshold Levels (i.e., Table A, column 2).
[3]Not applicable; the health-based threshold level exceeds the expected soil concentration under free-product conditions.
BDL - Below detection limit. Analytical result/detection limit not provided.
BGS - Below ground surface.
NRC - No regulatory criteria.
PAHs - Polynuclear aromatic hydrocarbons.

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TABLE 6a: UST SYSTEM CLOSURE[1] - GROUNDWATER ANALYTICAL RESULTS
(VOLATILE ORGANIC COMPOUNDS)

Sample Location	Depth (ft BGS)	Date Sampled	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Xylenes (mg/L)	Total BTEX (mg/L)
8102-TK21/22-GW	10	9/12/96	BDL	1,000	BDL	10,500	11,500
Applicable Standards[2]			5	1,000	700	10,000	NRC

TABLE 6b: UST SYSTEM CLOSURE[1] - GROUNDWATER ANALYTICAL RESULTS
(POLYNUCLEAR AROMATIC HYDROCARBONS)

Sample Location	Depth (ft BGS)	Date Sampled	Detected PAH Compounds (µg/L)			Total PAHs (µg/L)
			Naphthalene	2-Methyl-naphthalene	Phenanthrene	
8102-TK21/22-GW	10	9/12/96	170	196	28	394
Applicable Standards[2]			NRC	NRC	NRC	NRC

NOTE: [1]UST system closure performed by Anderson Columbia Environmental, Inc. (1996).
[2]U.S. Environmental Protection Agency maximum contaminant levels.
BDL - Below detection limit.
BGS - Below ground surface.
BTEX - Benzene, toluene, ethylbenzene, and xylene.
NRC - No regulatory criteria.
PAHs - Polynuclear aromatic hydrocarbons.

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APPENDIX III

WATER RESOURCES SURVEY DOCUMENTATION

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WATER RESOURCES SURVEY DOCUMENTATION

1.0 LOCAL WATER RESOURCES

As required by the Georgia Department of Natural Resources (GA DNR) Underground Storage Tank (UST) Corrective Action Plan (CAP)-Part A Guidance (GA DNR 1998b), a water resource survey documenting information for public and non-public water supply wells, surface water bodies, underground utilities, and potential receptors was conducted for all the Hunter Army Airfield (HAAF) UST investigation sites in April, May, and June 1998. The information presented in this section provides the supporting documentation for Section II.D.3 of the CAP-Part A form.

1.1 WATER SUPPLY WELL SURVEY

The water supply well survey was conducted using the following GA DNR guidelines/requirements:

- HAAF is located in an area of average or higher groundwater pollution susceptibility (GA DNR 1976).
- Locate all public supply wells, as defined by the GA DNR, that exist within 2 miles of the investigation sites.
- Locate all non-public supply wells that exist within 0.5 miles of the investigation sites.
- Locate all supply wells nearest the investigation sites.
- Locate all wells downgradient of the investigation sites.

The required survey was accomplished by obtaining information from the Fort Stewart Directorate of Public Works (FS DPW) and the City of Savannah Bureau of Water Operations, performing a field survey, and conducting a U.S. Geological Survey (USGS) database search. A summary of the information obtained during the survey is provided in the following sections.

1.1.1 Fort Stewart Directorate of Public Works Survey Summary

According to the FS DPW, nine water supply wells are located within the confines of the HAAF area (Figures 3a and 3b, Appendix I). These wells have the potential to provide up to 3,890 gallons per minute (gpm) of water to occupants of the HAAF installation. The FS DPW was unable to provide documentation listing the companies responsible for well installation, and drillers' logs showing as-built information and subsurface geologic data. Information concerning such documentation was requested from several water well drilling companies in the Chatham County area; however, data were procured with very limited success. The FS DPW provided well locations, pump rates, treatment methods, casing depths, and total depths for eight of the nine wells located at HAAF (Table III-A). However, documentation of subsurface geology based on HAAF drill logs remains extremely limited. Therefore, other references providing deep-well

information were used to document the subsurface geology and aquifer characteristics beneath the HAAF area. Refer to Appendix X, Section 1.0, for further geologic discussion.

Wells 1 and 2, both public water supply wells located in the cantonment area of HAAF, constitute the main water supply system at the HAAF installation. Well 1, located at Building 711 on the corner of Moore Road and Douglas Street, is a 12-inch-diameter well with a 100-hp turbine pump serving a 100,000-gallon elevated storage tank (Tank 1) through 10-inch lines. Water from Well 1 is injected with hydrofluosilic acid and chlorine gas solution at the well house. 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 serving a 200,000-gallon elevated tank (Tank 2) through 10-inch lines. Water from Well 2 is also injected with hydrofluosilic acid and chlorine gas solution at the well house. Wells 1 and 2 provide water to a 500,000-gallon elevated storage tank (Tank 3) located on Middleground Road behind noncommissioned officer (NCO) family housing. This tank provides potable water to 694 service connections, which are used by an average of at least 5,000 individuals year-round.

Wells 3, 4A, and 7 are public supply wells located outside the cantonment area of HAAF. Well 3, located at Building 8455, is a 4.0-inch-diameter well with a 1.0-hp electric submersible pump serving a 1,000-gallon hydropneumatic storage tank through 1.5-inch galvanized steel lines. Water from Well 3 is treated with calcium hypochlorite solution and is consumed by approximately 25 people during daytime hours, year-round. Well 4A, located at Building 8581 at the 117th Air National Guard Facility, is a 4.0-inch-diameter well. Pumpage is accomplished with a 0.75-hp turbine pump with 80 gpm capacity. Well 4A provides water for approximately 50 people per day year-round. Well 7 is located at Building 8703 on the Forest River, west of Rio Road. Well 7 is a 4.0-inch well with a 3.0-hp submersible pump serving a 5,000-gallon hydropneumatic tank through 2.0-inch galvanized steel lines. Well 7 serves approximately 500 people on a part-time basis. Sanitary protection for Wells 3, 4A, and 7 is provided by a pump motor block, concrete slab, sealed well head, and screened casing vent.

Based on the GA DNR criteria of serving potable water to less than 25 occupants per day and having less than 15 service connections, wells 5, 8, and 9 are classified as non-public supply wells (Figure 3a, Appendix I). Pump rates, casing depths, bore depths, treatment methods, and storage tank information are provided in Table III-A.

Well 10 is a non-potable water source (Figure 3b, Appendix I). Water from Well 10 is used for the cleaning of military equipment at a wash-rack facility. Additional information including capacity, borehole depth, and casing depth is not available.

1.1.2 City of Savannah Bureau of Water Operations Survey Summary

The locations of supply wells found outside the boundary of HAAF that are within 2 miles of one or more of the CAP-Part A investigation sites are shown on Figure 3b, Appendix I. These wells include 25, 15, 27, 14, 23, 6, and 9. Data concerning casing depths, borehole depths, casing sizes, and capacities are listed in Table III-B. The City of Savannah Bureau of Water Operations was unable to provide drill logs or as-built well information.

1.1.3 U.S. Geological Survey Summary

Chatham County encompasses three watersheds: Lower Savannah, Lower Ogeechee, and Ogeechee Coastal (EPA 1998). The HAAF installation is located within the Ogeechee Coastal watershed which covers 1,477 square miles; includes 18 rivers and streams, including the Little Ogeechee River which borders the south western portion of HAAF; and contains land usage areas

classified as 2 percent urban, 67 percent forest, and 24 percent agricultural. Water use survey data for the watershed estimate that the area has a total population of 200,000 with domestic, industrial, and commercial water supplies mainly derived from groundwater sources (USGS 1990). Domestic water supply data show that a population of 144,000 receives public-supplied water from groundwater sources, 48,000 receive water from self-supplied groundwater sources, and 8,000 from public-supplied surface water sources. The water use survey also reports that two industrial facilities within the watershed are self-supplied with water obtained from groundwater sources. The survey also notes that a total of five wastewater facilities are located in the area with three reported as public wastewater treatment facilities.

1.2 SURFACE WATER BODIES

Surface water(s) in the State of Georgia, as defined by *Rules and Regulations for Water Quality Control, Chapter 391-3-6* (GA DNR 1998a), shall mean any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs producing 100,000 gallons per day, and all other bodies of surface water, natural or artificial, lying within or forming a part of the boundaries of the State which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation The surface water body survey was conducted using the following GA DNR guidelines/requirements:

- surface water bodies that exist within 1 mile of the investigation sites,
- all surface water bodies nearest the investigation sites if these bodies lie outside the 1-mile radius of concern,
- all surface water bodies downgradient of the investigation sites, and
- the storm and sanitary sewers adjacent to investigation sites.

The locations of surface water bodies at HAAF were obtained from USGS aerial photographs, USGS topographic maps, and from maps provided by the FS DPW. Storm and sanitary sewer location maps, storm sewer invert elevations, and storm sewer and culvert construction details were provided by the FS DPW and the City of Savannah Bureau of Water and Sewer Planning (1998).

Surface water bodies at HAAF include Hallstrom Lake, Lamar Canal, Buckhalter Canal, Springfield Canal, Pond 29 located northwest of Buildings 336 and 232, and an unnamed pond located along the southeast boundary of the HAAF installation (Figure 3b, Appendix I). Several unnamed drainage canals exist throughout HAAF. Most of these canals drain southwest into the Little Ogeechee River, which is part of the Lower Ogeechee watershed. The remaining drainage canals located on the east side of the HAAF installation flow east and eventually drain into the Vernon River, which is located southeast of the HAAF installation.

Surface water bodies at HAAF and adjacent areas are not used as public water supplies. The ponds and lakes are perennial, whereas most of the drainage canals and ditches are intermittent. Most of the drainage canals are at least partially enclosed in culverts.

1.3 POTENTIAL RECEPTOR SURVEY SUMMARY OF THE USTs 21 & 22, BUILDING 1327 SITE

A field potential receptor survey was conducted for the USTs 21 & 22 site on April 30, 1998. The site and adjacent areas were surveyed for locations of surface water bodies, utility lines, and basements. Basements do not exist in the buildings adjacent to the site. Additional information, provided by the FS DPW, was used to determine the location of the nearest public and non-public water supply wells and downgradient surface water bodies not located during the field survey.

1.3.1 Water Supply Wells Near the USTs 21 & 22, Building 1327 Site

The USTs 21 & 22 site is located approximately 2160 feet southeast (cross-gradient) of HAAF Well 2, which is located at Building 1205 on Strachan Drive, HAAF (Figure 3a, Appendix I). Therefore, the USTs 21 & 22, Building 1327 site is classified as being greater than 500 feet to a withdrawal point. Well 2 is part of the main public water supply system at HAAF. This system supplies water to 7,500 persons through 525 service connections. Based on the estimated nature and extent of petroleum-related groundwater contamination at the site, there is no indication that Well 2 has been impacted (Figure 3a, Appendix I). Therefore, collection and analysis of groundwater samples from Well 2 is not recommended.

1.3.2 Surface Water Bodies Near the USTs 21 & 22, Building 1327 Site

An unnamed drainage ditch, which flows southeast, is located approximately 200 feet northeast (downgradient) of the USTs 21 & 22, Building 1327 site. Water that drains into this ditch ultimately flows into the Vernon River, located southeast of HAAF. Recommendations have been made to collect sediment and surface water samples from the drainage canal at two locations downgradient from the site (see Section IV.A.3 on page 9 of the form).

TABLES

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CAP-Part A UST Investigation Sites
Hunter Army Airfield, Chatham County

TABLE III-A. WATER SUPPLY WELL INFORMATION PROVIDED BY THE FORT STEWART DPW

Building	Well ID	Year Drilled	Bore Depth	Casing Depth	Pump Rate (gpm)	Number of Service Connections	Population	Public or Non-Public Supply
711	1	1941	550	250	1,300	525	7,500	Public
1205	2	1941	600	250	1,300	525	7,500	Public
8455	3	1951	360	40	30	2	25	Public
8581	4A	Unk	300	92	80	10	50	Public
8641	5	1955	380	85	30	Unk	Unk	Non-public
8703	7	1980	450	330	70	8	500	Public
8632	8	1956	370	255	80	5	Unk	Non-public
8654	9	Unk	600	255	1,000	Unk	Unk	Non-public
8464	10	Unk	Unk	Unk	Unk	N/A	N/A	Non-public

NOTE: DPW - Directorate of Public Works.
N/A - Not applicable.
gpm - Gallons per minute.
Unk - Unknown.

CAP-Part A UST Investigation Sites
Hunter Army Airfield, Chatham County

TABLE III-B. WATER SUPPLY WELL INFORMATION PROVIDED BY THE CITY OF SAVANNAH BUREAU OF WATER OPERATIONS

Well ID	Year Drilled	Bore Depth (feet)	Casing Depth (feet	Pump Rate (gpm)	Number of Service Connections	Population[1]	Public or Non-Public Supply[1]
1	Unk	1,006	300	1,362	Unk	Unk	Public
6	Unk	750	240	1,500	Unk	Unk	Public
9	Unk	710	267	2,700	Unk	Unk	Public
13	Unk	1,000	270	2,200	Unk	Unk	Public
14	Unk	800	338	571	Unk	Unk	Public
15	Unk	414	252	1,000	Unk	Unk	Public
23	Unk	639	320	1,056	Unk	Unk	Public
25	Unk	540	287	1,120	Unk	Unk	Public
27	Unk	550	321	1,468	Unk	Unk	Public
42	Unk	550	260	2,100	Unk	Unk	Public

NOTE: gpm - Gallons per minute.
Unk - Unknown.
[1]All wells are part of the same public water supply system serving the population of the City of Savannah.

APPENDIX IV

SOIL BORING LOGS

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HTRW DRILLING LOG

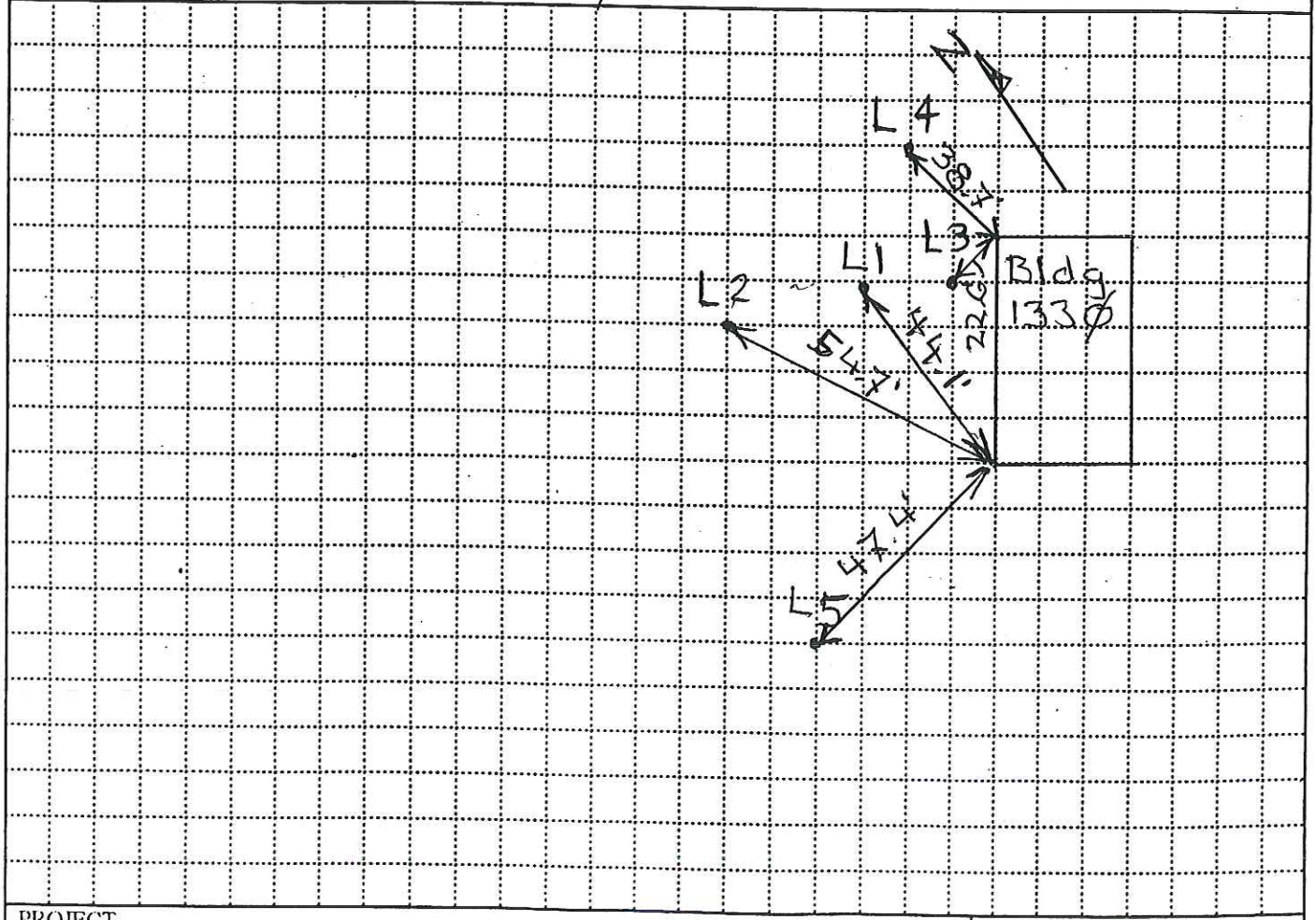
1 COMPANY NAME: SAIC	DISTRICT: ~~Hc~~ USACE Savannah	HOLE NUMBER: L1
	2 DRILL SUBCONTRACTOR: RE Wright (SAIC)	SHEET 1 OF SHEETS
3. PROJECT: Hunter AAF CAP Part A UST Sites	4. LOCATION: Hunter AAF Bldg. 1327 Tanks 21+22	
5. NAME OF DRILLER: John Hasselhoff	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe Salina KA	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2" dia. macrocore; acetate liner = 4'; shoe to drive cap = 4.6' push rods = 4'+3'; large bore rods = 3" diam; 1.5"; screen length = 3.5'	8. HOLE LOCATION: L1	
	9. SURFACE ELEVATION: TBD	
	10. DATE STARTED: 4-3-98	11. DATE COMPLETED: 4-3-98
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: 4.8'	
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: see water level log	
14. TOTAL DEPTH OF HOLE: ~~9.0'~~ 9.6'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): See Water level log	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	BTEX VOC	PAH METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
Soil / water	2 / 1	2 / 1	GRO 2/0	DRO / Eld	NA	65

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
piezometer	✓		NA	John B Reeves

LOCATION SKETCH/COMMENTS: HOLE D5 on p. 64 SCALE:



PROJECT: Hunter AAF CAP Part A UST Sites HOLE NO.: L1

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

USCS (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	SAMPLE NO (F)	
		Ø to .5 Conc. Cove	Ø' to 2' Ø	PPM	Ø to 2' HL11Ø1	Start 143Ø Finish 1435 .5' to 3.5' recovery
		Ø.5' to 3.5' ~~Med.~~ g BR 4-3-98 SP Poorly graded Sand 5YR 5/2				
	4	4.Ø to 4.8 same as above — WT —	4' to 4.8' 2	PPM	4' to 6' HL11Ø3	Start 14:35 Finish 14:4Ø 4.Ø to 6.2' recovery
					HL12Ø4	
		SAMPLING SCREEN PUSHED to 9'				
		— TD = 9.Ø				

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PROJECT HAAF CAP A UST Site Investigation HOLE NO. L1

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HTRW DRILLING LOG

1 COMPANY NAME: SAIC	2 DRILL SUBCONTRACTOR: RE Wright (SAIC)	HOLE NUMBER: L2
3 PROJECT: HAAF Cap Part A Ust Sites	DISTRICT: USACE Savannah	SHEET 1 OF 2 SHEETS
4. LOCATION: Hunter AAF Bldg Tank		
5. NAME OF DRILLER: John Hasselhoff	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe Salina KA	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2" dia macrocore; Acetate liner = 4' length; drive to drive cap = 4.6'; push rods = 3' and 4'; large bore rods = 3' diam = 1.5"; Screen length = 3.5'	8. HOLE LOCATION: L2	
	9. SURFACE ELEVATION: TBD	
	10. DATE STARTED: 4-3-98	11. DATE COMPLETED: 4-3-98
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: 5.0'	
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: See water level log	
14. TOTAL DEPTH OF HOLE: 4/3/98 8' 10.0'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): See water level log	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
Soil ✓ water	2/1	2/1	~~NA~~	DRO 2/0	GRO 2/0	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
piezometer	✓	NA	NA	John B Reeves

LOCATION SKETCH/COMMENTS — SCALE:

See page 62
log book 6

PROJECT: Hunter AAF CAP Part A UST Sites — HOLE NO. L2

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

USCS (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMP OR CORE BOX NO (E)	SAMPLE NO (F)	(G)
	0	0' to 0.4' Concrete Core			0' to 2' HL2101	began 15:10 finished 15:15 0' to 2.8' recovery including concrete
		SP-SM, Poorly graded sand with silt — gradual — 5YR3/2 to 5YR4/4 same as above	0' to 2' 30 PPM			
	4	same as above 5YR3/2 — WT —	4' to 5' 10 PPM		4' to 5' HL2103	began 15:15 finished 15:20 4.0' to 6.4' recovery
		water sample taken 6 to 10' BGS			HL2204	
	8'					
		TD = 10.0				

PROJECT: HAAF - CAP A UST Site Investigation | BOR NO: L2

HTRW DRILLING LOG

1. COMPANY NAME: SAIC	DISTRICT: USCOE Savannah	HOLE NUMBER: L3
	2. DRILL SUBCONTRACTOR: RE Wright (SAIC)	SHEET 1 OF SHEETS
3. PROJECT: Hunter AAF CAP Part A UST Sites	4. LOCATION: Hunter AAF Bldg Tank	
5. NAME OF DRILLER: John Hasselhoff	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe Salina, KA	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2" dia macrocore; acetate liner = 4' length; sheeve te drive cap = 4.6' length; push rods = 3' and 4' length; sampling screen = 3.5' length	8. HOLE LOCATION: L3	
	9. SURFACE ELEVATION: TBD	
	10. DATE STARTED: 4-3-98	11. DATE COMPLETED: 4-3-98
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: 4.7'	
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: See water level log	
14. TOTAL DEPTH OF HOLE: ~~8.0'~~ 10.0'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): See water level log	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	BTEX VOC	PAH METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
soil / water	2/1	2/1	GRO 2/0	DRO 2/0	NA	
22. DISPOSITION OF HOLE	**BACKFILLED**	**MONITORING WELL**	**OTHER (SPECIFY)**	**23. SIGNATURE OF INSPECTOR**		
piezometer	✓	NA	NA	John B Reeves		

LOCATION SKETCH/COMMENTS — SCALE:

See page 62 log book 6

PROJECT	HOLE NO.
HAAF CAP Part A UST Sites	L3

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

USCS (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	SAMPLE NO (F)	
	0	Ø to Ø.7 Conc core				Start 15:50 Finish 15:55
		Ø.7' to 1.3' SW-SM well graded sand with silt 5YR3/3 gradual change 1.3' to 3.4' SP Poorly graded sand 5YRG/1 with organic materia mixed	Ø to 2' Ø		Ø.7 to 3.4' HL31Ø1	Ø to 3.4' recovery incl. conc.
	4	OL/OH Sandy organic soil WT to poorly graded sand 5YRG/2	4' to 4.7' Ø		4 to 4.7 HL31Ø3	Start 16:Ø5 Finish 16:1Ø Full recovery 4.Ø to 8.Ø
		WATER SAMPLE TAKEN FROM 6.Ø to 1Ø BGS			HL32ØØ	
	8	TD = 1Ø.Ø				

PROJECT HAAF CAP A UST Investigations

HOLE NO L3

HTRW DRILLING LOG

1. COMPANY NAME: SAIC	DISTRICT: USACE Savannah	HOLE NUMBER: L4
	2. DRILL SUBCONTRACTOR: R E Wright (SAIC)	SHEET 1 OF 2
3. PROJECT: HAAF Cap Part A, UST Sites	4. LOCATION: BBR 4-6-98 AAF Geopro Hunter, Bldg 1330	
5. NAME OF DRILLER: John Hasselhoff	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe Salina KA	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2" dia macrocore; acetate liner = 4' length; sheve to drive rod = 4.6 ft length; push rods = 3' and 4' length; large bore rods = 3' long = 1.5" dia; screen = 3.5' length	8. HOLE LOCATION: L4	
	9. SURFACE ELEVATION: TBD	
	10. DATE STARTED: 4-6-98	11. DATE COMPLETED: 4-6-98
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: 4.4'	
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: See Water Level Log	
14. TOTAL DEPTH OF HOLE: 8.0' noted 4/6/98; 10.0'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): See Water Level Log	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	BTEX VOC	PAH METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
soil / water	2 / 1	2 / 1	GRO 2/0	DRO 2/0	NA	0

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
piezometer	✓	NA	NA	John B Reeves

LOCATION SKETCH/COMMENTS — SCALE: Not to scale

See page 62

PROJECT	HOLE NO.
Hunter AAF CAP Part A UST Sites	L4

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

USCS (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	SAMPLE NO (F)	(G)
	Ø	Ø to Ø.7 conc. core				Started Ø815 end Ø820 Recovery Ø to 3.7
		Ø to 1.1' 5YR3/3 SW-SM well graded Sand with silt QBR 4-6-98 Ø.7 to ~~3.7~~ 4.Ø SP Poorly graded Sand 5YR5/2 low moisture	Head Space Ø		Ø to 2' HL41Ø1	
	4	4.Ø to 4.2 Same as above WT	Head Space Ø		4' to 6' HL41Ø3	Started ~~Ø820~~ QBR Ø825 end Ø83Ø Recovery 4.Ø to 7.5
	5	4.2 to 4.4 5YR3/1 SW-SM well graded Sand with Silt low moisture				
		water sample taken at 6-Ø to 1Ø.Ø			HL42ØØ	
	8	TD = 1Ø.Ø'				

PROJECT

HOLE NO L4

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HTRW DRILLING LOG

1. COMPANY NAME: SAIC	2. DRILL SUBCONTRACTOR: RE Wright (SAIC)	DISTRICT: USACE Savannah; HOLE NUMBER: L5; SHEET 1 OF SHEETS 2
3. PROJECT: Hunter AAF CAP Part A UST Sites	4. LOCATION: Hunter AAF Bldg. Tank	
5. NAME OF DRILLER: John Hasselhoff	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe Saliva KA	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2" dia macrocore, acetate liner = 4.0'; Shoe to drive cap = 4.6'; push rods = 4' and 3' length; large bore rods = 3' length; 1.5" diam screen = 3.5' length	8. HOLE LOCATION: L5	
	9. SURFACE ELEVATION: TBD	
	10. DATE STARTED: 4-6-98	11. DATE COMPLETED: 4-6-98
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: 4.1'	
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: See water level log	
14. TOTAL DEPTH OF HOLE: 9.0'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): See water level log	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	BTEX/VOC	PAH/METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
Soil/water	2/1	2/1	2/0	2/0	NA	78%

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
piezometer	✓	NA	NA	John B Reeves

LOCATION SKETCH/COMMENTS — SCALE:

See page 62, log book 6

PROJECT: Hunter AAF CAP Part A UST Sites — HOLE NO. L5

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	SAMPLE NO (F)	(G)
	0	0 to 0.8' Conc. Core			0' to 2' HL5101	Start 0900 End 0904 Recovery 0 to 3.4'
		0 to 3.6 ~~Core~~ Recovery 0.8 to 1.8 5YR 3/3 SW-SM well graded sand with silt 1.8' to 3.4' 5YR 5/3	GBR 4-6-98 OVA ~~<2000~~ >2000 GBR 4-13-98 OVA ~~<2000~~ >2000 GBR 4-13-98		2' to 4' HL5102	
4		~~~ WT ~~~				Start 0905 End 0910 Recovery 4.0 to 6.8
		WATER SAMPLED AT 5.0 to 9.0' BGS			HL5200	
8		— 9.0' = TD				

PROJECT: HAAF - CAP A UST SITES INVESIGATION
HOLE NO: L5

HTRW DRILLING LOG

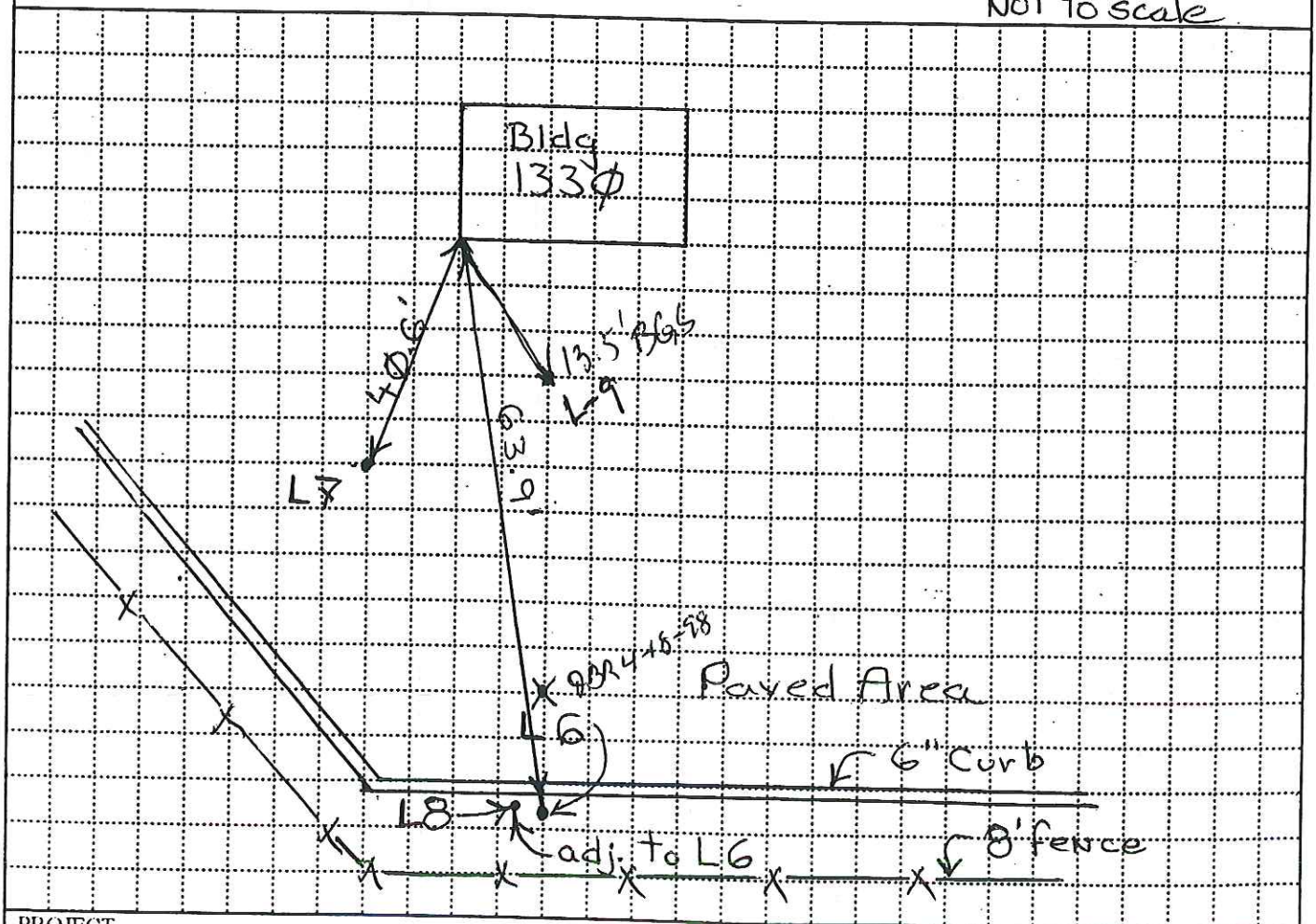
1. COMPANY NAME: SAIC	DISTRICT: USACE Savannah	HOLE NUMBER: L6 & L8
3. PROJECT: Hunter AAF CAP Part A UST Sites	2. DRILL SUBCONTRACTOR: RE Wright (SAIC)	SHEET 1 OF SHEETS 2
5. NAME OF DRILLER: Andy Nickerbocker	4. LOCATION: Area L Bldg 1327 Tanks 21 & 22	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2" dia macrocore Acetate liners = 4' long shoe to drive cap = 4.6' long; push rods = 3' and 4' long; large bore rods = 3' long and 1.5" diameter; screen = 3.5' long	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe Salina, KS	
	8. HOLE LOCATION: L6	
	9. SURFACE ELEVATION: TBD	
	10. DATE STARTED: 4-18-98	11. DATE COMPLETED: 4-18-98
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: 5.0 ft BGS	
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: See water level log	
14. TOTAL DEPTH OF HOLE: 45' BGS	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): See water level log	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	L8-1 ~~NA~~	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	~~VOC~~ BTEX	~~METALS~~ PAH	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY: %
water	4	4	NA	NA	NA	100

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
vertical piolive	✓	NA	NA	John B Reeves

LOCATION SKETCH/COMMENTS — SCALE: Not to scale



PROJECT: HAAF CAP A UST SITE Investigations — HOLE NO.: L6 & L8

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

96

USCS (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	SAMPLE NO (F)	(G)

0'

5' — WT

10'

sampled interval

15'

10' below groundwater surface
Sample HLG301 taken

20'

sampled interval QBR 4-18-98

25'

20' ~~10'~~ below groundwater surface
Sample HLG302 Taken

30'

sampled interval QBR 4-15-98

35'

30' ~~10'~~ below groundwater surface
Sample HLG303 taken

40'

sampled interval

45'

QBR 4-18-98

40' ~~10'~~ below groundwater surface
Sample HLG304

PROJECT: HAAF CAP A UST Investigation

HOLE NO: LG

USCS (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	SAMPLE NO (F)	(G)
	0		Sample	including discarded	conc core	Start 0740 Finished 0745
	5		Shelby tube collected	0800 HL6400		Start 0750 Finish 0800
	10	4-4-98 BBR bottomed out at conc. pad at 12.0' 0825				
	15					
	20					
	25					
	30					
	35					
	40					
	45					
	50					

well pt 5/4/98

PROJECT: HAAF CAP A UST Investigation

HOLE NO: L6

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HTRW DRILLING LOG

1. COMPANY NAME: SAIC	DISTRICT: USACE Savannah	HOLE NUMBER: LX
3. PROJECT: Hunter AAF CAP Part A UST Sites	2. DRILL SUBCONTRACTOR: RE Wright (SAIC)	SHEET 1 OF SHEETS 2
5. NAME OF DRILLER: Andy Knickerbocker	4. LOCATION: Bldg 1327 Tanks 21+22	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2" dia macrocore acetate liner = 4' long; shoe to drive casp = 4.6' long; push rods = 3' + 4' long; large bore rods = 4 and 1.5" diam screen = 3.5' length	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe Salina KA	
	8. HOLE LOCATION: LX	
	9. SURFACE ELEVATION: TBD	
	10. DATE STARTED: 4-18-98	11. DATE COMPLETED: 4-18-98
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: 5.0 ft	
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: see water level log	
14. TOTAL DEPTH OF HOLE: 45'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): See water log	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	BTEX VOC	METALS PAH	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
water	4	4	NA	NA	NA	NA
22. DISPOSITION OF HOLE	**BACKFILLED**	**MONITORING WELL**	**OTHER (SPECIFY)**	**23. SIGNATURE OF INSPECTOR**		
vertical profile	✓	NA	NA	John B Reeves		

LOCATION SKETCH/COMMENTS — SCALE:

For location see page 95
Log book #5

PROJECT: Hunter AAF CAP Part A UST Sites — HOLE NO.: LX

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

105

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMPLE OR CORE BOX NO (E)	SAMPLE NO (F)	(G)
	0'					
	5'	WT ▽				
	10'	11.0 - 15.0' BGS HL7301	10' below groundwater surface Sample HL7301 taken			
	15'					
	20'	21.0 - 25.0 ft BGS HL7302	20' below groundwater surface Sample HL7302 taken			
	25'					
	30'	31.0 - 35.0 ft BGS HL7303	30' below groundwater surf.			
	35'					
	40'	41.0 - 45.0 ft BGS HL7304				
	45'					

PROJECT: HAAF CAP A UST Site Investigation

HOLE NO:

24

USCS (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH SAMP OR CORE BOX NO (E)	SAMPLE NO (F)	(G)
	0		Sample, including conc. core, discarded			Start 0820 Finish 0835
	5		collected shelby tube HL 7400			Start 0835 Finish 0845
	10	bottomed out at conc. pad 0850				
	15					
	20					

PROJECT

HOLE NO L7

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HTRW DRILLING LOG

1. COMPANY NAME: SAIC	DISTRICT: USACE Savannah	HOLE NUMBER: L-9
3. PROJECT: HAAF CAPA UST Sites	2. DRILL SUBCONTRACTOR: REWright (SAIC)	SHEET 1 OF 2 SHEETS
5. NAME OF DRILLER: Andy Knickerbocker	4. LOCATION: Building 1327	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2" dia. macrocore acetate liner = 4'; shoe to drive cap = 4.6'; push rods = 4' and 3'; barge bore rods = 3'; screen = 3.5'	6. MANUFACTURERS DESIGNATION OF DRILL: Geoprobe, Salina, KA	
	8. HOLE LOCATION: L-9	
	9. SURFACE ELEVATION: TBD	
	10. DATE STARTED: 4/22/98	11. DATE COMPLETED: 4/22/98
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: 4.8' BGS	
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: See water level log	
14. TOTAL DEPTH OF HOLE: 10.0	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): See water level log	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Piezometer	✓	NO	NO	Herbert A. Hall

LOCATION SKETCH/COMMENTS: REFER TO PAGE 95 IN VERTICAL PROFILE LOGBOOK

SCALE: NOT TO SCALE

PROJECT

HOLE NO. L-9

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS (D)	GEOTECH S/ OR CORE BOX NO (E)	SAMPLE NO (F)	(G)
	0.0	CONCRETE	HS = >2000	NA	HL9101 1.0-3.0'	START: 1055 STOP: 1100 DRILLED: ~~3.0~~ 4.0 REC'D: 3.0'
	1.0	10YR 7/1 (light gray); very coarse grained, poorly sorted sand, well rounded quartz grains, moist, odor: strong, very soft; fill material.				
	2.0	SHARP CONTACT 10YR 3/2 (very dark greyish brown) moist; strong odor, ~~very~~ fine grained sand with silt (25%) soft;		NA		
	3.0	SHARP CONTACT same as coarse sand above NO RECOVERY 3.0 - 4.0' BGS		NA		Hammer was used after concrete removed
	4.0	SAME AS ABOVE (V.C. Sand)	HS > 2000	NA	HL9103	START 1115 STOP: 1120 DRILLED: 4.0 REC'D: 3.1'
	5.0	WT	4.8' BGS (perched WT?)			
		GRADATIONAL CONTACT Same as ~~V.C.~~ sand w/ silt (brown) GRADATIONAL same as V.C. Sand				
	6.0	very fine grained Quartz sand; moist ~~to~~ well sorted soft 10YR5/6 yellowish brown odor: moderate				
	7.0	NO RECOVERY			HL9200	HAMMER WAS NOT USED
	8.0					
		WATER SAMPLED AT 6.0 - 10.0' BGS WATER COLOR same as soil encountered from 6.0 - 7.1				START: 1120 STOP: 1130 SCREEN PUSHED TO 10.0 ft
	9.0					
	10.0	TD = 10.0 ft BGS				

PROJECT: MARK CAP-A UST SITES INVESTIGATION

BOREHOLE NO: L-9

APPENDIX V

SOIL LABORATORY REPORTS

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USTs 21 & 22, Building 1327
Hunter Army Airfield
Chatham County, Facility ID: 9-025053

TABLE V-A. SUMMARY OF SOIL ANALYTICAL RESULTS[3]

Location Sample ID Date Collected Depth (ft BGS)	Applicable Standards[1]	L-1 HL1101 04/03/98 0.5 to 3.5	L-1 HL1103 04/03/98 4.0 to 4.8	L-1 HL1110[4] 04/03/98 4.0 to 4.8	L-2 HL2101 04/03/98 0.0 to 2.0	L-2 HL2103 04/03/98 4.0 to 5.0	L-3 HL3101 04/03/98 0.7 to 3.4	L-3 HL3103 04/03/98 4.0 to 4.7
VOCs	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	0.008	0.0021 UJ	0.0022 UJ	0.0022 U	0.0022 UJ	0.0022 U	0.0021 UJ	0.0022 U
Toluene	6.00	0.0021 UJ	0.0022 UJ	0.0022 U	0.0022 UJ	0.0022 U	0.0021 UJ	0.0022 U
Ethylbenzene	10.00	0.0021 UJ	0.0022 UJ	0.0022 UJ	0.0022 UJ	0.0022 U	0.0021 UJ	0.0022 U
Xylenes	700.00	0.0064 UJ	0.0064 UJ	0.0066 U	0.0067 UJ	0.0067 U	0.0064 UJ	0.0067 U
TPH-DRO	NRC	1.0 U	1.7 U	6.9 =	2.1 U	2.7 U	1.0 U	1.3 U
TPH-GRO	NRC	0.532 U	0.538 U	0.549 U	0.061 J	0.556 U	0.532 U	0.556 U
PAHs	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
2-Chloronaphthalene	NRC	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Acenaphthene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Acenaphthylene	NRC	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Anthracene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Benzo(a)anthracene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Benzo(a)pyrene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Benzo(b)fluoranthene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Benzo(g,h,i)perylene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Benzo(k)fluoranthene	N/A[2]	0.355 UJ	0.357 UJ	0.366 UJ	0.374 UJ	0.370 UJ	0.353 UJ	0.369 UJ
Chrysene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Dibenzo(a,h)anthracene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Fluoranthene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Fluorene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Indeno(1,2,3-cd)pyrene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Naphthalene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Phenanthrene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U
Pyrene	N/A[2]	0.355 U	0.357 U	0.366 U	0.374 U	0.370 U	0.353 U	0.369 U

NOTE: [1]Georgia Department of Natural Resources (GA DNR) Applicable Soil Threshold Levels (i.e., Table A, column 2).
[2]Not applicable; the health-based threshold level exceeds the expected soil concentration under free-product conditions.
[3]**All field work and analytical sampling were performed prior to the release of the new GA DNR Corrective Action Plan (CAP)-Part A Guidance (i.e., May 1998); therefore, the new analytical methods specified were not used.**
[4]Duplicate sample for sample collected from location L-1 at a depth of 4.0 to 4.8 feet BGS.
BGS - Below ground surface.
NRC - No regulatory criteria.
PAHs - Polynuclear aromatic hydrocarbons.
TPH-DRO - Total petroleum hydrocarbon–diesel-range organics.
TPH-GRO - Total petroleum hydrocarbon–gasoline-range organics.
VOCs - Volatile organic compounds.

Laboratory Qualifier
U - Indicates the compound was not detected at the concentration reported.
J - Indicates the value for the compound is an estimated value.
UJ - Indicates the compound was not detected at the reported concentration and the concentration was estimated.
= - Indicates the compound was detected at the concentration reported.

TABLE V-A. SUMMARY OF SOIL ANALYTICAL RESULTS[3] (continued)

Location Sample ID Date Collected Depth (ft BGS)	Applicable Standards[1]	L-4 HL4101 04/06/98 0.0 to 2.0	L-4 HL4103 04/06/98 4.0 to 6.0	L-5 HL5101 04/06/98 0.0 to 2.0	L-5 HL5102 04/06/98 2.0 to 4.0	L-9 HL9101 04/22/98 1.0 to 3.0	L-9 HL9103 04/22/98 4.0 to 4.8
VOCs	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	0.008	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.0067 J	0.0022 U
Toluene	6.00	0.0022 U	0.0022 U	0.005 =	0.0047 =	0.040 J	0.0022 U
Ethylbenzene	10.00	0.0022 U	0.0022 U	0.0022 U	0.0022 U	0.423 J	0.0022 U
Xylenes	700.00	0.0067 U	0.0067 U	0.0066 U	0.0067 U	0.403 J	0.0066 U
TPH-DRO	NRC	1.0 U	0.46 U	1.9 U	5.2 =	1120 =	2560 =
TPH-GRO	NRC	0.556 U	0.556 U	0.549 UJ	0.140 J	127 =	2.050 =
PAHs	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
2-Chloronaphthalene	NRC	0.367 U	0.362 U	0.361 U	0.367 U	3.61 U	3.60 U
Acenaphthene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	3.61 U	3.60 U
Acenaphthylene	NRC	0.367 U	0.362 U	0.361 U	0.367 U	3.61 U	3.60 U
Anthracene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	3.61 U	3.60 U
Benzo(a)anthracene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	3.61 U	3.60 U
Benzo(a)pyrene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	3.61 U	3.60 U
Benzo(b)fluoranthene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	3.61 U	3.60 U
Benzo(g,h,i)perylene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	3.61 U	3.60 U
Benzo(k)fluoranthene	N/A[2]	0.367 UJ	0.362 UJ	0.361 UJ	0.367 UJ	3.61 U	3.60 U
Chrysene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	3.61 U	3.60 U
Dibenzo(a,h)anthracene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	3.61 U	3.60 U
Fluoranthene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	2.29 J	3.60 U
Fluorene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	4.16 =	2.91 J
Indeno(1,2,3-cd)pyrene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	3.61 U	3.60 U
Naphthalene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	6.32 =	4.15 =
Phenanthrene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	8.59 =	5.76 =
Pyrene	N/A[2]	0.367 U	0.362 U	0.361 U	0.367 U	3.61 U	3.60 U

NOTE: [1]Georgia Department of Natural Resources (GA DNR) Applicable Soil Threshold Levels (i.e., Table A, column 2).
[2]Not applicable; the health-based threshold level exceeds the expected soil concentration under free-product conditions.
[3]**All field work and analytical sampling were performed prior to the release of the new GA DNR Corrective Action Plan (CAP)-Part A Guidance (i.e., May 1998); therefore, the new analytical methods specified were not used.**
BGS - Below ground surface.
NRC - No regulatory criteria.
PAHs - Polynuclear aromatic hydrocarbons.
TPH-DRO - Total petroleum hydrocarbon–diesel-range organics.
TPH-GRO - Total petroleum hydrocarbon–gasoline-range organics.
VOCs - Volatile organic compounds.

Laboratory Qualifier
U - Indicates the compound was not detected at the concentration reported.
J - Indicates the value for the compound is an estimated value.
UJ - Indicates the compound was not detected at the reported concentration and the concentration was estimated.
= - Indicates the compound was detected at the concentration reported.

SAIC An Employee-Owned Company
Science Applications International Corporation
800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 4Ø478C

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature): Mitchell H. Hall **(Printed Name):** Mitchell H. Hall

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HL31Ø3	4/3/98	161Ø	~~Soil~~	X	X	X	X		2	Ø.Ø ppm	4.Ø to 4.7'
HL111Ø	4/3/98	1445	soil	X	X	X	X		2	2.Ø ppm	4.Ø to 4.8'
HL21Ø1	4/3/98	152Ø	soil	X	X	X	X		2	3Ø ppm	Ø to 2'
HL21Ø3	4/3/98	1525	soil	X	X	X	X		2	1Ø ppm	4.Ø - 5.Ø'
HL31Ø1	4/3/98	1555	soil	X	X	X	X		2	Ø ppm	Ø - 2 ft.
HN41Ø1	4/3/98	1255	soil	X	X	X	X		2	Ø ppm	Ø - 2 ft.
HN41Ø5	4/3/98	1315	soil	X	X	X	X		2	Ø ppm	8.Ø - 9.3 ft.
HL11Ø1	4/3/98	143Ø	soil	X	X	X	X		2	Ø ppm	Ø.5 - 3.5'
HL11Ø3	4/3/98	1445	soil	X	X	X	X		2	2 ppm	4.Ø - 4.8'
HH53Ø5	4/4/98	12Ø5	water		X				2	NA	vert. profile 5
HTBØØ3	4/4/98	Ø75Ø	water	X					2	NA	TRIP BLANK
HH53Ø1	4/4/98	164Ø	water	X					2	NA	vert. prof. Ø
HH531Ø	4/4/98	1055	water	X					2	NA	vert. prof. 2Ø

RELINQUISHED BY: Mitchell H. Hall	Date/Time 4/4/98 1350	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 26	Cooler Temperature: 4°C
COMPANY NAME: SAIC		COMPANY NAME:		Cooler ID: 359	FEDEX NUMBER: NA
RECEIVED BY: Carol Sandel	Date/Time 4/4/98 1350	RELINQUISHED BY:	Date/Time		
COMPANY NAME: General Engineering		COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

Mitchell H. Hall 4/4/98

Hunter Army Airfield UST CAP-A Report
USTs 21 & 22, Building 1327, Facility ID: 9-025053

SAIC An Employee-Owned Company
Science Applications International Corporation

800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 40798A

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature): Mitchell Hall (Printed Name): Mitchell Hall

LABORATORY NAME: South Atlantic Savannah District Lab.

LABORATORY ADDRESS: 611 South Cobb Drive, Marietta, GA 30060

PHONE NO: (770) 919-5295

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	GRO	DRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HH212Ø	4/3/98	Ø8Ø5	soil	X	X	X	X		2	Ø ppm	
HN312Ø	4/3/98	11Ø5	soil	X	X	X	X		2	Ø ppm	
HM212Ø	4/2/98	Ø91Ø	soil	X	X	X	X		2	73 ppm	
HL112Ø	4/3/98	144Ø	soil	X	X	X	X		2	2.Ø ppm	
HG112Ø	4/6/98	1455	soil	X	X	X	X		2	2.6 ppm	
HM122Ø	4/4/98	Ø835	water	X	X				4 2	NA	
HM222Ø	4/2/98	Ø94Ø	water	X	X				4 2	NA	
HH532Ø	4/4/98	1Ø55	water	X	X				4 2	NA	
HTBØØ5	4/6/98	Ø9Ø5	water	X					2	NA	

REQUESTED PARAMETERS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Mitchell H. Hall	4/7/98 Ø8ØØ		
COMPANY NAME: SAIC		COMPANY NAME:	
RECEIVED BY: 5ØØØ329644 FEDEX	Date/Time 4/7/98 12Ø9	RELINQUISHED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 16 C4

Cooler ID: #541

Cooler Temperature: 4°C

FEDEX NUMBER: 5ØØØ329644

USTs 21 & 22, Building 1327, Facility ID: 9-025053

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Science Applications International Corporation
800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 406,8B

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature) Mitchell H. Hall **(Printed Name)** Mitchell H. Hall

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HB1200	4/6/98	1020	water	X					2	NA	
HB2200	4/6/98	1045	water	X					2	NA	mH 4/6/98
HL4200	4/6/98	0840	water	X					2	NA	
HL5200	4/6/98	0925	water	X					2	NA	
HL5210	4/6/98	0925	water	X					2	NA	
HB1210	4/6/98	1020	water	X					2	NA	
HTB004	4/6/98	~~10~~ 0900 (mH 4/6)	water	X					2	NA	TRIP BLANK: ASTM TYPE II LOT #J303
HB1101	4/6/98	1010	soil	X	X	X	X		2	0.9 ppm	0 - 2.0 ft
HB1102	4/6/98	1015	soil	X	X	X	X		2	0.7 ppm	2 - 4.0 ft
HB2101	4/6/98	1035	soil	X	X	X	X		2	0.0 ppm	~~2 - 4.0 ft~~ 0 - 2 ft (mH 4/6)
HB2102	4/6/98	1040	soil	X	X	X	X		2	0.0 ppm	2 - 4.0 ft
HL4103	4/6/98	0830	soil	X	X	X	X		2	0.0 ppm	4 - 6 ft
HL4101	4/6/98	0820	soil	X	X	X	X		2	0 ppm	0 - 2 ft

RELINQUISHED BY: Mitchell Hall — **Date/Time:** 4/6/98 1345
COMPANY NAME: SAIC
RECEIVED BY: — **Date/Time:**
COMPANY NAME:

RECEIVED BY: [signature] — **Date/Time:** 4/6/98 1345
COMPANY NAME: GEL
RELINQUISHED BY: — **Date/Time:**
COMPANY NAME:

RELINQUISHED BY: — **Date/Time:**
COMPANY NAME:
RECEIVED BY: — **Date/Time:**
COMPANY NAME:

TOTAL NUMBER OF CONTAINERS: 26
Cooler Temperature: 4°C
Cooler ID: 464
FEDEX NUMBER: NA

* NOTE - Quick Turnaround on
HB1200 HB2101
~~HB2200~~ HB2102
~~HB1210~~
~~HB1101~~
HB1102

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CHAIN OF CUSTODY RECORD

COC NO.: 4Ø698C

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature): Mitchell Hall (Printed Name): Mitchell Hall

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HL51Ø1	4/6/98	Ø9ØØ	Soil	X	X	X	X		2	>2ØØØ ppm	Ø - 2 ft.
HL51Ø2	4/6/98	Ø9Ø5	Soil	X	X	X	X		2	>2ØØØ ppm	2 - 4 ft.

4/6/98

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Mitchell D. Hall	4/6/98 1340		
COMPANY NAME: SAIC		COMPANY NAME:	
RECEIVED BY: Robert Baker	Date/Time 4/6/98 1345	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEC		COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 4

Cooler ID: 464

Cooler Temperature: 4°C

FEDEX NUMBER: NA

V-8

USTs 21 & 22, Building 1327, Facility ID: 9-025053

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CHAIN OF CUSTODY RECORD

COC NO.: 42098 D

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature): Mitchell Hall (Printed Name): Mitchell Hall

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HL84ØØ	4/18/98	15Ø6	soil					X	1	NA	~~2.Ø - 4.Ø ft~~
HD84ØØ	4/19/98	1Ø2Ø	soil					X	1	NA	~~4.Ø-6.Ø ft~~ ~~6.Ø - 8.Ø ft~~
HID6111	4/2Ø/98	Ø92Ø	Soil	X	X	X	X		2	>2ØØØ	Ø.Ø - 2.Ø ft
HID61Ø4	4/2Ø/98	Ø94Ø	soil	X	X	X	X		2	>2ØØØ	6.Ø - 8.Ø ft
HID61Ø1	4/2Ø/98	Ø92Ø	soil	X	X	X	X		2	>2ØØØ	Ø.Ø - 2.Ø ft

mt 4/20/98

mt 4/20/98

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Mitchell Hall	4/2Ø/98 1315		
COMPANY NAME: SAIC		COMPANY NAME:	
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL	4/2Ø/98 1315	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 8

Cooler ID: 322

Cooler Temperature: 4°C

FEDEX NUMBER: NA

V-9

USTs 21 & 22, Building 1327, Facility ID: 9-025053

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Science Applications International Corporation
800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 42298C

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature) Mitchell Hall (Printed Name) Mitchell Hall

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod Charleston, SC 29417

PHONE NO: (803) 556-8171

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HL91Ø1	4/22/98	11ØØ	~~water~~ soil	X	X	X	X		2	>2000 ppm	1.Ø - 3.Ø ft
HL91Ø3	4/22/98	112Ø	~~water~~ soil	X	X	X	X		2	>2000 ppm	4.Ø - 4.8 ft

(Matrix corrections initialed 4/23/98; unused rows struck through, initialed 4/22/98)

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Mitchell Hall	4/22/98 1330		
COMPANY NAME: SAIC		COMPANY NAME:	
RECEIVED BY: [signature]	4/27/98 1330	RELINQUISHED BY:	
COMPANY NAME: GEL		COMPANY NAME:	
RELINQUISHED BY:		RECEIVED BY:	
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 4

Cooler ID: 538

Cooler Temperature: 4°C

FEDEX NUMBER: NA

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Science Applications International Corporation
800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 4237-A

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature): Mitchell Hall (Printed Name): Mitchell Hall

LABORATORY NAME: Catlin Laboratories

LABORATORY ADDRESS: 1051 Johnnie Dodds Blvd. Suite C Mt. Pleasant, SC 29464

PHONE NO: (803)881-6000

Sample ID	Date Collected	Time Collected	Matrix	GRAIN SIZE	MOISTURE CONTENT	PERMEABILITY	SPECIFIC GRAVITY	POROSITY	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HC84ØØ	4/18/98	15ØØ	soil	X	X	X	X	X	1	NA	2.Ø - 4.Ø ft
HD84ØØ	4/19/98	1Ø2Ø	soil	X	X	X	X	X	1	NA	4.Ø - 6.Ø ft
HJ64ØØ	4/16/98	1315	soil	X	X	X	X	X	1	NA	2.Ø - 4.Ø ft
HO54ØØ	4/18/98	1Ø2Ø	soil	X	X	X	X	X	1	NA	2.Ø - 4.Ø ft
HP54ØØ	4/1Ø/98	Ø945	soil	X	X	X	X	X	1	NA	4.Ø - 6.Ø ft
HI84ØØ	4/15/98	135Ø	soil	X	X	X	X	X	1	NA	2.Ø - 4.Ø ft
HH64ØØ	4/~~1Ø~~/98	1535	soil	X	X	X	X	X	1	NA	Ø.Ø - 2.Ø ft
HG64ØØ	4/7/98	1115	soil	X	X	X	X	X	1	NA	Ø.Ø - 2.Ø ft

4/23/98

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 8	Cooler Temperature:
COMPANY NAME: SAIC	4/23/98 1128	COMPANY NAME:		Cooler ID:	FEDEX NUMBER:
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time		
COMPANY NAME: CAT LIN	4/23/98 11:25	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

V-11

Hunter Army Airfield UST CAP-A Report
USTs 21 & 22, Building 1327, Facility ID: 9-025053

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL1101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-18

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2E4038

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 6 Date Analyzed: 04/17/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	2.1	U
108-88-3	Toluene	2.1	U
100-41-4	Ethylbenzene	2.1	U
1330-20-7	Xylenes (total)	6.4	U

UJ cp8

DATA VALIDATION COPY

FORM I VOA

FORM 1 Science Applications04-APR-1998 SA
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HL1101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-18

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 4B30061

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: 6 decanted: (Y/N) N Date Extracted: 04/07/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/10/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	1.0	B	U F01, F07

FORM I SV

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL1101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-18

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1E4014

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 6 Date Analyzed: 04/16/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	----------Gasoline Range Organics_____	532	U	V

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL1101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA
Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S
Matrix: (soil/water) SOIL
Lab Sample ID: 9804105-18
Sample wt/vol: 30.0 (g/mL) G
Lab File ID: 2Q114
Level: (low/med) LOW
Date Received: 04/04/98
% Moisture: 6 decanted: (Y/N) N
Date Extracted: 04/16/98
Concentrated Extract Volume: 1.00(mL)
Date Analyzed: 04/20/98
Injection Volume: 1.0(uL)
Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	naphthalene	355	U
91-58-7	2-chloronaphthalene	355	U
209-96-8	acenaphthylene	355	U
83-32-9	acenaphthene	355	U
86-73-7	fluorene	355	U
85-01-8	phenanthrene	355	U
120-12-7	anthracene	355	U
206-44-0	fluoranthene	355	U
129-00-0	pyrene	355	U
56-55-3	benzo(a)anthracene	355	U
218-01-9	chrysene	355	U
205-99-2	benzo(b)fluoranthene	355	U
207-08-9	benzo(k)fluoranthene	355	U
50-32-8	benzo(a)pyrene	355	U
193-39-5	indeno(1,2,3-cd)pyrene	355	U
53-70-3	dibenz(a,h)anthracene	355	U
191-24-2	benzo(g,h,i)perylene	355	U

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UJ cd2
U

FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL1103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804103-19

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2E4039

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 7 Date Analyzed: 04/17/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
71-43-2	Benzene	2.2	U	UJ CP8
108-88-3	Toluene	2.2	U	
100-41-4	Ethylbenzene	2.2	U	
1330-20-7	Xylenes (total)	6.4	U	

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FORM I VOA

FORM 1 Science Applications 24-APR-1998 SA
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HL1103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-19

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 4B30060

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: 7 decanted: (Y/N) N Date Extracted: 04/07/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/10/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	1.7	B	U FØ1, FØ7

FORM I SV

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL1103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-19

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1E4015

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 7 Date Analyzed: 04/16/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	Gasoline Range Organics	538	U	U

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL1103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-19

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 2Q115

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: 7 decanted: (Y/N) N Date Extracted: 04/16/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/20/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
91-20-3	naphthalene	357	U	U
91-58-7	2-chloronaphthalene	357	U	
209-96-8	acenaphthylene	357	U	
83-32-9	acenaphthene	357	U	
86-73-7	fluorene	357	U	
85-01-8	phenanthrene	357	U	
120-12-7	anthracene	357	U	
206-44-0	fluoranthene	357	U	
129-00-0	pyrene	357	U	
56-55-3	benzo(a)anthracene	357	U	
218-01-9	chrysene	357	U	
205-99-2	benzo(b)fluoranthene	357	U	
207-08-9	benzo(k)fluoranthene	357	U	UJ cϕ2
50-32-8	benzo(a)pyrene	357	U	U
193-39-5	indeno(1,2,3-cd)pyrene	357	U	
53-70-3	dibenz(a,h)anthracene	357	U	
191-24-2	benzo(g,h,i)perylene	357	U	

FORM I SV-1 OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL1110

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-12

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2E5011

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 9 Date Analyzed: 04/17/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	2.2	U
108-88-3	Toluene	2.2	U
100-41-4	Ethylbenzene	2.2	U
1330-20-7	Xylenes (total)	6.6	U

U ↓

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FORM 1 Science Applications04-APR-1998 SA
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HL1110

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-12

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 4B30052

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: 9 decanted: (Y/N) N Date Extracted: 04/07/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/10/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	6.9	B	= Fφ1, Fφ8

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL1110

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-12

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1E3020

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 9 Date Analyzed: 04/16/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	Gasoline Range Organics	549	U	U

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL1110

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-12

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2Q108

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: 9 decanted: (Y/N) N Date Extracted: 04/16/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/20/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
91-20-3	naphthalene	366	U	U
91-58-7	2-chloronaphthalene	366	U	
209-96-8	acenaphthylene	366	U	
83-32-9	acenaphthene	366	U	
86-73-7	fluorene	366	U	
85-01-8	phenanthrene	366	U	
120-12-7	anthracene	366	U	
206-44-0	fluoranthene	366	U	
129-00-0	pyrene	366	U	
56-55-3	benzo(a)anthracene	366	U	
218-01-9	chrysene	366	U	
205-99-2	benzo(b)fluoranthene	366	U	
207-08-9	benzo(k)fluoranthene	366	U	UJ cf2
50-32-8	benzo(a)pyrene	366	U	U
193-39-5	indeno(1,2,3-cd)pyrene	366	U	
53-70-3	dibenz(a,h)anthracene	366	U	
191-24-2	benzo(g,h,i)perylene	366	U	

FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL2101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-13

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2E5013

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 11 Date Analyzed: 04/17/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	2.2	U
108-88-3	Toluene	2.2	U
100-41-4	Ethylbenzene	2.2	U
1330-20-7	Xylenes (total)	6.7	U

UJ G ϕ z K ϕ i

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FORM I VOA

FORM 1 Science Applications04-APR-1998 SA
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HL2101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-13

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 4B30053

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: 11 decanted: (Y/N) N Date Extracted:04/07/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/10/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	2.1	B	U F01, F07

FORM I SV

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL2101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-13

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1E409

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 11 Date Analyzed: 04/16/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	----------Gasoline Range Organics	61.0	J	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL2101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-13

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2Q109

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: 11 decanted: (Y/N) N Date Extracted: 04/16/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/20/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
91-20-3	naphthalene	374	U	U
91-58-7	2-chloronaphthalene	374	U	
209-96-8	acenaphthylene	374	U	
83-32-9	acenaphthene	374	U	
86-73-7	fluorene	374	U	
85-01-8	phenanthrene	374	U	
120-12-7	anthracene	374	U	
206-44-0	fluoranthene	374	U	
129-00-0	pyrene	374	U	
56-55-3	benzo(a)anthracene	374	U	
218-01-9	chrysene	374	U	
205-99-2	benzo(b)fluoranthene	374	U	
207-08-9	benzo(k)fluoranthene	374	U	UJ cf2
50-32-8	benzo(a)pyrene	374	U	U
193-39-5	indeno(1,2,3-cd)pyrene	374	U	
53-70-3	dibenz(a,h)anthracene	374	U	
191-24-2	benzo(g,h,i)perylene	374	U	

FORM I SV-1 OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL2103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-14

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2E5014

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 10 Date Analyzed: 04/17/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	2.2	U
108-88-3	Toluene	2.2	U
100-41-4	Ethylbenzene	2.2	U
1330-20-7	Xylenes (total)	6.7	U

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FORM 1 Science Applications04-APR-1998 SA
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HL2103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-14

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 4B30054

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: 10 decanted: (Y/N) N Date Extracted:04/07/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/10/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	2.7	B	U FØ1, FØ7

FORM I SV

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL2103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-14

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1E4023

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 10 Date Analyzed: 04/16/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	Gasoline Range Organics	556	U	V

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL2103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-14

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2Q110

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: 10 decanted: (Y/N) N Date Extracted: 04/16/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/20/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
91-20-3	naphthalene	370	U	U
91-58-7	2-chloronaphthalene	370	U	
209-96-8	acenaphthylene	370	U	
83-32-9	acenaphthene	370	U	
86-73-7	fluorene	370	U	
85-01-8	phenanthrene	370	U	
120-12-7	anthracene	370	U	
206-44-0	fluoranthene	370	U	
129-00-0	pyrene	370	U	
56-55-3	benzo(a)anthracene	370	U	
218-01-9	chrysene	370	U	
205-99-2	benzo(b)fluoranthene	370	U	
207-08-9	benzo(k)fluoranthene	370	U	UJ cϕ2
50-32-8	benzo(a)pyrene	370	U	U
193-39-5	indeno(1,2,3-cd)pyrene	370	U	
53-70-3	dibenz(a,h)anthracene	370	U	
191-24-2	benzo(g,h,i)perylene	370	U	

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL3101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-15

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2E4035

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 6 Date Analyzed: 04/17/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
71-43-2	Benzene	2.1	U	UJ C48
108-88-3	Toluene	2.1	U	↓ ↓
100-41-4	Ethylbenzene	2.1	U	
1330-20-7	Xylenes (total)	6.4	U	

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HL3101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-15

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 4B30055

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: 6 decanted: (Y/N) N Date Extracted: 04/07/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/10/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	1.0	B	U FØ1, FØ7

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL3101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-15

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1E4024

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 6 Date Analyzed: 04/16/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	Gasoline Range Organics	532	U	V

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL3101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-15

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 2Q111

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: 6 decanted: (Y/N) N Date Extracted: 04/16/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/20/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	naphthalene	353	U
91-58-7	2-chloronaphthalene	353	U
209-96-8	acenaphthylene	353	U
83-32-9	acenaphthene	353	U
86-73-7	fluorene	353	U
85-01-8	phenanthrene	353	U
120-12-7	anthracene	353	U
206-44-0	fluoranthene	353	U
129-00-0	pyrene	353	U
56-55-3	benzo(a)anthracene	353	U
218-01-9	chrysene	353	U
205-99-2	benzo(b)fluoranthene	353	U
207-08-9	benzo(k)fluoranthene	353	U
50-32-8	benzo(a)pyrene	353	U
193-39-5	indeno(1,2,3-cd)pyrene	353	U
53-70-3	dibenz(a,h)anthracene	353	U
191-24-2	benzo(g,h,i)perylene	353	U

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UJ cf2
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FORM I SV-1

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL3103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-11

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2E4030

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 10 Date Analyzed: 04/17/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	2.2	U
108-88-3	Toluene	2.2	U
100-41-4	Ethylbenzene	2.2	U
1330-20-7	Xylenes (total)	6.7	U

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FORM 1 Science Applications 24-APR-1998 SA
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HL3103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-11

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 4B30051

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: 10 decanted: (Y/N) N Date Extracted: 04/07/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/10/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	1.3	B	U FØ1, FØ7

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL3103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-11

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1E507

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. 10 Date Analyzed: 04/17/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	Gasoline Range Organics	556	U	V

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL3103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA003S

Matrix: (soil/water) SOIL Lab Sample ID: 9804105-11

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 2Q107

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: 10 decanted: (Y/N) N Date Extracted: 04/16/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/20/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
91-20-3	naphthalene	369	U	U
91-58-7	2-chloronaphthalene	369	U	
209-96-8	acenaphthylene	369	U	
83-32-9	acenaphthene	369	U	
86-73-7	fluorene	369	U	
85-01-8	phenanthrene	369	U	
120-12-7	anthracene	369	U	
206-44-0	fluoranthene	369	U	
129-00-0	pyrene	369	U	
56-55-3	benzo(a)anthracene	369	U	
218-01-9	chrysene	369	U	
205-99-2	benzo(b)fluoranthene	369	U	
207-08-9	benzo(k)fluoranthene	369	U	UJ cp2
50-32-8	benzo(a)pyrene	369	U	U
193-39-5	indeno(1,2,3-cd)pyrene	369	U	
53-70-3	dibenz(a,h)anthracene	369	U	
191-24-2	benzo(g,h,i)perylene	369	U	

FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL4101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-10

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2D5016

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: not dec. 10 Date Analyzed: 04/10/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	2.2	U
108-88-3	Toluene	2.2	U
100-41-4	Ethylbenzene	2.2	U
1330-20-7	Xylenes (total)	6.7	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HL4101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-10

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 4C60021

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: 10 decanted: (Y/N) N Date Extracted:04/10/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/19/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	1.0	B	U F01, F07

FORM I SV

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL4101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-10

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1E2013

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: not dec. 10 Date Analyzed: 04/14/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	Gasoline Range Organics	556	U	U

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL4101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-10

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 2P512

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: 10 decanted: (Y/N) N Date Extracted: 04/10/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/17/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
91-20-3	naphthalene	367	U	U
91-58-7	2-chloronaphthalene	367	U	
209-96-8	acenaphthylene	367	U	
83-32-9	acenaphthene	367	U	
86-73-7	fluorene	367	U	
85-01-8	phenanthrene	367	U	
120-12-7	anthracene	367	U	
206-44-0	fluoranthene	367	U	
129-00-0	pyrene	367	U	
56-55-3	benzo(a)anthracene	367	U	
218-01-9	chrysene	367	U	
205-99-2	benzo(b)fluoranthene	367	U	
207-08-9	benzo(k)fluoranthene	367	U	
50-32-8	benzo(a)pyrene	367	U	UJ Ø2
193-39-5	indeno(1,2,3-cd)pyrene	367	U	U
53-70-3	dibenz(a,h)anthracene	367	U	
191-24-2	benzo(g,h,i)perylene	367	U	

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HL4101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-10

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 2P512

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: 10 decanted: (Y/N) N Date Extracted: 04/10/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/17/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL4103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-09

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2D5015

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: not dec. 10 Date Analyzed: 04/10/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	2.2	U
108-88-3	Toluene	2.2	U
100-41-4	Ethylbenzene	2.2	U
1330-20-7	Xylenes (total)	6.7	U

FORM 1 Science Applications06-APR-1998
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HL4103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-09

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 4C60020

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: 10 decanted: (Y/N) N Date Extracted:04/10/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/19/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	0.46	JB	U FØ1, FØ1

FORM I SV

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL4103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-09

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1E1017

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: not dec. 10 Date Analyzed: 04/13/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	----------Gasoline Range Organics	556	U	U

DATA VALIDATION COPY

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL4103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-09

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 2P511

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: 10 decanted: (Y/N) N Date Extracted: 04/10/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 04/17/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
91-20-3	naphthalene	362	U	U
91-58-7	2-chloronaphthalene	362	U	
209-96-8	acenaphthylene	362	U	
83-32-9	acenaphthene	362	U	
86-73-7	fluorene	362	U	
85-01-8	phenanthrene	362	U	
120-12-7	anthracene	362	U	
206-44-0	fluoranthene	362	U	
129-00-0	pyrene	362	U	
56-55-3	benzo(a)anthracene	362	U	
218-01-9	chrysene	362	U	
205-99-2	benzo(b)fluoranthene	362	U	
207-08-9	benzo(k)fluoranthene	362	U	
50-32-8	benzo(a)pyrene	362	U	UJ (4)2
193-39-5	indeno(1,2,3-cd)pyrene	362	U	U
53-70-3	dibenz(a,h)anthracene	362	U	
191-24-2	benzo(g,h,i)perylene	362	U	

FORM I SV-1 OLM03.0

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HL4103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-09

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 2P511

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: 10 decanted: (Y/N) N Date Extracted: 04/10/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 04/17/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
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29.					
30.					

FORM I SV-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL5101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-11

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2D5017

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: not dec. 9 Date Analyzed: 04/10/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
71-43-2	Benzene	2.2	U	U
108-88-3	Toluene	5.0		=
100-41-4	Ethylbenzene	2.2	U	U
1330-20-7	Xylenes (total)	6.6	U	U

DATA VALIDATION
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FORM 1 Science Applications06-APR-1998 SA
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HL5101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-11

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 4C60022

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: 9 decanted: (Y/N) N Date Extracted:04/10/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/19/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	Diesel Range Organics	1.9	B	U FØ1 FØ7

FORM I SV

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL5101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-11

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1E1020

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: not dec. 9 Date Analyzed: 04/13/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	----------Gasoline Range Organics	549	U	UJ 6/02

DATA VALIDATION
COPY

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL5101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-11

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 2P513

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: 9 decanted: (Y/N) N Date Extracted: 04/10/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 04/17/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	naphthalene	361	U
91-58-7	2-chloronaphthalene	361	U
209-96-8	acenaphthylene	361	U
83-32-9	acenaphthene	361	U
86-73-7	fluorene	361	U
85-01-8	phenanthrene	361	U
120-12-7	anthracene	361	U
206-44-0	fluoranthene	361	U
129-00-0	pyrene	361	U
56-55-3	benzo(a)anthracene	361	U
218-01-9	chrysene	361	U
205-99-2	benzo(b)fluoranthene	361	U
207-08-9	benzo(k)fluoranthene	361	U
50-32-8	benzo(a)pyrene	361	U
193-39-5	indeno(1,2,3-cd)pyrene	361	U
53-70-3	dibenz(a,h)anthracene	361	U
191-24-2	benzo(g,h,i)perylene	361	U

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UJ CØ2

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FORM I SV-1

OLM03.0

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HL5101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-11

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 2P513

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: 9 decanted: (Y/N) N Date Extracted: 04/10/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/17/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
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9.					
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FORM I SV-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL5102

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-12

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2D5018

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: not dec. 10 Date Analyzed: 04/10/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
71-43-2	Benzene	2.2	U	U
108-88-3	Toluene	4.7		=
100-41-4	Ethylbenzene	2.2	U	U
1330-20-7	Xylenes (total)	6.7	U	U

DATA VALIDATION
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HL5102

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-12

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 4C60023

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: 10 decanted: (Y/N) N Date Extracted:04/10/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/19/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	5.2	B	= F08

FORM I SV

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL5102

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-12

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1E1021

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: not dec. 10 Date Analyzed: 04/13/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	Gasoline Range Organics	140	J	J 6ϕ2

DATA VALIDATION COPY

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL5102RE

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S

Matrix: (soil/water) SOIL Lab Sample ID: 9804128-12

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1E2015

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: not dec. 10 Date Analyzed: 04/14/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	Gasoline Range Organics	169	J	J 6Φ2

DATA VALIDATION COPY

FORM I VOA

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL5102

Lab Name: GENERAL ENGINEERING LABOR Contract: NA
Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA006S
Matrix: (soil/water) SOIL Lab Sample ID: 9804128-12
Sample wt/vol: 30.3 (g/mL) G Lab File ID: 2P514
Level: (low/med) LOW Date Received: 04/06/98
% Moisture: 10 decanted: (Y/N) N Date Extracted: 04/10/98
Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/17/98
Injection Volume: 1.0(uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
91-20-3	naphthalene	367	U	U
91-58-7	2-chloronaphthalene	367	U	
209-96-8	acenaphthylene	367	U	
83-32-9	acenaphthene	367	U	
86-73-7	fluorene	367	U	
85-01-8	phenanthrene	367	U	
120-12-7	anthracene	367	U	
206-44-0	fluoranthene	367	U	
129-00-0	pyrene	367	U	
56-55-3	benzo(a)anthracene	367	U	
218-01-9	chrysene	367	U	
205-99-2	benzo(b)fluoranthene	367	U	
207-08-9	benzo(k)fluoranthene	367	U	
50-32-8	benzo(a)pyrene	367	U	UJ cp2
193-39-5	indeno(1,2,3-cd)pyrene	367	U	U
53-70-3	dibenz(a,h)anthracene	367	U	
191-24-2	benzo(g,h,i)perylene	367	U	

FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL9101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA022S

Matrix: (soil/water) SOIL Lab Sample ID: 9804494-19

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2G7028

Level: (low/med) LOW Date Received: 04/22/98

% Moisture: not dec. 8 Date Analyzed: 05/04/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	6.7	P
108-88-3	Toluene	40.0	P
100-41-4	Ethylbenzene	423 ~~270~~	EP
1330-20-7	Xylenes (total)	403	P

J MP8, GD1

use the ethylbenzene result from the diluted sample.

FORM I VOA

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL9101DL

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA022S

Matrix: (soil/water) SOIL Lab Sample ID: 9804494-19

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2H1010

Level: (low/med) LOW Date Received: 04/22/98

% Moisture: not dec. 8 Date Analyzed: 05/04/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 2.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
71-43-2	Benzene	5.1	DP
108-88-3	Toluene	50.5	DP
100-41-4	Ethylbenzene	423	DP
1330-20-7	Xylenes (total)	654	DP

J mb8, GP1

Daily use the Ethylbenzene result...

FORM I VOA

FORM 1 Science Applications22-APR-1998 SAMPLE NO.
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HL9101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA022S

Matrix: (soil/water) SOIL Lab Sample ID: 9804494-19

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5A70033

Level: (low/med) LOW Date Received: 04/22/98

% Moisture: 8 decanted: (Y/N) N Date Extracted:04/29/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/04/98

Injection Volume: 1.0(uL) Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
	Diesel Range Organics	1120	B

= FØ1, FØ8

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL9101DL1

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA022S

Matrix: (soil/water) SOIL Lab Sample ID: 9804494-19

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1H206

Level: (low/med) LOW Date Received: 04/22/98

% Moisture: not dec. 8 Date Analyzed: 05/05/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 100.0

Soil Extract Volume: 10,000 (uL) Soil Aliquot Volume: 100 (uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	----------Gasoline Range Organics	127000		=

USL

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL9101

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA022S

Matrix: (soil/water) SOIL Lab Sample ID: 9804494-19

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 4R409

Level: (low/med) LOW Date Received: 04/22/98

% Moisture: 8 decanted: (Y/N) N Date Extracted: 04/24/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 04/30/98

Injection Volume: 1.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	naphthalene	6320	
91-58-7	2-chloronaphthalene	3610	U
208-96-8	acenaphthylene	3610	U
83-32-9	acenaphthene	3610	U
86-73-7	fluorene	4160	
85-01-8	phenanthrene	8590	
120-12-7	anthracene	3610	U
206-44-0	fluoranthene	2290	J
129-00-0	pyrene	3610	U
56-55-3	benzo(a)anthracene	3610	U
218-01-9	chrysene	3610	U
205-99-2	benzo(b)fluoranthene	3610	U
207-08-9	benzo(k)fluoranthene	3610	U
50-32-8	benzo(a)pyrene	3610	U
193-39-5	indeno(1,2,3-cd)pyrene	3610	U
53-70-3	dibenz(a,h)anthracene	3610	U
191-24-2	benzo(g,h,i)perylene	3610	U

FORM I SV-1

OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL9103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA022S

Matrix: (soil/water) SOIL Lab Sample ID: 9804494-20

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2H106

Level: (low/med) LOW Date Received: 04/22/98

% Moisture: not dec. 9 Date Analyzed: 05/04/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
71-43-2	Benzene	2.2	U	U
108-88-3	Toluene	2.2	U	
100-41-4	Ethylbenzene	2.2	U	
1330-20-7	Xylenes (total)	6.6	U	

FORM I VOA

FORM I Science Applications22-APR-1998 SAMPLE NO.
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

HL9103

Lab Name: CENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA022S

Matrix: (soil/water) SOIL Lab Sample ID: 9804494-20

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5A3008

Level: (low/med) LOW Date Received: 04/22/98

% Moisture: 9 decanted: (Y/N) N Date Extracted:04/29/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/05/98

Injection Volume: 1.0(uL) Dilution Factor: 400.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	2560	B	= FØ1, FØ8

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL9103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA022S

Matrix: (soil/water) SOIL Lab Sample ID: 9804494-20

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1H1013

Level: (low/med) LOW Date Received: 04/22/98

% Moisture: not dec. 9 Date Analyzed: 05/04/98

GC Column: J&W DB-624(FID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	----------Gasoline Range Organics	2050		=

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL9103

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA022S

Matrix: (soil/water) SOIL Lab Sample ID: 9804494-20

Sample wt/vol: 30.5 (g/mL) G Lab File ID: 4R410

Level: (low/med) LOW Date Received: 04/22/98

% Moisture: 9 decanted: (Y/N) N Date Extracted: 04/24/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/30/98

Injection Volume: 1.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	naphthalene	4150	
91-58-7	2-chloronaphthalene	3600	U
208-96-8	acenaphthylene	3600	U
83-32-9	acenaphthene	3600	U
86-73-7	fluorene	2910	J
85-01-8	phenanthrene	5760	
120-12-7	anthracene	3600	U
206-44-0	fluoranthene	3600	U
129-00-0	pyrene	3600	U
56-55-3	benzo(a)anthracene	3600	U
218-01-9	chrysene	3600	U
205-99-2	benzo(b)fluoranthene	3600	U
207-08-9	benzo(k)fluoranthene	3600	U
50-32-8	benzo(a)pyrene	3600	U
193-39-5	indeno(1,2,3-cd)pyrene	3600	U
53-70-3	dibenz(a,h)anthracene	3600	U
191-24-2	benzo(g,h,i)perylene	3600	U

FORM I SV-1 OLM03.0

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Lorene Rollins
Project Description: Hunter Army Airfield Site

cc: SAIC00398

Report Date: May 01, 1998

Sample ID	: HL8400
Lab ID	: 9804494-01
Matrix	: Soil
Date Collected	: 04/18/98
Date Received	: 04/20/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry											
TOTAL ORGANIC CARBON (TOC)		7100 = F01, F08	24.1	100	mg/kg	1.0	RMJ	04/24/98	1340	120610	1

M = Method	Method-Description
M 1	SW846 9060 modified

Notes:
The qualifiers in this report are defined as follows:
ND indicates that the analyte was not detected at a concentration greater than the detection limit.
J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).
U indicates that the analyte was not detected at a concentration greater than the detection limit.
* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed
in accordance with General Engineering Laboratories
standard operating procedures. Please direct
any questions to your Project Manager, Valerie Davis at (803) 769-7391.

Reviewed By

9804494-01

GRAIN SIZE ANALYSIS-SIEVE (ASTM D422)

Project Hunter AFB Job No. #98060

Location of Project CAP PART A Sample No. HL 8400

Description of Soil _____ Depth of Sample 2-4' Boring No. _____

Tested By BV Date of Testing 4/30/98

Sample preparation procedures outlined in ASTM D421 and D2217.

Nominal diameter of largest particle	Approximate minimum Wt. of sample, g
No. 10 sieve	200
No. 4 sieve	500
3/4 in.	1500

Weight of sample used, M_w = 457.30 g

P-19

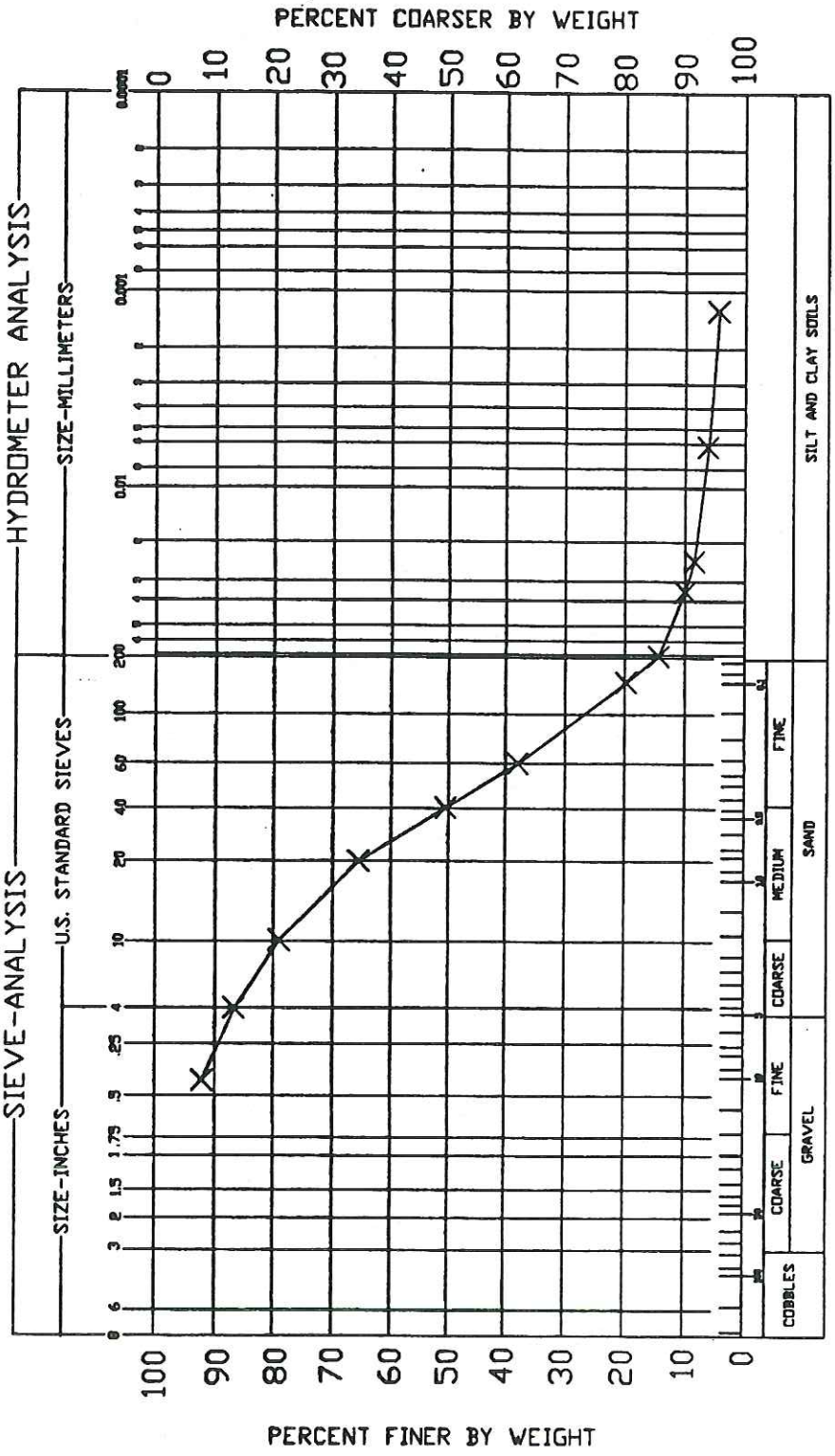
M_{cw}	M_{cds}	M_c	M_w	M_s	w %	M_{ws}	M_s
	576.90	119.60	457.30				

Sieve analysis and grain shape

Sieve no.	Diam. (mm)	Wt. retained	% retained	Σ % retained	% passing
3"					
2"					
1 1/2 "					
3/4"					
3/8"		BV 3.5.98 35.96	7.87	7.87	92.13
#4		20.61	4.51	12.38	87.62
#10		38.21	8.37	20.75	79.25
#20		62.58	13.70	34.45	65.55
#40		66.05	14.46	48.91	51.09
#60		61.80	12.53	62.44	37.56
#140		141.40	30.96	93.40	6.60
#200		14.60	3.20	96.60	3.40.
pan		15.50	3.39	99.99	0.01
		456.71			

% retained = (Wt. retained/W_s) · 100

% passing = 100 - Σ % retained.



SAMPLE NO.	ELEV. OR DEPTH	CLASSIFICATION	NAT. WC	LL	PL	PI	REMARKS
HL0400	2-4 FT.	SM	8.1	-	-	-	LIGHT BROWN GRAY SILTY SAND 14% PASSING #200 SEIVE

PROJECT NAME: HUNTER AFB
PROJECT LOCATION: CAP PART A
RCRA PROJECT #: 98064
BORING NO.:
DATE: 06\18\98

GRADATION CURVES

CATLIN
GEOTECHNICAL LABORATORIES
MOUNT PLEASANT, SOUTH CA

PERMEABILITY TEST ANALYSIS (ASTM D5084)

Project : Hunter AFB

Location of Project : Cap Part A

Description of Soil : Light Brown Gray Silty Sand

Job # : 98064
Date of Testing: 5/20-25/98
Tested by: BV-CA
Boring # :
Sample # : HL8400
Sample Depth : 2-4 ft.

Sample Type (**Undisturbed** or Remolded)
Standard Proctor:
Maximim Dry Density: _____ *pcf*
Optimum Moisture Content: _____ %

% Sample Compaction: _____ %
Sample Dry Density: _____ *pcf*
Sample Moisture Content: _____ %
Sample Wet Density: _____ *pcf*

Sample Permeation:

De-Aired Water
% Saturation: 98 %
Cell Pressure: 35 *psi*
Lower Pressure: 31 *psi*
Upper Pressure: 30 *psi*
Gradient: 15.30

Sample Dimensions		
	Before	After
Length (cm)	4.60	4.20
Diameter (cm)	4.70	5.20
Water Content (%)	7.3	20
Weight (g)	--	175.1

Constant Head Calculation:

$$K = [V(t_1,t_2)\ LR_T]/[P_BAt]\ (cm/sec)$$

$V(t_1,t_2)$ = Volume of flow from t_1 to t_2 (cm^2)
L = Length of Sample = 4.60 cm
A = Area of Sample = 17.35 cm^2
t = $t_2 - t_1$ (sec)
P_B = Bias Pressure = 1 psi x 70.37 cm/psi $_{(cm - H2O)}$: 70.37 cm
R_T = Temperature correction = 0.931

t_2 (sec)	t_1 (sec)	$(t_2 - t_1)$ (sec)	V (cm^3)	$[LR_T]/[P_BA]$ (cm^2)	K (cm/sec)
20	10	10	0.3	3.51E-03	1.05E-04
30	20	10	0.3	3.51E-03	1.05E-04
40	30	10	0.4	3.51E-03	1.40E-04
50	40	10	0.3	3.51E-03	1.05E-04

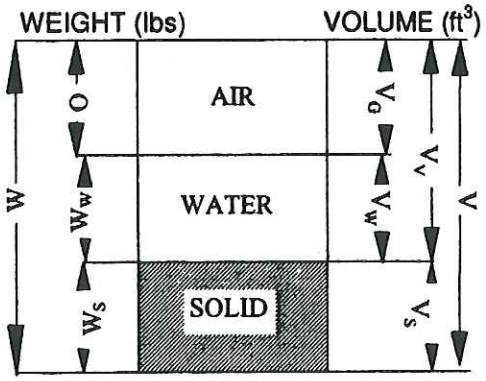
K_{avg} = 1.14E-04 cm/sec

CATLIN Engineers and Scientists
Geotechnical Laboratories

SPECIFIC GRAVITY AND POROSITY

PROJECT: Hunter Air Force Base
LOCATION OF PROJECT: CAP Part A
DESCRIPTION OF SOIL: Light Brown Gray Silty Sand
TESTED BY: BV-CA

JOB NO.: 98064
SAMPLE NO.: HL8400
DEPTH OF SAMPLE: 2-4 ft.
DATE OF TESTING: 4/27/98



W = 1.40719
$W_W = W - W_S$ = 0.10566
$W_S = Y_d * V$ = 1.3015

V = 0.01310
$V_W = W_W/Y_W$ = 0.0017
$V_S = W_S/G_S * Y_W$ = 0.0078
$V_G = V - (V_S + V_W)$ = 0.00360
$V_V = V_G + V_W$ = 0.0053

MEASUREMENTS OF TUBE/CAN

HEIGHT= 20.5 cm
DIAMETER= 4.8 cm

CALCULATED VOLUME OF TUBE/CAN

V= 370.96 cm^3
0.01310 ft^3

WT. OF TUBE/CAN + WET SOIL= 797.40 g
WEIGHT OF TUBE/CAN= 159.1 g
WEIGHT OF WET SOIL= 638.30 g
W = 1.40719 lb

MOISTURE CONTENT

M_{CWS} =	25.99	g	M_C =	10.94	g
M_{CDS} =	24.86	g	M_S =	13.92	g
M_W =	1.13	g	w =	8.1	%

Wet Density, $Y_m = W / V$

Dry Density, $Y_d = W_s / V$ or $Y_d = Y_m / (1+ w)$

double check	$Y_d = Y_m / (1+ w)$
$Y_d = W_s / V$	Y_m= 107.40 lbs/ft^3
Y_d= 99.34 lbs/ft^3	Y_d= 99.34 lbs/ft^3

Void Ratio, $e = V_V/V_S$
e = 0.6780

Porosity, $n = V_V / V$
n = 0.40

Specific Gravity = 2.67

Degree of Saturation, $S = V_W/V_V$
S = 0.3197

CATLIN Engineers and Scientists
Geotechnical Laboratories

APPENDIX VI

ALTERNATE THRESHOLD LEVEL (ATL) CALCULATIONS

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Calculations of alternate threshold levels are not indicated for the Underground Storage Tanks 21 & 22, Facility ID: 9-025053 site because soil concentrations did not exceed the Georgia Environmental Protection Division (GA EPD) applicable soil threshold levels (i.e., Table A, column 2). However, the geotechnical data collected during this investigation are presented in Table VI-A.

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TABLES

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USTs 21 & 22, Building 1327
Hunter Army Airfield
Chatham County, Facility ID: 9-025053

TABLE VI-A. GEOTECHNICAL PARAMETERS

Building ID	Tank ID	Facility ID	Sample ID	Sample Depth	Classification	Moisture Content (%)	Total Organic Carbon (%)	Specific Gravity	Porosity, n	Permeability (cm/s)	Gravel (wt %)	Sand (wt %)	Mud (wt %)
1327	21 & 22	9-025053	HL8400	2.0 to 4.0	SM	8.1	0.710	2.67	0.40	1.1E-4	20.7	65.3	14.0

NOTE: SM = Silty sand.
UST = Underground storage tank.

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APPENDIX VII

MONITORING WELL DETAILS

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Monitoring wells were not installed as part of the Corrective Action Plan-Part A investigation. Temporary piezometers were installed at the Underground Storage Tanks 21 & 22, Building 1327 site. Refer to Appendix IV for temporary piezometer installation details.

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APPENDIX VIII

GROUNDWATER LABORATORY RESULTS

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USTs 21 & 22, Building 1327
Hunter Army Airfield
Chatham County, Facility ID: 9-025053

TABLE VIII-A. SUMMARY OF GROUNDWATER ANALYTICAL RESULTS[2]

Location Sample ID Date Collected Depth (ft BGS)	Applicable Standards[1]	L-1 HL1200 04/03/98 5.0 to 9.0	L-2 HL2200 04/03/98 6.0 to 10.0	L-3 HL3200 04/03/98 6.0 to 10.0	L-4 HL4200 04/06/98 6.0 to 10.0	L-5 HL5200 04/06/98 5.0 to 9.0	L-5 HL5210 04/06/98 5.0 to 9.0	L-6 HL6301[3] 04/18/98 11.0 to 15.0	L-6 HL6302 04/18/98 21.0 to 25.0
VOCs	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Benzene	5	63 =	217 =	7.2 =	22.5 =	2 U	2 U	2 U	2 U
Toluene	1,000	10 U	10 U	2 U	2 U	2 U	2 U	4.2 U	2 U
Ethylbenzene	700	289 =	202 =	5.1 =	13.7 =	2 U	2 U	2 U	2 U
Xylenes	10,000	13.2 J	30 U	6 U	21.9 =	6 U	6 U	6 U	6 U
PAHs	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
2-Chloronaphthalene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Acenaphthene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Acenaphthylene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Anthracene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Benzo(a)anthracene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Benzo(a)pyrene	0.2	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Benzo(b)fluoranthene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Benzo(g,h,i)perylene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Benzo(k)fluoranthene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Chrysene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Dibenzo(a,h)anthracene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Fluoranthene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Fluorene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Indeno(1,2,3-cd)pyrene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Naphthalene	NRC	408 U	408 U	9.9 U	24 J	11.4 U	10.5 U	10.1 U	10.2 U
Phenanthrene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U
Pyrene	NRC	408 U	408 U	9.9 U	11.6 R	11.4 U	10.5 U	10.1 U	10.2 U

NOTE: [1]U.S. Environmental Protection Agency maximum contaminant level.
[2]**All field work and analytical sampling were performed prior to the release of the new Georgia Department of Natural Resources (GA DNR) Corrective Action Plan (CAP)-Part A Guidance (i.e., May 1998); therefore, the new analytical methods specified were not used.**
[3]Duplicate sample for sample collected from location L-5 at a depth of 5.0 to 9.0 feet BGS.
BGS - Below ground surface.
NRC - No regulatory criteria.
PAHs - Polynuclear aromatic hydrocarbons.
VOCs - Volatile organic compounds.

Laboratory Qualifiers
U - Indicates the compound was not detected at the concentration reported.
J - Indicates the value for the compound is an estimated value.
UJ - Indicates the compound was not detected at the reported concentration and the concentration was estimated.
= - Indicates the compound was detected at the concentration reported.
R - Indicates the data for this compound were rejected. The rejected data are due to surrogate compound recoveries being zero. Re-extracted results confirmed that matrix interferences caused surrogate loss. Therefore, the non-detect laboratory qualifier (U) is not valid in this case, and the data for this compound are qualified as rejected (R).

TABLE VIII-A. SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (continued)[2]

Location Sample ID Date Collected Depth (ft BGS)	Applicable Standards[1]	L-6 HL6303 04/0898 31.0 to 35.0	L-6 HL6304 04/18/98 41.0 to 45.0	L-7 HL7301 04/18/98 11.0 to 15.0	L-7 HL7310[3] 04/18/98 11.0 to 15.0	L-7 HL7302 04/18/98 21.0 to 25.0	L-7 HL7303 04/18/98 31.0 to 35.0	L-7 HL7304 04/18/98 41.0 to 45.0	L-9 HL9200 04/22/98 6.0 to 10.0
VOCs	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Benzene	5	2 U	2 U	52 =	47.9 J	2 U	2 U	2 UJ	8 =
Toluene	1,000	2.1 U	2 U	3.4 =	2.4 J	2 U	2 U	2 UJ	2 U
Ethylbenzene	700	2 U	2 U	90.1 =	143 J	2.7 =	2 U	2 UJ	6.8 =
Xylenes	10,000	6 U	6 U	4.1 J	6 UJ	6 U	6 U	6 UJ	4.4 J
PAHs	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
2-Chloronaphthalene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Acenaphthene	NRC	10.4 U	10.2 U	10.3 U	1.1 J	10 U	10.3 U	10.5 UJ	10.2 U
Acenaphthylene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Anthracene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Benzo(a)anthracene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Benzo(a)pyrene	0.2	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Benzo(b)fluoranthene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Benzo(g,h,i)perylene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Benzo(k)fluoranthene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Chrysene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Dibenzo(a,h)anthracene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Fluoranthene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Fluorene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Indeno(1,2,3-cd)pyrene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Naphthalene	NRC	10.4 U	10.2 U	69 =	77.7 =	10 U	70 =	10.5 UJ	17 =
Phenanthrene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U
Pyrene	NRC	10.4 U	10.2 U	10.3 U	10.1 U	10 U	10.3 U	10.5 UJ	10.2 U

NOTE: [1]U.S. Environmental Protection Agency maximum contaminant level.
[2]**All field work and analytical sampling were performed prior to the release of the new Georgia Department of Natural Resources (GA DNR) Corrective Action Plan (CAP)-Part A Guidance (i.e., May 1998); therefore, the new analytical methods specified were not used.**
[3]Duplicate sample for sample collected from location L-7 at a depth of 11.0 to 15.0 feet BGS.
BGS - Below ground surface.
NRC - No regulatory criteria.
PAHs - Polynuclear aromatic hydrocarbons.
VOCs - Volatile organic compounds.

Laboratory Qualifiers
U - Indicates the compound was not detected at the concentration reported.
J - Indicates the value for the compound is an estimated value.
UJ - Indicates the compound was not detected at the reported concentration and the concentration was estimated.
= - Indicates the compound was detected at the concentration reported.

Science Applications International Corporation — An Employee-Owned Company

800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 40, 8D

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature): Mitchell Hall **(Printed Name):** Mitchell Hall

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HH5302	4/4/98	1055	water	X					2	NA	vert. prof. 20'
HH5330	4/4/98	1105	water	X					2	NA	Equip. Rins.
HH5303	4/4/98	1115	water	X					2	NA	vert. prof. 30'
HL3200	4/4/98	1135	water	X					2	NA	vert. prof. 40'
HL1200	4/3/98	1450	water	X					2	NA	grab sample
HN4200	4/3/98	1325	water	X					2	NA	grab.
HL2200	4/3/98	1530	water	X					2	NA	grab.

RELINQUISHED BY: Mitch. Hall	Date/Time 4/4/98 1350	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 14	Cooler Temperature: 4°C
COMPANY NAME: SAIC		COMPANY NAME:		Cooler ID: 359	FEDEX NUMBER: NA
RECEIVED BY: Carol Vandel	Date/Time 4/4/98 1350	RELINQUISHED BY:	Date/Time		
COMPANY NAME: General Engineering		COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

Hunter Army Airfield UST CAP-A Report
USTs 21 & 22, Building 1327, Facility ID: 9-025053

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Science Applications International Corporation — An Employee-Owned Company

800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 404 of 13

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature) Mitchell H Hall **(Printed Name)** MITCHELL HALL

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HL3200	4/3/98	1615	water		X				2	NA	NA
HH5304	~~4/4/98~~ 4/3/98	1135	water		X				2	NA	vertical prof 40'
HL1200	4/3/98	1450	water		X				2	NA	NA
~~HH4200~~	~~4/3/98~~	~~1525~~	~~water~~		X				2	~~NA~~	~~NA~~
HL2200	4/3/98	1530	water		X				2	NA	NA
HH5304	4/4/98	1135	water	X					2	NA	vert. prof 40'
HH5305	4/4/98	1205	water	X					2	NA	vert. prof. 50'

REQUESTED PARAMETERS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 10	Cooler Temperature: 4°C
Mitchell H Hall	4/4/98 1350			Cooler ID: #553	FEDEX NUMBER: NA
COMPANY NAME: SAIC		COMPANY NAME:			
RECEIVED BY: ~~Art~~ Carol Sandel	Date/Time 4/4/98 1350	RELINQUISHED BY:	Date/Time 4/4/98		
COMPANY NAME: General Engineering		COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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Hunter Army Airfield UST CAP-A Report
USTs 21 & 22, Building 1327, Facility ID: 9-025053

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SAIC An Employee-Owned Company
Science Applications International Corporation
800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 40698B

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature): Mitchell H. Hall (Printed Name): Mitchell H. Hall

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials	OVA Screening	Observations, Comments, Special Instructions
HB1200	4/6/98	1020	water	X					2	NA	
HB2200	4/6/98	1045	water	X					2	NA	
HL4200	4/6/98	0840	water	X					2	NA	mH 4/6/98
HL5200	4/6/98	0925	water	X					2	NA	
HL5210	4/6/98	0925	water	X					2	NA	
HB1210	4/6/98	1020	water	X					2	NA	
HTB004	4/6/98	~~10~~ 0900	water	X					2	NA	TRIP BLANK: ASTM TYPE II LOT #J303
HB1101	4/6/98	1010	soil	X	X	X	X		2	0.9 ppm	0 - 2.0 ft
HB1102	4/6/98	1015	soil	X	X	X	X		2	0.7 ppm	2 - 4.0 ft
HB2101	4/6/98	1035	soil	X	X	X	X		2	0.0 ppm	~~2 - 4.0 ft~~ 0 - 2
HB2102	4/6/98	1040	soil	X	X	X	X		2	0.0 ppm	2 - 4.0 ft
HL4103	4/6/98	0830	soil	X	X	X	X		2	0.0 ppm	4 - 6 ft
HL4101	4/6/98	0820	soil	X	X	X	X		2	0 ppm	0 - 2 ft

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Mitchell Hall	4/6/98 1345		
COMPANY NAME: SAIC		COMPANY NAME:	
RECEIVED BY: [signature]	4/6/98 1345	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL		COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 26

Cooler Temperature: 4°C

Cooler ID: 464

FEDEX NUMBER: NA

* NOTE – ~~Quick~~ Turnaround on
HB1200 HB2101
~~HB2200~~ HB2102
~~HB1210~~
~~HB1101~~
HB1102

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Science Applications International Corporation — An Employee-Owned Company

800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 40678A

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature): Mitchell Hall (Printed Name): Mitchell H. Hall

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HB12ØØ	4/6/98	1Ø2Ø	water		X				2	NA	
HB22ØØ	4/6/98	1Ø45	water		X				2	NA	
✓HL42ØØ	4/6/98	Ø84Ø	water		X				2	NA	
✓HL52ØØ	4/6/98	Ø925	water		X				2	NA	
✓HL521Ø	4/6/98	Ø925	water		X				2	NA	
HB121Ø	4/6/98	1Ø2Ø	water		X				2	NA	

REQUESTED PARAMETERS

M. H. H. 4/6/98

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Mitchell H. Hall	4/6/98 1345		
COMPANY NAME: SAIC		COMPANY NAME:	
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL	4-6-98 1345	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 12

Cooler ID: 559

Cooler Temperature: 4°C

FEDEX NUMBER: NA

~~* NOTE = Quick Turnaround in~~
~~HB12ØØ~~
~~HB22ØØ~~
~~HB121Ø~~

VIII-11

Hunter Army Airfield UST CAP-A Report
USTs 21 & 22, Building 1327, Facility ID: 9-025053

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Science Applications International Corporation
800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 42Φ98F

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature) (Printed Name)

REQUESTED PARAMETERS

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod Charleston, SC 29417

PHONE NO: (803) 556-8171

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HL63Φ1	4/18/98	133Φ	water	X			X		2	NA	11.Φ - 15.Φ ft
HL63Φ2	4/18/98	135Φ	water	X			X		2	NA	21.Φ - 25.Φ ft
HL63Φ3	4/18/98	1415	water	X			X		2	NA	31.Φ - 35.Φ ft
HL63Φ4	4/18/98	143Φ	water	X			X		2	NA	41.Φ - 45.Φ ft
HL73Φ1	4/18/98	153Φ	water	X			X		2	NA	11.Φ - 15.Φ ft
HL731Φ	4/18/98	153Φ	water	X			X		2	NA	11.Φ - 15.Φ ft
HL73Φ2	4/18/98	16ΦΦ	water	X			X		2	NA	21.Φ - 25.Φ ft
HL73Φ3	4/18/98	163Φ	water	X			X		2	NA	31.Φ - 35.Φ ft
HL73Φ4	4/18/98	1655	water	X			X		2	NA	41.Φ - 45.Φ ft
HD733Φ	4/19/98	Φ855	water	X			X		2	NA	Equip. Rinseate
HD73Φ1	4/19/98	Φ9Φ5	water	X			X		2	NA	14.Φ - 18.Φ ft
HD73Φ2	4/19/98	Φ93Φ	water	X			X		2	NA	24.Φ - 28.Φ ft
HD73Φ3	4/19/98	1ΦΦΦ	water	X			X		2	NA	34.Φ - 38.Φ ft

RELINQUISHED BY: Mitchell Hall	Date/Time 4/20/98 1345	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 26	Cooler Temperature: 4°C
COMPANY NAME: SAIC		COMPANY NAME:		Cooler ID: 322	FEDEX NUMBER: NA
RECEIVED BY:	Date/Time 4/20/98 1315	RELINQUISHED BY:	Date/Time		
COMPANY NAME: EEL		COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

VIII-13

Hunter Army Airfield UST CAP-A Report
USTs 21 & 22, Building 1327, Facility ID: 9-025053

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Science Applications International Corporation
800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 42098C

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature): Mitchell Hall (Printed Name): Mitchell Hall

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HD73Ø3	4/19/98	1ØØØ	water		X				2	NA	34.Ø - 38.Ø ft
HL63Ø3	4/18/98	1415	water		X				2	NA	31.Ø - 35.Ø ft
HL63Ø4	4/18/98	143Ø	water		X				2	NA	41.Ø - 45.Ø ft
HL63Ø1	4/18/98	133Ø	water		X				2	NA	11.Ø - 15.Ø ft
HL63Ø2	4/18/98	135Ø	water		X				2	NA	21.Ø - 25.Ø ft

REQUESTED PARAMETERS: PAH, GRO, TOC

Mitchell Hall 4/20/98

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 1Ø	Cooler Temperature: 4°C
Mitchell Hall	4/20/98 1315			Cooler ID: 427	FEDEX NUMBER: NA
COMPANY NAME: SAIC		COMPANY NAME:			
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time		
COMPANY NAME: SAIC	4/20/98 1315	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

VIII-15

Hunter Army Airfield UST CAP-A Report
USTs 21 & 22, Building 1327, Facility ID: 9-025053

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SAIC An Employee-Owned Company
Science Applications International Corporation
800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 42Ø98B

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature): Mitchell Hall (Printed Name): Mitchell Hall

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod Charleston, SC 29417

PHONE NO: (803) 556-8171

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HL73Ø2	4/18/98	16ØØ	water		X				2	NA	21.Ø - 25.Øft
HL73Ø1	4/18/98	153Ø	water		X				2	NA	11.Ø - 15.Øft
HL73Ø3	4/18/98	163Ø	water		X				2	NA	31.Ø - 35.Øft
HL731Ø	4/18/98	153Ø	water		X				2	NA	11.Ø - 15.Øft
HD73Ø1	4/19/98	Ø9Ø5	water		X				2	NA	14Ø - 18.Ø ft

MH 4/20/98

RELINQUISHED BY: Mitchell Hall	Date/Time 4/20/98 1315	RECEIVED BY:	Date/Time
COMPANY NAME: SAIC		COMPANY NAME:	
RECEIVED BY: [signature]	Date/Time 4/20/98 1315	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL		COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 1Ø

Cooler ID: 461

Cooler Temperature: 4°C

FEDEX NUMBER: NA

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800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 42Ø98A

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature): Mitchell Hall (Printed Name): Mitchell Hall

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HD62ØØ	4/2Ø/98	Ø95Ø	water		X				2	NA	8.Ø - 12.Ø ft
HD621Ø	4/2Ø/98	Ø95Ø	water		X				2	NA	8.Ø - 12.Ø ft
HD733Ø	4/19/98	Ø855	water		X				2	NA	Equip. Rinsate
HD73Ø2	4/19/98	Ø93Ø	water		X				2	NA	24.Ø - 28.Ø ft
HL73Ø4	4/18/98	1655	water		X				2	NA	41.Ø - 45.Ø ft

Aux Fill 4/2Ø/98

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Mitchell M. Hall	4/2Ø/98 1350		
COMPANY NAME: SAIC		COMPANY NAME:	
RECEIVED BY: Lockheed	Date/Time 4/2Ø/98 1315	RELINQUISHED BY:	Date/Time
COMPANY NAME: LL		COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 1Ø

Cooler ID: 56Ø

Cooler Temperature: 4°C

FEDEX NUMBER: NA

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CHAIN OF CUSTODY RECORD

COC NO.: 42.18 B

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature): Mitchell Hall **(Printed Name):** Mitchell Hall

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HJ72ΦΦ	4/20/98	1525	water	X			X		2	NA	6.Φ - 10.Φ ft
HJ721Φ	4/20/98	1525	water	X			X		2	NA	6.Φ - 10.Φ ft
HI92ΦΦ	4/21/98	ΦΦ55	water	X			X		2	NA	7.Φ - 11.Φ ft
HI921Φ	4/21/98	ΦΦ55	water	X			X		2	NA	7.Φ - 11.Φ ft
~~HI9~~HIA2ΦΦ	4/21/98	1Φ15	water	X			X		2	NA	6.Φ - 10.Φ ft
HIB2ΦΦ	4/21/98	1135	water	X			X		2	NA	7.Φ - 11.Φ ft
HIG72ΦΦ	4/22/98	Φ95Φ	water	X			X		2	NA	5.Φ - 9.Φ ft
HIL92ΦΦ	4/22/98	113Φ	water	X			X		2	NA	6.Φ - 10.Φ ft
HITBΦ17	4/22/98	ΦΦΦ9	water	X			X		2	NA	ASTM TYPE I WATER LOT # 3303

REQUESTED PARAMETERS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 18	Cooler Temperature: 4°C
COMPANY NAME: SAIC	4/22/98 1350	COMPANY NAME:		Cooler ID: 538	FEDEX NUMBER: NA
RECEIVED BY:	Date/Time 4/22/98	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL	1330	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

VIII-21

Hunter Army Airfield UST CAP-A Report
USTs 21 & 22, Building 1327, Facility ID: 9-025053

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Science Applications International Corporation — An Employee-Owned Company

800 Oak Ridge Turnpike, Oak Ridge, TN 37831 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 472, 84

PROJECT NAME: CAP - Hunter AFB - Part A

PROJECT NUMBER: 0019

PROJECT MANAGER: Allison Bailey

Sampler (Signature): Mitchell Hall **(Printed Name):** Mitchell Hall

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	DRP	GRO	TOC	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
HJ72Ø	4/20/98	1525	water		X				2	NA	~~Dup~~ 6.Ø-1Ø.Ø
HIB2ØØ	4/21/98	1135	water		X				2	NA	7.Ø-11.Ø ft
HL92ØØ	4/22/98	1130	water		X				2	NA	6.Ø-1Ø.Ø ft
HG72ØØ	4/22/98	Ø95Ø	water		X				2	NA	5.Ø-9.Ø ft
HIA2ØØ	4/21/98	1Ø15	water		X				2	NA	6.Ø-1Ø.Ø ft

Mitchell 4/22/98

RELINQUISHED BY: Mitchell Hall	Date/Time 4/22/98 1339	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 1Ø	Cooler Temperature: 4°C
COMPANY NAME: SAIC		COMPANY NAME:		Cooler ID: 537	FEDEX NUMBER: NA
RELINQUISHED BY:	Date/Time 4/22/98 1330	RELINQUISHED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL1200DL1

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA004W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804106-17

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2D505

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. _____ Date Analyzed: 04/10/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
71-43-2	Benzene	63.0	
108-88-3	Toluene	10.0	U
100-41-4	Ethylbenzene	289	
1330-20-7	Xylenes (total)	13.2	J

J = U =

use

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL1200

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA005W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804121-04

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: 7P525

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/08/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/18/98

Injection Volume: 1.0(uL) Dilution Factor: 40.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	408	U
91-58-7	2-chloronaphthalene	408	U
208-96-8	acenaphthylene	408	U
83-32-9	acenaphthene	408	U
86-73-7	fluorene	408	U
85-01-8	phenanthrene	408	U
120-12-7	anthracene	408	U
206-44-0	fluoranthene	408	U
129-00-0	pyrene	408	U
56-55-3	benzo(a)anthracene	408	U
218-01-9	chrysene	408	U
205-99-2	benzo(b)fluoranthene	408	U
207-08-9	benzo(k)fluoranthene	408	U
50-32-8	benzo(a)pyrene	408	U
193-39-5	indeno(1,2,3-cd)pyrene	408	U
53-70-3	dibenz(a,h)anthracene	408	U
191-24-2	benzo(g,h,i)perylene	408	U

U

DATA VALIDATION COPY

FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL2200DL1

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA004W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804106-19

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2D506

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. _____ Date Analyzed: 04/10/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
71-43-2	Benzene	217		
108-88-3	Toluene	10.0	U	U =
100-41-4	Ethylbenzene	202		
1330-20-7	Xylenes (total)	30.0	U	U =

Use

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL2200

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA005W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804121-06

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: 7P526

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 04/08/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/18/98

Injection Volume: 1.0(uL) Dilution Factor: 40.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	408	U
91-58-7	2-chloronaphthalene	408	U
208-96-8	acenaphthylene	408	U
83-32-9	acenaphthene	408	U
86-73-7	fluorene	408	U
85-01-8	phenanthrene	408	U
120-12-7	anthracene	408	U
206-44-0	fluoranthene	408	U
129-00-0	pyrene	408	U
56-55-3	benzo(a)anthracene	408	U
218-01-9	chrysene	408	U
205-99-2	benzo(b)fluoranthene	408	U
207-08-9	benzo(k)fluoranthene	408	U
50-32-8	benzo(a)pyrene	408	U
193-39-5	indeno(1,2,3-cd)pyrene	408	U
53-70-3	dibenz(a,h)anthracene	408	U
191-24-2	benzo(g,h,i)perylene	408	U

U

FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL3200

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA004W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804106-16

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2D3016

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: not dec. _____ Date Analyzed: 04/08/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
71-43-2	Benzene	7.2		
108-88-3	Toluene	2.0	U	U
100-41-4	Ethylbenzene	5.1		
1330-20-7	Xylenes (total)	6.0	U	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL3200

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA005W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804121-02

Sample wt/vol: 1010 (g/mL) ML Lab File ID: 7P314

Level: (low/med) LOW Date Received: 04/04/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/08/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/15/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	9.9	U
91-58-7	2-chloronaphthalene	9.9	U
208-96-8	acenaphthylene	9.9	U
83-32-9	acenaphthene	9.9	U
86-73-7	fluorene	9.9	U
85-01-8	phenanthrene	9.9	U
120-12-7	anthracene	9.9	U
206-44-0	fluoranthene	9.9	U
129-00-0	pyrene	9.9	U
56-55-3	benzo(a)anthracene	9.9	U
218-01-9	chrysene	9.9	U
205-99-2	benzo(b)fluoranthene	9.9	U
207-08-9	benzo(k)fluoranthene	9.9	U
50-32-8	benzo(a)pyrene	9.9	U
193-39-5	indeno(1,2,3-cd)pyrene	9.9	U
53-70-3	dibenz(a,h)anthracene	9.9	U
191-24-2	benzo(g,h,i)perylene	9.9	U

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FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL4200

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA005W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804121-18

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2D5010

Level: (low/med) LOW DATA VALIDATION COPY Date Received: 04/06/98

% Moisture: not dec. _____ Date Analyzed: 04/10/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
71-43-2	Benzene	22.5	
108-88-3	Toluene	2.0	U
100-41-4	Ethylbenzene	13.7	
1330-20-7	Xylenes (total)	21.9	

FORM I VOA

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL4200

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA007W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804129-04

Sample wt/vol: 860.0 (g/mL) ML Lab File ID: 7P216

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/08/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/14/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	24.0	
91-58-7	2-chloronaphthalene	11.6	U
208-96-8	acenaphthylene	11.6	U
83-32-9	acenaphthene	11.6	U
86-73-7	fluorene	11.6	U
85-01-8	phenanthrene	11.6	U
120-12-7	anthracene	11.6	U
206-44-0	fluoranthene	11.6	U
129-00-0	pyrene	11.6	U
56-55-3	benzo(a)anthracene	11.6	U
218-01-9	chrysene	11.6	U
205-99-2	benzo(b)fluoranthene	11.6	U
207-08-9	benzo(k)fluoranthene	11.6	U
50-32-8	benzo(a)pyrene	11.6	U
193-39-5	indeno(1,2,3-cd)pyrene	11.6	U
53-70-3	dibenz(a,h)anthracene	11.6	U
191-24-2	benzo(g,h,i)perylene	11.6	U

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FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL5200

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA005W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804121-19

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2D5011

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: not dec. _____ DATA VALIDATION Date Analyzed: 04/10/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) COPY Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
71-43-2	Benzene	2.0	U	U
108-88-3	Toluene	2.0	U	↓
100-41-4	Ethylbenzene	2.0	U	
1330-20-7	Xylenes (total)	6.0	U	

FORM I VOA

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL5200

Lab Name: GENERAL ENGINEERING LABOR Contract: NA
Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA007W
Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804129-05
Sample wt/vol: 880.0 (g/mL) ML Lab File ID: 7P217
Level: (low/med) LOW Date Received: 04/06/98
% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/08/98
Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/14/98
Injection Volume: 1.0(uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	11.4	U
91-58-7	2-chloronaphthalene	11.4	U
208-96-8	acenaphthylene	11.4	U
83-32-9	acenaphthene	11.4	U
86-73-7	fluorene	11.4	U
85-01-8	phenanthrene	11.4	U
120-12-7	anthracene	11.4	U
206-44-0	fluoranthene	11.4	U
129-00-0	pyrene	11.4	U
56-55-3	benzo(a)anthracene	11.4	U
218-01-9	chrysene	11.4	U
205-99-2	benzo(b)fluoranthene	11.4	U
207-08-9	benzo(k)fluoranthene	11.4	U
50-32-8	benzo(a)pyrene	11.4	U
193-39-5	indeno(1,2,3-cd)pyrene	11.4	U
53-70-3	dibenz(a,h)anthracene	11.4	U
191-24-2	benzo(g,h,i)perylene	11.4	U

FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL5210

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA005W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804121-20

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2D5013

Level: (low/med) LOW DATA VALIDATION COPY Date Received: 04/06/98

% Moisture: not dec. _____ Date Analyzed: 04/10/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
71-43-2	Benzene	2.0	U
108-88-3	Toluene	2.0	U
100-41-4	Ethylbenzene	2.0	U
1330-20-7	Xylenes (total)	6.0	U

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FORM I VOA

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL5210

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA007W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804129-06

Sample wt/vol: 950.0 (g/mL) ML Lab File ID: 7P218

Level: (low/med) LOW Date Received: 04/06/98

% Moisture: _____ decanted: (Y/N) ___ Date Extracted:04/08/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 04/14/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	10.5	U
91-58-7	2-chloronaphthalene	10.5	U
208-96-8	acenaphthylene	10.5	U
83-32-9	acenaphthene	10.5	U
86-73-7	fluorene	10.5	U
85-01-8	phenanthrene	10.5	U
120-12-7	anthracene	10.5	U
206-44-0	fluoranthene	10.5	U
129-00-0	pyrene	10.5	U
56-55-3	benzo(a)anthracene	10.5	U
218-01-9	chrysene	10.5	U
205-99-2	benzo(b)fluoranthene	10.5	U
207-08-9	benzo(k)fluoranthene	10.5	U
50-32-8	benzo(a)pyrene	10.5	U
193-39-5	indeno(1,2,3-cd)pyrene	10.5	U
53-70-3	dibenz(a,h)anthracene	10.5	U
191-24-2	benzo(g,h,i)perylene	10.5	U

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FORM I SV-1 OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL6301

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA020W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804486-17 ~~6/3/98~~

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2G4029

Level: (low/med) LOW Date Received: ~~04/18/98~~ 04/20/98

% Moisture: not dec. _____ Date Analyzed: 05/01/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(ml) Soil Aliquot Volume: _____(u

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q	
71-43-2	Benzene	2.0	U		U
108-88-3	Toluene	4.2			U FØ4, FØ7
100-41-4	Ethylbenzene	2.0	U		U
1330-20-7	Xylenes (total)	6.0 ~~2.4~~	J		U FØ4, FØ6

6/16/98

FORM I VOA

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL6301

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA021W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804496-06

Sample wt/vol: 990.0 (g/mL) ML Lab File ID: 7S214

Level: (low/med) LOW Date Received: 04/20/98

% Moisture: ______ decanted: (Y/N)___ Date Extracted:04/23/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/05/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	10.1	U
91-58-7	2-chloronaphthalene	10.1	U
208-96-8	acenaphthylene	10.1	U
83-32-9	acenaphthene	10.1	U
86-73-7	fluorene	10.1	U
85-01-8	phenanthrene	10.1	U
120-12-7	anthracene	10.1	U
206-44-0	fluoranthene	10.1	U
129-00-0	pyrene	10.1	U
56-55-3	benzo(a)anthracene	10.1	U
218-01-9	chrysene	10.1	U
205-99-2	benzo(b)fluoranthene	10.1	U
207-08-9	benzo(k)fluoranthene	10.1	U
50-32-8	benzo(a)pyrene	10.1	U
193-39-5	indeno(1,2,3-cd)pyrene	10.1	U
53-70-3	dibenz(a,h)anthracene	10.1	U
191-24-2	benzo(g,h,i)perylene	10.1	U

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6/16/98

FORM I SV-1 OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL6302

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA020W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804486-18

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2G5C11

Level: (low/med) LOW Date Received: ~~04/16/98~~ 04/20/98

% Moisture: not dec. _____ Date Analyzed: 05/01/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
71-43-2	Benzene	2.0	U
108-88-3	Toluene	2.0	U
100-41-4	Ethylbenzene	2.0	U
1330-20-7	Xylenes (total)	6.0	U

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL6302

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA021W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804496-07

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: 7S215

Level: (low/med) LOW Date Received: 04/20/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/23/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/05/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	10.2	U
91-58-7	2-chloronaphthalene	10.2	U
208-96-8	acenaphthylene	10.2	U
83-32-9	acenaphthene	10.2	U
86-73-7	fluorene	10.2	U
85-01-8	phenanthrene	10.2	U
120-12-7	anthracene	10.2	U
206-44-0	fluoranthene	10.2	U
129-00-0	pyrene	10.2	U
56-55-3	benzo(a)anthracene	10.2	U
218-01-9	chrysene	10.2	U
205-99-2	benzo(b)fluoranthene	10.2	U
207-08-9	benzo(k)fluoranthene	10.2	U
50-32-8	benzo(a)pyrene	10.2	U
193-39-5	indeno(1,2,3-cd)pyrene	10.2	U
53-70-3	dibenz(a,h)anthracene	10.2	U
191-24-2	benzo(g,h,i)perylene	10.2	U

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FORM I SV-1

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL6303

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA020W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804486-19 ADV 6/3/98

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2G4031

Level: (low/med) LOW Date Received: ~~04/18/98~~ 04/20/98

% Moisture: not dec. _____ Date Analyzed: 05/01/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
71-43-2	Benzene	2.0	U	U
108-88-3	Toluene	2.1		U F04,F07
100-41-4	Ethylbenzene	2.0	U	U
1330-20-7	Xylenes (total)	6.0	U	U

FORM I VOA

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL6303

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA021W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804496-04

Sample wt/vol: 965.0 (g/mL) ML Lab File ID: 7S212

Level: (low/med) LOW Date Received: 04/20/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/23/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/05/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	10.4	U
91-58-7	2-chloronaphthalene	10.4	U
208-96-8	acenaphthylene	10.4	U
83-32-9	acenaphthene	10.4	U
86-73-7	fluorene	10.4	U
85-01-8	phenanthrene	10.4	U
120-12-7	anthracene	10.4	U
206-44-0	fluoranthene	10.4	U
129-00-0	pyrene	10.4	U
56-55-3	benzo(a)anthracene	10.4	U
218-01-9	chrysene	10.4	U
205-99-2	benzo(b)fluoranthene	10.4	U
207-08-9	benzo(k)fluoranthene	10.4	U
50-32-8	benzo(a)pyrene	10.4	U
193-39-5	indeno(1,2,3-cd)pyrene	10.4	U
53-70-3	dibenz(a,h)anthracene	10.4	U
191-24-2	benzo(g,h,i)perylene	10.4	U

MAP
6/16/98

FORM I SV-1 OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL6304

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA020W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804486-20

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2G4032

Level: (low/med) LOW Date Received: ~~04/18/98~~ 04/20/98

% Moisture: not dec. _____ Date Analyzed: 05/01/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
71-43-2	Benzene	2.0	U
108-88-3	Toluene	2.0	U
100-41-4	Ethylbenzene	2.0	U
1330-20-7	Xylenes (total)	6.0	U

FORM I VOA

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL6304

Lab Name: GENERAL ENGINEERING LABOR Contract: NA
Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA021W
Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804496-05
Sample wt/vol: 980.0 (g/mL) ML Lab File ID: 7S213
Level: (low/med) LOW Date Received: 04/20/98
% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/23/98
Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/05/98
Injection Volume: 1.0(uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	10.2	U
91-58-7	2-chloronaphthalene	10.2	U
208-96-8	acenaphthylene	10.2	U
83-32-9	acenaphthene	10.2	U
86-73-7	fluorene	10.2	U
85-01-8	phenanthrene	10.2	U
120-12-7	anthracene	10.2	U
206-44-0	fluoranthene	10.2	U
129-00-0	pyrene	10.2	U
56-55-3	benzo(a)anthracene	10.2	U
218-01-9	chrysene	10.2	U
205-99-2	benzo(b)fluoranthene	10.2	U
207-08-9	benzo(k)fluoranthene	10.2	U
50-32-8	benzo(a)pyrene	10.2	U
193-39-5	indeno(1,2,3-cd)pyrene	10.2	U
53-70-3	dibenz(a,h)anthracene	10.2	U
191-24-2	benzo(g,h,i)perylene	10.2	U

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FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL7301

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA021W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804496-08

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2G6010

Level: (low/med) LOW Date Received: 04/20/98

% Moisture: not dec. _____ Date Analyzed: 05/02/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q
71-43-2	Benzene	52.0	=	J ~~C~~
108-88-3	Toluene	3.4	=	J ~~C~~
100-41-4	Ethylbenzene	90.1	=	J
1330-20-7	Xylenes (total)	4.1	J	J

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6/16/98

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL7301

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA019W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804484-19

Sample wt/vol: 970.0 (g/mL) ML Lab File ID: 1R516

Level: (low/med) LOW Date Received: 04/20/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/21/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/01/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	69.0	
91-58-7	2-chloronaphthalene	10.3	U
208-96-8	acenaphthylene	10.3	U
83-32-9	acenaphthene	10.3	U
86-73-7	fluorene	10.3	U
85-01-8	phenanthrene	10.3	U
120-12-7	anthracene	10.3	U
206-44-0	fluoranthene	10.3	U
129-00-0	pyrene	10.3	U
56-55-3	benzo(a)anthracene	10.3	U
218-01-9	chrysene	10.3	U
205-99-2	benzo(b)fluoranthene	10.3	U
207-08-9	benzo(k)fluoranthene	10.3	U
50-32-8	benzo(a)pyrene	10.3	U
193-39-5	indeno(1,2,3-cd)pyrene	10.3	U
53-70-3	dibenz(a,h)anthracene	10.3	U
191-24-2	benzo(g,h,i)perylene	10.3	U

FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL7310

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA021W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804496-09

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2G6011

Level: (low/med) LOW Date Received: 04/20/98

% Moisture: not dec. _____ Date Analyzed: 05/02/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
71-43-2	Benzene	47.9		J GΦ1, ~~QL5~~
108-88-3	Toluene	2.4		J GΦ1, ~~QL5~~
100-41-4	Ethylbenzene	143		J GΦ1
1330-20-7	Xylenes (total)	6.0	U	UJ GΦ1

MMB 6/16/98

FORM I VOA

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL7310

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA021W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804496-01

Sample wt/vol: 990.0 (g/mL) ML Lab File ID: 7S209

Level: (low/med) LOW Date Received: 04/20/98

% Moisture: ______ decanted: (Y/N)___ Date Extracted: 04/23/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/05/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	CONCENTRATION	Q
91-20-3	naphthalene	77.7	
91-58-7	2-chloronaphthalene	10.1	U
208-96-8	acenaphthylene	10.1	U
83-32-9	acenaphthene	1.1	J
86-73-7	fluorene	10.1	U
85-01-8	phenanthrene	10.1	U
120-12-7	anthracene	10.1	U
206-44-0	fluoranthene	10.1	U
129-00-0	pyrene	10.1	U
56-55-3	benzo(a)anthracene	10.1	U
218-01-9	chrysene	10.1	U
205-99-2	benzo(b)fluoranthene	10.1	U
207-08-9	benzo(k)fluoranthene	10.1	U
50-32-8	benzo(a)pyrene	10.1	U
193-39-5	indeno(1,2,3-cd)pyrene	10.1	U
53-70-3	dibenz(a,h)anthracene	10.1	U
191-24-2	benzo(g,h,i)perylene	10.1	U

UJ/CCV

FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL7302

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA021W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804496-10

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2G6012

Level: (low/med) LOW Date Received: 04/20/98

% Moisture: not dec. _____ Date Analyzed: 05/02/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
71-43-2	Benzene	2.0	U	U ~~U~~
108-88-3	Toluene	2.0	U	U ~~U~~
100-41-4	Ethylbenzene	2.7		=
1330-20-7	Xylenes (total)	6.0	U	U

MMP
6/16/98

FORM I VOA

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL7302

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA019W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804484-18

Sample wt/vol: 995.0 (g/mL) ML Lab File ID: 1R515

Level: (low/med) LOW Date Received: 04/20/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 04/21/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/01/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	10.0	U
91-58-7	2-chloronaphthalene	10.0	U
208-96-8	acenaphthylene	10.0	U
83-32-9	acenaphthene	10.0	U
86-73-7	fluorene	10.0	U
85-01-8	phenanthrene	10.0	U
120-12-7	anthracene	10.0	U
206-44-0	fluoranthene	10.0	U
129-00-0	pyrene	10.0	U
56-55-3	benzo(a)anthracene	10.0	U
218-01-9	chrysene	10.0	U
205-99-2	benzo(b)fluoranthene	10.0	U
207-08-9	benzo(k)fluoranthene	10.0	U
50-32-8	benzo(a)pyrene	10.0	U
193-39-5	indeno(1,2,3-cd)pyrene	10.0	U
53-70-3	dibenz(a,h)anthracene	10.0	U
191-24-2	benzo(g,h,i)perylene	10.0	U

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FORM I SV-1 OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL7303

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA021W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804496-11

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2G6013

Level: (low/med) LOW Date Received: 04/20/98

% Moisture: not dec. _____ Date Analyzed: 05/02/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
71-43-2	Benzene	2.0	U	U ~~0.75~~
108-88-3	Toluene	2.0	U	U ~~0.75~~
100-41-4	Ethylbenzene	2.0	U	U
1330-20-7	Xylenes (total)	6.0	U	U

MAP
6/16/98

FORM I VOA

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL7303

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA019W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804484-20

Sample wt/vol: 970.0 (g/mL) ML Lab File ID: 1S205

Level: (low/med) LOW Date Received: 04/20/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/21/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/05/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	70.0	
91-58-7	2-chloronaphthalene	10.3	U
208-96-8	acenaphthylene	10.3	U
83-32-9	acenaphthene	10.3	U
86-73-7	fluorene	10.3	U
85-01-8	phenanthrene	10.3	U
120-12-7	anthracene	10.3	U
206-44-0	fluoranthene	10.3	U
129-00-0	pyrene	10.3	U
56-55-3	benzo(a)anthracene	10.3	U
218-01-9	chrysene	10.3	U
205-99-2	benzo(b)fluoranthene	10.3	U
207-08-9	benzo(k)fluoranthene	10.3	U
50-32-8	benzo(a)pyrene	10.3	U
193-39-5	indeno(1,2,3-cd)pyrene	10.3	U
53-70-3	dibenz(a,h)anthracene	10.3	U
191-24-2	benzo(g,h,i)perylene	10.3	U

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FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL7304RE

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA021W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804496-12

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2G6014

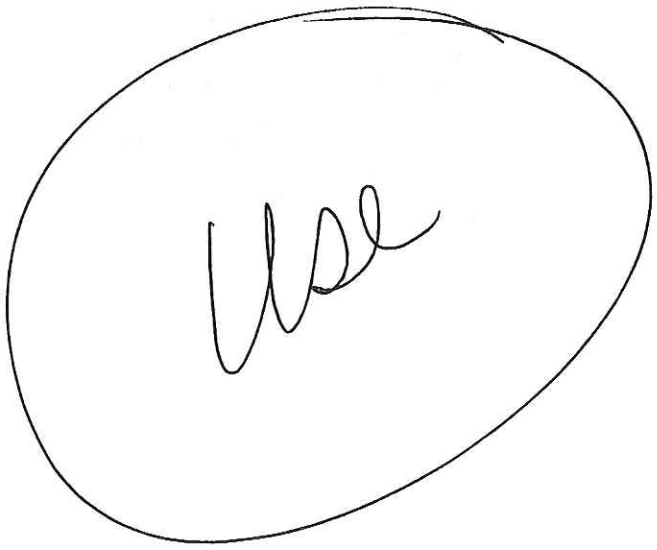
Level: (low/med) LOW Date Received: 04/20/98

% Moisture: not dec. _____ Date Analyzed: 05/02/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
71-43-2	Benzene	2.0	U	UJ KØ1,
108-88-3	Toluene	2.0	U	↓ ↓
100-41-4	Ethylbenzene	2.0	U	UJ KØ1
1330-20-7	Xylenes (total)	6.0	U	↓ ↓



MAP 6/16/98

FORM I VOA

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
HL7304

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA019W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804484-17

Sample wt/vol: 950.0 (g/mL) ML Lab File ID: 1R514

Level: (low/med) LOW Date Received: 04/20/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/21/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/01/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	10.5	U
91-58-7	2-chloronaphthalene	10.5	U
208-96-8	acenaphthylene	10.5	U
83-32-9	acenaphthene	10.5	U
86-73-7	fluorene	10.5	U
85-01-8	phenanthrene	10.5	U
120-12-7	anthracene	10.5	U
206-44-0	fluoranthene	10.5	U
129-00-0	pyrene	10.5	U
56-55-3	benzo(a)anthracene	10.5	U
218-01-9	chrysene	10.5	U
205-99-2	benzo(b)fluoranthene	10.5	U
207-08-9	benzo(k)fluoranthene	10.5	U
50-32-8	benzo(a)pyrene	10.5	U
193-39-5	indeno(1,2,3-cd)pyrene	10.5	U
53-70-3	dibenz(a,h)anthracene	10.5	U
191-24-2	benzo(g,h,i)perylene	10.5	U

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use

FORM I SV-1 OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL9200

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA023W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804617-16

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2H205

Level: (low/med) LOW Date Received: 04/22/98

% Moisture: not dec. _____ Date Analyzed: 05/05/98

GC Column: J&W DB-624(PID) ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(ml) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
71-43-2	Benzene	8.0	
108-88-3	Toluene	2.0	U
100-41-4	Ethylbenzene	6.8	
1330-20-7	Xylenes (total)	4.4	J

DATA VALIDATION
COPY

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HL9200

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: HA023W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9804617-06

Sample wt/vol: 975.0 (g/mL) ML Lab File ID: 4R420

Level: (low/med) LOW Date Received: 04/22/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 04/24/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 05/01/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	17.0	
91-58-7	2-chloronaphthalene	10.2	U
208-96-8	acenaphthylene	10.2	U
83-32-9	acenaphthene	10.2	U
86-73-7	fluorene	10.2	U
85-01-8	phenanthrene	10.2	U
120-12-7	anthracene	10.2	U
206-44-0	fluoranthene	10.2	U
129-00-0	pyrene	10.2	U
56-55-3	benzo(a)anthracene	10.2	U
218-01-9	chrysene	10.2	U
205-99-2	benzo(b)fluoranthene	10.2	U
207-08-9	benzo(k)fluoranthene	10.2	U
50-32-8	benzo(a)pyrene	10.2	U
193-39-5	indeno(1,2,3-cd)pyrene	10.2	U
53-70-3	dibenz(a,h)anthracene	10.2	U
191-24-2	benzo(g,h,i)perylene	10.2	U

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FORM I SV-1 OLM03.0

APPENDIX IX

CONTAMINATED SOIL DISPOSAL MANIFESTS

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All contaminated soil removed during the entire project [i.e., all underground storage tanks (USTs) removed under contract with Anderson Columbia Environmental, Inc., to include clean and non-clean closures] was tested in accordance with the disposal facility requirements and transported to Kedesh, Inc., Highway 84, Ludowici, GA 31316. The Installation has records of all manifests and weight tickets for this project. However, site-specific information is not available.

I certify that the above information is true and accurate. If the Georgia Environmental Protection Division (GA EPD), Underground Storage Tank Management Program (USTMP), would like copies of all manifests and weight tickets for the numerous UST removal contracts that we have conducted, we will gladly forward copies to the USTMP.

Name: Thomas C. Fry

Title: Chief, Environmental Branch

Signature: Thomas C. Fry

Date: 03/22/99

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TAB 9

Manifests

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P.O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date ______ 19__ Load No. 3

Customer: [illegible]
Description: RCS

Project Number: [illegible]

Location: [illegible]
County: Chatham

30280 lb Net
22400 lb Tare
52680 lb Gross
09:20 AM DC 01 96

Signature of Weigher: [signature]

TONS: 15.14
TOTAL TONS: 44.21

TRUCKER: Hendrix
TRUCK NO. 31

DRIVER: [signature]
TICKET NO. 60324

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. .0019

1. Page 1 of 1

GENERATOR

2. Generator's Name and Mailing Address
Hunter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, GOV, GA 31409

3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information

TK #60 (18)

8102

12. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Angi N. Eason | Signature: Angi N Eason | Month 10 | Day 1 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Jerry M Cheek | Signature: Jerry M Cheek | Month 10 | Day 1 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature: Charles Pruitt | Month 10 | Day 1 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY

Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19___ Load No. 2

Triple R. Mkt — Customer
RRR-105 — Project Number
Hunter — Location

PCS — Description

Chatham — County

28140 lb Net
20160 lb Tare
48300 lb+ Gross
09:11 AM OC 01 96

Signature of Weigher

TONS: 14.07 TOTAL TONS: 29.07

Hendrix — TRUCKER
60 — TRUCK NO.

DRIVER

TICKET NO. 60323

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 0020

1. Page 1 of 1

Generator's Name and Mailing Address
Hunter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, GOV, GA 31409

3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information

TK #31 (19)

8102

12. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Angi N. Eason | Signature: Angi N Eason | Month: 10 | Day: 1 | Year: 96

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Jonathan Godwin | Signature: Jonathan Godwin | Month: 10 | Day: 1 | Year: 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature: Charles Pruitt | Month: 10 | Day: 1 | Year: 96

GENERATOR

TRANSPORTER

FACI

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date ________ 19 ___ Load No. 1

Customer: Triple R Mfd

Description: R-5

Project Number: RRR 405

Location: Hunter

County: Chatham

30000 lb Net
23860 lb Tare
53860 lb+ Gross
09:08 AM DC 01 96

Signature of Weigher

TONS 15.00   TOTAL TONS 15.00

TRUCKER: Hendrix   TRUCK NO. 52

DRIVER

TICKET NO. 60322

VIP-1515-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 0017

1. Page 1 of 1

2. Generator's Name and Mailing Address
Hunter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, GOV, GA 31409
3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information

TR #52 (17)

8102

12. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Angi N. Ecesou	Angi N. Ecesou	10	01	96

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Ronald Simmons	Ronald Simmons	10	1	96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Charles Pruitt	Charles Pruitt	10	1	96

GENERATOR

TRANSPORTER

FACI

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY

Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19___ Load No. 4

Triple R Mgt — Pos

Customer — Description

RRR-105

Project Number

Hunter — Chatham

Location — County

27540 lb Net
21460 lb Tare
49000 lb+ Gross
09:22 AM DC 01 96

Signature of Weigher

TONS: 13.77 TOTAL TONS: 57.98

Hendrix — 62

TRUCKER — TRUCK NO.

DRIVER — TICKET NO. 60325

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 0021

1. Page 1 of 1

GENERATOR

2. Generator's Name and Mailing Address
unter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, GOV, GA 31409

3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information

TK #62

8102

12. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Ang. N. Eason | Signature: Ang N Eason | Month 10 Day 1 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Chris Shuman | Signature: Chris Shuman | Month 10 Day 1 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month . Day . Year .

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature: Charles Pruitt | Month 10 Day 1 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date ______ 19___ Load No. 5

Customer: Triple R Maint

Description: Pes

Project Number: RRR.105

Location: Nuwer

County: Chatham

26260 lb Net
20160 lb Tare
46420 lb+ Gross
12:06 PM DC 01 96

Signature of Weigher: [signature]

TONS: 13.13 TOTAL TONS: 71.11

TRUCKER: Hendrix

TRUCK NO. 60

DRIVER: [signature]

TICKET NO. 60326

VIP-1516-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 0023

1. Page 1 of 1

2. Generator's Name and Mailing Address
Hunter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, GOV, GA 31409

3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
Truck #60 (22)
8102

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Veronica Greene
Signature: Veronica Greene
Month: 10 Day: 10 Year: 96

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Jerry m cheek
Signature:
Month: 10 Day: 10 Year: 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month: Day: Year:

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Charles Pruitt
Signature:
Month: 10 Day: 1 Year: 96

GENERATOR

TRANSPORTER

FACI

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date ______ 19__ Load No. 1

Customer ______ Description ______

Project Number ______

Location Hunter County Chatham Co

27660 lb Net
22460 lb Tare
50120 lb+ Gross
10:07 AM SE 30 96

Signature of Weigher Clarke

TONS: 13.83 TOTAL TONS: 13.83

TRUCKER Hendrix TRUCK NO. 29

DRIVER ______ TICKET NO. 60306

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. .0003

1. Page 1 of 1

2. Generator's Name and Mailing Address
Hunter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, GOV, GA 31409

3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
TE #29 (2)
8102

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Angi N. Eason | Signature: Angi N. Eason | Month 09 Day 30 Year 96

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: DONNIE Turner | Signature: Donnie Turner | Month 9 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Charles Pruitt | Signature: Charles Pruitt | Month 9 Day 30 Year 96

GENERATOR

TRANSPORTER

FACI

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date ______ 19 ___ Load No. 27

Triple R Myrtle — Customer
RRR 705 — Project Number
Hunter — Location
RCS — Description
Chatham — County

30180 lb Net
21700 lb Tare
51880 lb Gross
10129 AM SE 30 96

Charles
Signature of Weigher

TONS 15.09 TOTAL TONS 100.33

Hendrix — TRUCKER
50 — TRUCK NO.

[signature] — DRIVER
TICKET NO. 60313

VIP-1516-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 0006

1. Page 1 of 1

2. Generator's Name and Mailing Address
Hunter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, GOV, GA 31409

3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information

TL #50 (6)

8102

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Angi N. Eason | Signature: Angi N Eason | Month 09 Day 30 Year 96

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Aske Jay | Signature: Aske Jay | Month 09 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature: Charles Pruitt | Month 9 Day 30 Year 96

GENERATOR

TRANSPORTER

FACILITY

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date ______ 19__ Load No. 08

Customer: Ziegler & Mgmt. Description: Pcs

Project Number: RDR 103

Location: Hunter County: Chatham

Net 3238

~~3238 lb Net~~

~~21700 lb Tare~~ 21700 lb Tare

54080 lb Gross

10:27 AM SE 30 96

~~2168 lb Net~~

21700 lb Tare

~~23868 lb Gross~~

10:38 AM SE 30 96

Signature of Weigher: Clark

TONS: 16.19 TOTAL TONS: 16.52

TRUCKER: Hendrix TRUCK NO. 52

DRIVER: [signature] TICKET NO. 60312

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 0005

1. Page 1 of 1

GENERATOR

2. Generator's Name and Mailing Address
Hunter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, GOV, GA 31409

3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
TK #52 (5)
8102

12. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Angi N. Eason
Signature: Angi N Eason
Month 09 Day 30 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Ronald Simmons
Signature: Ronald Simmons
Month 9 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month . Day . Year .

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Charles Pruett
Signature: Charles Pruett
Month 9 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date: 19 Load No. 6

Triple R Mgnt	1/2s
Customer	Description

RRR-105
Project Number

Hunter	Chatham
Location	County

30460 lb Net
21740 lb Tare
52200 lb Gross
10:24 AM SE 30,96

Signature of Weigher

TONS: 15.23 — TOTAL TONS: 85.21

Hendrix	49
TRUCKER	TRUCK NO.

Larry Christ
DRIVER

TICKET NO. 60311

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. .0008

1. Page 1 of 1

GENERATOR

2. Generator's Name and Mailing Address
Hunter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, GOV, GA 31409

3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information

TK #49 (7)

8102

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Angi N. Eason | Signature: Angi N Eason | Month 09 Day 30 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: LARRY Christ | Signature: Larry Christ | Month 9 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month . Day . Year .

FACILITY

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Proffit | Signature: Charles Proffit | Month 9 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P.O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date ________ 19 ___ Load No. ________

Triple R Inst.

Customer ________ Description ________

RRR 105

Project Number ________

Hunter | Chatham

Location ________ County ________

31220 lb Net
21340 lb Tare
52560 lb Gross
10:21 AM SE 30 96

Signature of Weigher ________

TONS 15.61 TOTAL TONS 78.81

63

TRUCKER ________ TRUCK NO. ________

DRIVER ________ TICKET NO. 60310

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. .0007

1. Page 1 of 1

2. Generator's Name and Mailing Address
Hunter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, GOV, GA 31409

3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information

Tk # 63(8)
8102

12. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Ang N. Eason | Signature: Ang N Eason | Month 10 Day 30 Year 96

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: David R. Lang | Signature: David R. Lang | Month 9 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature: Charles Pruitt | Month 9 Day 30 Year 96

GENERATOR

TRANSPORTER

FACI

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 1

Customer _____ Description _____

Project Number _____

Location _____ County _____

25840 lb Net
2500 lb Tare
28340 lb Gross
10/19/01 SE 10:36

Signature of Weigher

TONS 12.92 TOTAL TONS 64.40

TRUCKER _____ TRUCK NO. 30

DRIVER _____ TICKET NO. 60309

VE-1818-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 0002

1. Page 1 of 1

2. Generator's Name and Mailing Address
unter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, GOV, GA 31409

3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758

B. Transporter's Phone

C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

GENERATOR

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information

TK # 30 (4)

8102

12. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Angi N. Eason | Signature: Angi N Eason | Month 09 | Day 30 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Robert D. Underwood | Signature: Robert D. Underwood | Month 9 | Day 30 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature: Charles Pruitt | Month 9 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 3

Customer Triple K. Mobile Description Pos

Project Number RRP 105

Location Hunter County Chatham

27720 lb Net
22400 lb Tare
50120 lbt Gross
10:13 AM SE 30 96

Signature of Weigher

TONS: 13186 TOTAL TONS: 411.48

TRUCKER Hendrix TRUCK NO. 31

DRIVER O.H. Dale TICKET NO. 60308

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 0004

1. Page 1 of 1

2. Generator's Name and Mailing Address
Hunter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, GOV, GA 31409

3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

GENERATOR

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information

TK # 28(1)

8102

12. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Angi N. Eason	Angi N Eason	10	30	96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Norman Billingsmeier	Norman Billingsmeier	9	30	96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Charles Pruitt	Charles Pruitt	9	30	96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date ______ 19__ Load No. 2

Triple R. Mgmt — PCS
Customer — Description

RRR 105
Project Number

Garden — Chatham
Location — County

~~50120 lb Tare~~
~~50120 lb+ Gross~~
~~10:10 AM SE 30 96~~

27580 lb Net
22560 lb Tare
50140 lb+ Gross
10:11 AM SE 30 96

Signature of Weigher: Watts

TONS: 13.79 TOTAL TONS: 27.62

TRUCKER: Hendrix TRUCK NO. 28

DRIVER: Norman Billings TICKET NO. 60307

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 0001

1. Page 1 of 1

2. Generator's Name and Mailing Address
Hunter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, GOV, GA 31409
Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information

TK # 31 (3)
8102

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Angi N. Eason Jonathan Godwin ANE JG
Signature: ANE JG Angi N Eason
Month: 9 Day: 30 Year: 96

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Jonathan Godwin
Signature: Jonathan Godwin
Month: 9 Day: 30 Year: 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name:
Signature:
Month: Day: Year:

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt
Signature: Charles Pruitt
Month: 9 Day: 30 Year: 96

GENERATOR

TRANSPORTER

FACI

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date ________ 19__ Load No. 16

Triple R Mgmt — Customer
Pcs — Description

RRR-106 — Project Number

Hunter — Location
Chatham — County

39300 lb Net
22760 lb Tare
62060 lb+ Gross
04:48 PM NO 07 96

Signature of Weigher ________

TONS: 19.65 TOTAL TONS: [illegible] 283.72

Hornsby — TRUCKER
39 — TRUCK NO.

Jerry [illegible] — DRIVER
TICKET NO. 61599

VIP-1518-HV

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date ______ 19__ Load No. 17

Triple R Mgtd — Customer
Pcs — Description

RRR-106 — Project Number

Hunter — Location
Chatham — County

26080 lb Net
22800 lb Tare
48880 lb+ Gross
05:16 PM NO 07 96

Signature of Weigher: [signature]

TONS: 13.04 TOTAL TONS: 296.76

Hendley — TRUCKER
39 — TRUCK NO.

[signature] — DRIVER
TICKET NO. 61600

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. A0016

1. Page 1 of 1

2. Generator's Name and Mailing Address
Hunter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, [redacted], GA 31409

3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
TK # 39
8102

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Amy N. Eason | Signature | Month 11 Day 15 Year 96

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Jerry Sloan | Signature | Month 11 Day 7 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month . Day . Year .

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Charles Pruitt | Signature | Month 11 Day 7 Year 96

GENERATOR
TRANSPORTER
FACI

ORIGINAL – RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. A. 0017

1. Page 1 of 1

2. Generator's Name and Mailing Address
Hunter Army Air Field, Bldg 1021
Douglas Street, Hunter Army Air Field, [redacted], GA 31409

3. Generator's Phone (912) 352-5535

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc.
C/O Reynolds Construction Co., Rt. 84
Ludowici, GA 31316

A. Transporter's Phone 912-427-6758
B. Transporter's Phone
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

GENERATOR

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information

8102

12. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Doug Swanson | Signature: [signature] | Month 11 | Day 7 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Dewey Beaver | Signature: [signature] | Month 11 | Day 07 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature: [signature] | Month 11 | Day 7 | Year 96

ORIGINAL – RETURN TO GENERATOR

APPENDIX X

SITE RANKING FORM

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SITE RANKING FORM

Facility Name: Tanks 21 & 22, Building 1327 **Ranked by:** C. Allison Bailey

County: Chatham **Facility ID #:** 9-025053 **Date Ranked:** 9/25/98

SOIL CONTAMINATION

A. Total PAHs -
Maximum Concentration found on the site
(Assume <0.660 mg/kg if only gasoline was stored on site)

☐	≤0.660 mg/kg	=	0
☐	>0.66 - 1 mg/kg	=	10
☒	>1 - 10 mg/kg	=	25
☐	>10 mg/kg	=	50

B. Total Benzene -
Maximum Concentration found on the site

☐	≤0.005 mg/kg	=	0
☒	>0.005 - .05 mg/kg	=	1
☐	>0.05 - 1 mg/kg	=	10
☐	>1 - 10 mg/kg	=	25
☐	>10 - 50 mg/kg	=	40
☐	>50 mg/kg	=	50

C. Depth to Groundwater
(bls = below land surface)

☐	>50' bls	=	1
☐	>25' - 50' bls	=	2
☐	>10' - 25' bls	=	5
☒	≤10' bls	=	10

Fill in the blanks: **(A. 25) + (B. 1) = (26) x (C. 10) = (D. 260)**

GROUNDWATER CONTAMINATION

E. Free Product (Nonaqueous-phase liquid hydrocarbons; See Guidelines For definition of "sheen").

☐	No free product =	0
☐	Sheen - 1/8" =	250
☒	>1/8" - 6" =	500
☐	>6" - 1ft. =	1,000
☐	For every additional inch, add another 100 points =	1,000 +

F. Dissolved Benzene -
Maximum Concentration at the site
(One well must be located at the source of the release.)

☐	≤5 µg/L	= 0
☐	>5 - 100 µg/L	= 5
☒	>100 - 1,000 µg/L	= 50
☐	>1,000 - 10,000 µg/L	= 100
☐	>10,000 µg/L	= 250

Fill in the blanks: **(E. 500) + (F. 50) = (G. 550)**

POTENTIAL RECEPTORS (MUST BE FIELD-VERIFIED)

Distance from nearest contaminant plume boundary to the nearest downgradient and hydraulically connected Point of Withdrawal for water supply. **If the point of withdrawal is not hydraulically connected, evidence as outlined in the CAP-A guidance document MUST be presented to substantiate this claim.**

H. Public Water Supply

☐	Impacted	= 2000
☐	≤500'	= 500
☐	>500' - ¼ mi	= 25
☐	¼ mi - 1 mi	= 10
☐	>1 mi - 2 mi	= 2
☒*	> 2 mi	= 0

For lower susceptibility areas only:

☐	>1 mi	= 0

Note: If site is in lower susceptibility area, do not use the shaded areas.

* Note: Please see Section 1.0, "Other Geologic and Hydrogeologic Data," page X-5, for justification of this evaluation.

I. Non-Public Water Supply

☐	Impacted	= 1000
☐	≤100'	= 500
☐	>100' - 500'	= 25
☐	>500' - ¼ mi	= 5
☐	>¼ - ½ mi	= 2
☒	>½ mi	= 0

For lower susceptibility areas only:

☐	>¼ mi	= 0

J. Distance from nearest Contaminant Plume boundary to downgradient Surface Waters **OR UTILITY TRENCHES & VAULTS** (a utility trench may be omitted from ranking if its invert elevation is more than 5 feet above the water table)

☐	Impacted	= 500
☒	≤500'	= 50
☐	>500' - 1,000'	= 5
☐	>1,000'	= 1

K. Distance from any Free Product to basements and crawl spaces

☐	Impacted	= 500
☐	<500'	= 50
☐	>500' - 1,000'	= 5
☒	>1,000' or no free product.	= 0

Fill in the blanks: (H. 0) + (I. 0) + (J. 50) + (K. 0) = L. 50

(G. 550) x (L. 50) = M. 27,500

(M. 27,500)+ (D. 260) = N. 27,760

P. SUSCEPTIBILITY AREA MULTIPLIER

☐ If site is located in a Low Ground-Water Pollution Susceptibility Area = 0.5

☒ All other sites = 1

Q. EXPLOSION HAZARD

Have any explosive petroleum vapors, possibly originating from this release, been detected in any subsurface structure (e.g., utility trenches, basements, vaults, crawl spaces, etc.)?

☐ Yes = 200,000

☒ No = 0

Fill in the blanks: (N. 27,760) x (P. 1) = (27,760) + (Q. 0)

= 27,760

ENVIRONMENTAL SENSITIVITY SCORE

1.0 OTHER GEOLOGIC AND HYDROGEOLOGIC DATA

The following information is presented to provide supplemental information to Appendix X (Site Ranking Form) of the Corrective Action Plan (CAP)-Part A form and provides detailed information relating to the geologic and hydrogeologic conditions at Hunter Army Airfield (HAAF) to support determinations of groundwater flow pathway(s) or direction(s) and contaminant transport.

1.1 REGIONAL GEOLOGY

Southeast Georgia is located within the Coastal Plain Physiographic Province of the Southeast United States (Clark and Zisa 1976). In this region, the thickness of southeastward dipping, subsurface strata ranges from 0 feet at the fall line, located approximately 350 miles inland from the Atlantic coast, to approximately 4200 feet below land surface (BLS) at the coast. Herrick (1961) provides detailed lithologic descriptions of the stratigraphic units encountered during the installation of water and petroleum exploration wells in Chatham County. The well log of GGS Well 125, located on White Bluff Road, 700 feet west and 0.3 miles north of Buckhalter Road, Savannah, provides one of the more complete lithologic descriptions of upper Eocene, Miocene, and Pliocene to Recent sedimentary strata in Chatham County.

The upper Eocene (Ocala Limestone) section of GGS Well 125 is approximately 225 feet thick and dominated by light-gray to white, fossiliferous limestone. The Miocene section is approximately 250 feet thick and consists of limestone with a 160-feet-thick cap of dark green phosphatic clay. This clay is regionally extensive and is known to occupy the Coosawatchie Formation of the Hawthorn Group (Furlow 1969; Arora 1984; Huddlestun 1988). The interval from approximately 80 feet to the surface is Pliocene to Recent in age and composed primarily of sand interbedded with clay and silt. This section is occupied by the Satilla and Cypresshead Formations (Huddlestun 1988).

1.2 LOCAL GEOLOGY

HAAF is located within the Barrier Island Sequence District of the Coastal Plain Physiographic Province of the Southeast United States (Clark and Zisa 1976). The Barrier Island Sequence District in Chatham and Bryan Counties is characterized by the existence of several marine terraces (step-like topographic surfaces that decrease in elevation toward the coast). These marine terraces, and their associated deposits, are the results of sea level fluctuations that occurred during the Pleistocene Epoch. The surficial (Quaternary) deposits in Chatham and Bryan Counties, in decreasing elevation and age, are part of the Okefenokee, Wicomico, Penholoway, Pamlico, and Silver Bluff terrace complexes (Wilkes et al. 1974; GA DNR 1976; Huddlestun 1988).

HAAF, as well as most of Chatham County, is underlain by the Pleistocene Pamlico Terrace. The Pleistocene Satilla Formation (formerly known as the Pamlico Formation) consists of deposits of the Pamlico Terrace complex and other terrace complexes in the region (Huddlestun 1988). The Satilla Formation is a lithologically heterogeneous unit that consists of variably bedded to non-bedded sand and variably bedded silty to sandy clay. During the Pleistocene, these sand and clay deposits were formed in offshore and inner continental shelf, barrier island, and marsh/lagoonal-type environments (Huddlestun 1988). According to the Geologic Map of Georgia (GA DNR 1976), clay beds of marsh origin, which were deposited on the northwest side of the former Pamlico Barrier Island complex, exist in the western quarter of HAAF. Very fine- to

coarse-grained sand deposits of barrier island origin are more common throughout the remaining areas of HAAF.

Based on the coring and sampling of unconsolidated strata at HAAF during the CAP-Part A investigations, it is concluded that all former underground storage tanks (USTs) were buried within the Satilla Formation, which is overlain by various soil types. Soil groups at HAAF include the Chipley, Leon, Ellabelle, Kershaw, Pelham, Albany, Wahee, and Ogeechee (Wilkes et al. 1974).

1.3 REGIONAL AND LOCAL HYDROGEOLOGY

The hydrogeology in the vicinity of HAAF is mostly influenced by two aquifer systems. These are referred to as the Principal (Floridan) Aquifer and the Surficial Aquifer (Miller 1990). The Principal Aquifer is the lowermost hydrologic unit and is regionally extensive from South Carolina through Georgia, Alabama, and most of Florida. Known elsewhere as the Floridan, this aquifer, approximately 800 feet in total thickness, is composed primarily of Tertiary age limestone including the Bug Island Formation, the Ocala Group, and the Suwannee Limestone. Groundwater from the Floridan is used primarily for drinking water (Arora 1984). According to Miller (1990), one of the largest cones of depression produced in the Upper Floridan Aquifer exists directly beneath Savannah, Georgia. Net water-level decline in the Floridan system, between the predevelopment period and 1980, exceeded 80 feet beneath Savannah. In addition, according to 1980 estimates, more than 500 million gallons of water per day were withdrawn from the Floridan for public and industrial use in southeast Georgia, more than any other region.

The confining layer for the Principal (Floridan) Aquifer is the phosphatic clay of the Hawthorn Group. There are minor occurrences of aquifer material within the Hawthorn Group; however, they have limited utilization (Miller 1990). The Surficial Aquifer overlies the Hawthorn confining unit.

The Surficial Aquifer consists of widely varying amounts of sand and clay, ranging from 55 to 150 feet in thickness, and is composed primarily of the Satilla and Cypresshead Formations in the Savannah vicinity (Arora 1984). This aquifer is primarily used for domestic lawn and agricultural irrigation. The top of the water table ranges from approximately 2 to 10 feet below ground level (Miller 1990). Groundwater in the Surficial Aquifer system is under unconfined, or water table, conditions. However, locally, thin clay beds create confined or semiconfined conditions, as is the case at HAAF where thin, surficial clay beds are present in the west quadrant (GA DNR 1976).

Groundwater encountered at all the CAP-Part A investigation sites is part of the Surficial Aquifer system. Based on the fact that all public and non-public water supply wells draw water from the Principal (Floridan) Aquifer, and that the Hawthorn confining unit separates the Principal Aquifer from the Surficial Aquifer, it is concluded that there is no hydraulic interconnection between UST sites (and associated plumes, if applicable) and water supply withdrawal points (Figure X-A).

1.4 GEOLOGIC AND HYDROGEOLOGIC CONDITIONS AT THE USTs 21 & 22, BUILDING 1327 SITE

According to Wilkes et al. (1974), the soil common in the area occupied by Building 1327 consists of the Chipley-Urban land complex (Cuc). This complex contains 40 to 70 percent Chipley soils and 20 to 40 percent Urban Land soils. The surface layer of this complex is very dark grayish brown to gray, with the underlying layer being olive brown to light yellowish brown

mottled with gray within 40 inches of the surface. The texture is fine sand to a depth of six or more feet. A seasonal high water table is 15 to 36 inches below the surface. In places, the soil profile has been altered due to the cutting, filing, and grading activities resulting from urban development (Wilkes et al. 1974).

The presence of the Chipley-Urban, as predicted by Wilkes et al. (1974), was confirmed during direct-push activities at the USTs 21 & 22, Facility ID: 9-025053 site. Soil samples consisted predominantly of silty, fine-grained, poorly graded sand (SP) interbedded with less common organic rich, silty sand with light brown and gray hues.

Groundwater was measured at the site at depths ranging from 4.21 to 5.15 feet below ground surface. Based on the construction of a potentiometric surface map, groundwater is interpreted to flow toward the drainage ditch located approximately 200 feet northeast of the site.

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FIGURES

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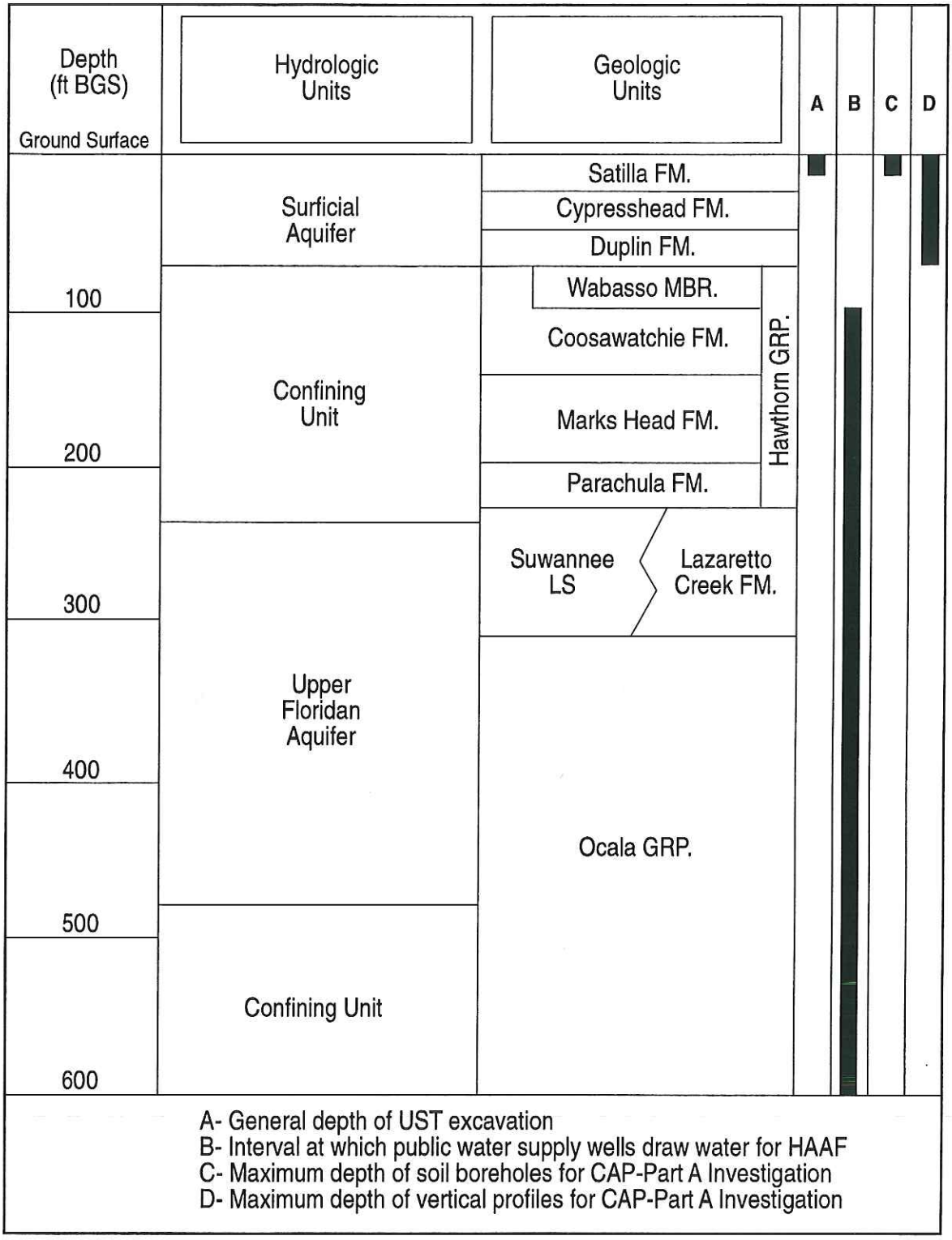

Figure X-A. Generalized Stratigraphy of Chatham County, Georgia

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APPENDIX XI

COPIES OF PUBLIC NOTIFICATION LETTERS AND CERTIFIED RECEIPTS OR NEWSPAPER NOTICE

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Affidavit of Publication
___Savannah Morning News
___Savannah Evening Press

STATE OF GEORGIA
CHATHAM COUNTY

Personnally appeared before me, Joan T. Jenkins, to me known, who being sworn, deposes and says:

That he is the Classified Adv Supv of Southeastern Newspapers Corporation, a Georgia corporation, doing business in Chatham County, Georgia, under the trade name of Savannah Morning News/Savannah Evening Press, a daily newspaper published in said county;

That he is authorized to make affidavits of publication on behalf of said published corporation;

That said newspaper is of general circulation in said county and in the area adjacent thereto;

That he has reviewed the regular editions of the Savannah Morning News/Savannah Evening Press, published on 1-24, 1999, 1-31, 1999, _____, 19___, _____, 19___, and finds that the following Advertisement, to-wit:

015 Miscellaneous Notices

PUBLIC NOTICE
Notification of Corrective Action Plan, Underground Storage Tank Releases, Fort Stewart Garrison Area, Fort Stewart, Georgia

The United States Army Corps of Engineers, and Fort Stewart Directorate of Public Works have prepared Corrective Action Plan (CAP) - Part A reports to assess the environmental impact of diesel, gasoline, or waste oil releases from numerous underground storage tanks (USTs) located at the above referenced property. These reports will be submitted to the Georgia Environmental Protection Division after February 1, 1999. A listing of the UST sites for which CAP - Part A reports have been prepared is presented at the end of this notification.

The Georgia rules for UST management require notification of the public most directly affected by the plans. If you would like a copy of any of the plans, please contact:

Commander, 3rd Infantry Division (Mechanized) and Fort Stewart, attn: AFZP-DEV (M. Little), 1557 Frank Cochran Dr. Bldg. 1139, Fort Stewart, Ga. 31314-4928

A copy of each requested plan will be mailed at a nominal copying and shipping fee.

To make comments on any of the plans, or to examine the Georgia Environmental Protection Division's files, contact the Corrective Action Unit, Underground Storage Tank Management Program, Environmental Protection Division, at 404-362-2687. The Underground Storage Tank Management Program will accept public comments on the CAP - Part A reports up to 30 days after submittal to the Georgia Environmental Protection Division. Following is their mailing address:

Corrective Action Unit, Underground Storage Tank Management Program, 4244 International Parkway, Suite 100, Atlanta, Ga. 30354

Hunter Army Airfield CAP - Part A Underground Storage Tank Sites

Tank Number; Facility ID; Building
21 and 22; 9-025053; 1327
27 and 28; 9-025083; 8059
108; 9-025104; 1346
109; 9-025105; 1310
112; 9-025108; 8464
116; 9-025112; 9002

appeared in each of said editions.

Joan T. Jenkins
(Deponent)

Sworn to and subscribed before me this 2 day of Feb, 1999.

Lillie D. Lang
Notary Public, Chatham County, Georgia

LILLIE D. LANG
Notary Public, Chatham County, Ga.
My Commission Expires Apr. 8, 2001

Form 121 rev.

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APPENDIX XII

GUST TRUST FUND REIMBURSEMENT APPLICATION AND CLAIM FOR REIMBURSEMENT

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The Hunter Army Airfield is a federally owned facility and has funded the investigation for the Underground Storage Tanks 21 & 22, Building 1327 site, Facility ID: 9-025053, using Environmental Restoration Account funds. Application for Georgia Underground Storage Tank Trust Fund reimbursement is not being pursued at this time.

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ATTACHMENT A

TECHNICAL APPROACH

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TECHNICAL APPROACH

1.0 INTRODUCTION

The overall objective of this project was to provide the services required to produce Corrective Action Plans (CAPs) for the subject underground storage tank (UST) and heating oil tank (HOT) sites per the requirement of the Georgia Environmental Protection Division (EPD). The field activities included the installation of temporary piezometers, soil borings, and soil and groundwater sampling. Upon completion of the field activities, this CAP-Part A report was prepared to meet requirements of the Georgia EPD, Fort Stewart Directorate of Public Works (FS DPW), and the U.S. Army Corps of Engineers (USACE)-Savannah District.

2.0 FIELD ACTIVITIES

The following sections detail the methodologies used for direct-push sampling and piezometer installation. All boreholes were drilled and piezometers installed by R. E. Wright [Science Applications International Corporation (SAIC), Drilling Services Division], a drilling firm licensed in the state of Georgia. A geologist from SAIC, working under the direction of a registered professional engineer, was on site at all times. Drilling activities were not undertaken until all utility clearances and permits were obtained from Hunter Army Airfield (HAAF) utility personnel.

2.1 SUBSURFACE SOIL SAMPLING

2.1.1 Borehole Installation

A truck-mounted direct-push Geoprobe was used for installation of soil boreholes. All sampling devices were pushed to required depths using 4.0- and 3.0-foot push rods. During all borehole drilling, 4.0-foot soil cores were collected continuously from ground surface to the top of the water table.

2.1.2 Sample Collection

Soil samples were collected from boreholes using a 4.0-foot acetate-lined, steel macrocoring device. Upon retrieval of the sampling device, the acetate liner containing the soil core was removed from the steel macrocoring device. The soil core was removed from the protective sleeve using a truck-mounted, acetate-liner cutting device. The exposed soil core was split into two 2.0-foot sections using a stainless steel knife. A portion of each 2.0-foot section was collected for possible laboratory analysis. The remaining portion of each 2.0-foot section was used for field measurements.

Samples designated for possible laboratory analysis were collected from the cores using a stainless steel spoon. Soil was collected from along the entire length of the core in order to collect a representative sample. The portion of the sample designated for volatile organic analyses was placed into laboratory sample containers first, followed by placement of the remaining portion of the sample into the containers designated for other types of analyses. Sample containers designated for volatile organic analyses were filled so that minimal headspace was present. Headspace gas concentration measurements were made using a field organic vapor meter (OVM). Initially, soil

from each 2.0-foot interval was placed into a glass jar, leaving some air space, and covered with aluminum foil to create an air-tight seal. The sample was allowed to volatilize for a minimum of 15 minutes. The sealed jar was punctured with the OVM probe and headspace gas drawn until the meter reading was stable. The concentration of the headspace gas was recorded to the nearest 0.1 parts per million (ppm).

Immediately following collection of each sample and completion of bottle label information, each potential analytical sample container was placed into an ice-filled cooler to ensure preservation. A clean acetate-lined, steel macrocore sampling device was used to collect soil core from each interval of the project boreholes. Information regarding the soil sample selection criteria for off-site shipment to a laboratory for chemical analysis is presented in Section 3.1.3 of the project Sampling and Analysis Plan. Soil samples that were not selected for laboratory analysis were disposed of as investigation-derived waste (IDW).

2.2 GROUNDWATER SAMPLING

2.2.1 Groundwater Collection

Collection of groundwater samples from soil boreholes was accomplished through the use of a 3.5-foot-long, 1.0-inch-diameter steel slotted screen encased in a 3.5-foot-long, 1.5-inch-diameter stainless steel sleeve attached to an expendable 1.5-inch length, 1.5-inch-diameter steel drive point. The entire device was pushed 5 feet below the water table. The 3.5-foot steel sleeve was subsequently raised 4.0 feet from the bottom while discarding the steel drive point and exposing the entire length of the screen to groundwater. By raising the steel sleeve 4.0 feet, the steel slotted screen was raised 0.5 feet from the bottom of the borehole. As a result, the groundwater was collected from a 4.0-foot interval. Water was brought to the surface using a peristaltic pump attached to a clean acetate tube, which was cut to desired length prior to sampling and discarded following each sampling event. Enough water was extracted for laboratory sample containment and for water quality parameters to be measured with a Horiba U-10. Following groundwater sample collection, subsurface sampling devices were removed from the borehole, and a temporary piezometer was installed. Temporary piezometers were constructed of 1.0-inch inside diameter (ID) polyvinyl chloride (PVC) casing with a 5-foot screened interval.

2.2.2 Field Measurements

Groundwater field measurements performed during the project included measurement of static groundwater level, free-product layer thickness, pH, specific conductance, and temperature. Groundwater levels were measured inside the temporary PVC piezometers. A summary of the procedures and criteria to be used for groundwater field measurements is presented in the following sections.

Static Groundwater Level

Static groundwater level measurements were made using an electronic water-level indicator. Initially, the indicator probe was lowered into each temporary piezometer casing until the alarm sounded and/or the indicator light illuminated. The probe was withdrawn several feet and slowly lowered again until the groundwater surface was contacted as indicated by the alarm and/or light. Water-level measurements were estimated to the nearest 0.01 foot based on the difference between the nearest probe cord mark to the top of the piezometer casing.

The distance between the top of the casing and the surrounding ground surface was taken into account in measuring the water level to within 0.01 foot. The static water level measurement procedure was repeated two or three times to ensure that the water level measurements were consistent (plus or minus 0.01 foot).

Free-Product Thickness

Free-product layer thickness measurements were collected at applicable sites using an electric indicator probe. Initially, the indicator probe was lowered into each temporary piezometer casing until the alarm sounded and/or the indicator light was illuminated. The probe was withdrawn and then slowly lowered again until the liquid surface was contacted as noted by the alarm and/or indicator light. The meter was lowered until the alarm indicated the water surface. The thickness of the product was determined by subtracting the measurement of the free-product layer surface from the measurement of the water surface. The water/product level measurements were estimated to the nearest 0.01 foot based on the difference between the nearest probe cord mark to the top of the piezometer casing.

The free-product measurement was repeated two or three times to ensure that the measurements were consistent (plus or minus 0.01 foot).

pH, Specific Conductance, and Temperature

The pH, specific conductance, and temperature measurements were recorded for groundwater during groundwater sampling. The pH, temperature, and conductivity measurements were made using a Horiba U-10 designed to measure these parameters. A portion of each groundwater sample was retrieved from the sampler and poured into the collection cup. With the combination meter set in the pH mode, the meter electrode was swirled at a slow, constant rate within the sample until the meter reading reached equilibrium. The sample pH was recorded to the nearest 0.1 pH unit.

Upon completion of the pH measurement, conductivity and temperature measurements were made on a groundwater sample collected in the same manner as described above. With the combination meter set in the conductivity mode, the meter electrode was swirled at a slow, constant rate until the meter reading reached equilibrium. Concurrently, a temperature probe was placed into the sample and allowed to reach equilibrium. The sample conductivity was recorded to the nearest 10 mS/cm and the temperature to the nearest 0.1°C. All recorded conductivity values were converted to conductance at 25°C.

2.3 TEMPORARY PIEZOMETER INSTALLATION

Following the collection of the groundwater sample, a 2-inch PVC piezometer, with a 5-foot screened section, was installed to prevent the borehole from collapsing. The piezometer remained in the borehole at least 24 hours, after which time measurements to determine the presence of a free-product layer were made, if applicable, and the static water level was measured.

2.4 BOREHOLE ABANDONMENT

Once static water levels were measured, the temporary piezometers were removed, and the boreholes were abandoned. Abandonment was conducted in a manner preventing any current, or subsequent, fluid media from entering, or migrating within, the subsurface environment along the

axis or from the endpoint of the borehole. Abandonment was accomplished by filling the entire volume of the borehole with bentonite powder.

Boreholes located in concrete-covered areas were capped with grout. After a 24-hour period, the abandoned borehole was checked for grout and bentonite settlement.

2.5 SURVEYING

A topographic survey of the horizontal and vertical locations of all soil boreholes was conducted after completion of field activities. The topographic survey was conducted by a surveyor registered in the state of Georgia.

The horizontal coordinates for each soil borehole were surveyed to the closest 1.0 foot and referenced to the State Plane Coordinate System. Ground elevations were surveyed to the closest 0.01 foot. Elevations were referenced to the National Geodetic Vertical Datum of 1983.

2.6 DECONTAMINATION PROCEDURES

Decontamination of equipment used for soil and groundwater sampling was conducted at each investigation site. Non-dedicated equipment was decontaminated after each use. The direct-push sampling equipment was decontaminated by removing soil and contaminants with potable water, phosphate-free detergent, and scrub brushes. This was followed by a potable water rinse, American Society for Testing and Materials (ASTM) Type I or equivalent water rinse, methanol rinse, and ASTM Type I or equivalent water rinse. The sampling equipment was then allowed to air dry and was wrapped in plastic or aluminum foil.

In addition to the sampling equipment, field measurement instruments were also decontaminated between uses. Only those portions of each instrument that came into contact with environmental media were decontaminated. Because of the delicate nature of these instruments, the decontamination procedure only involved initial rinsing of the instrument probes with ASTM Type I or equivalent water.

2.7 INVESTIGATION-DERIVED WASTE MANAGEMENT

Soil cuttings obtained during the installation of each borehole, and water collected for the measurement of water quality parameters, were the only indigenous IDW generated during the project. Non-indigenous IDW included solid compactible trash, decontamination solutions, and sludges.

2.7.1 Waste Collection and Containment

All soil waste was contained in a 55-gallon U.S. Department of Transportation (DOT) Specification 17C drums at the point of generation. At each site, water waste was contained in 55-gallon DOT specification 17E drums. All containers were appropriately labeled with generation point information and transported to the Central Staging Area. Sanitary waste was placed in trash bags at the point of generation.

2.7.2 Waste Characterization

Soil IDW was characterized by collecting a representative soil aliquot from each drum and creating a single homogenized composite sample. The sample was analyzed for Resource Conservation and Recovery Act Toxicity Characteristic Leaching Procedure (TCLP) analytes. Soil was considered non-contaminated if the TCLP results were below the regulatory criteria, and the analytical results for the associated field samples indicated all of the following:

- benzene, toluene, ethylbenzene, and xylene (BTEX) and polynuclear aromatic hydrocarbon (PAH) concentrations below applicable Table A or B Threshold Levels as defined in Rules of Georgia Department of Natural Resources, Environmental Protection Division, rule 391-3-15-.09;
- total petroleum hydrocarbon (TPH) concentrations below 100 ppm; and
- total lead concentrations below 100 ppm.

Water IDW was characterized by collecting one sample from each drum. Each sample was analyzed for BTEX, pH, oil and grease, phenols, and TCLP metals.

2.7.3 Waste Disposal

All of the soil IDW was characterized as being non-contaminated and approved for disposal by FS DPW personnel. The soil was spread in an area designated by FS DPW personnel.

All of the water IDW was characterized as meeting the acceptance criteria of the FS Industrial Waste Treatment Plant (IWTP) and approved for disposal by FS DPW personnel at the IWTP.

2.8 DOCUMENTATION OF FIELD ACTIVITIES

All information pertinent to drilling and sampling activities, including instrument calibration data, was recorded in field logbooks. The logbooks were bound and the pages consecutively numbered. Entries in the logbooks were made in black permanent ink and included, at a minimum, a description of all activities, individuals involved in drilling and sampling activities, date and time of drilling and sampling, weather conditions, problems encountered, and field measurements. Lot numbers, manufacturers' names, and expiration dates of standard solutions used for field instrument calibration were also recorded. Sufficient information was recorded in the logbooks to permit reconstruction of direct-push and sampling activities.

3.0 SAMPLE HANDLING AND ANALYSIS

3.1 ANALYTICAL PROGRAM

Soil samples were screened for the presence of volatile vapors using a PhotoVac photoionization detector. The PhotoVac was calibrated daily using 100 ppm isobutylene. The headspace of each sample was measured approximately 15 minutes after collection.

Soil samples were analyzed for BTEX by method SW 846-8020, for PAH by method SW 846-8270, and for TPH by method SW 846-8015 (modified). TPH analysis included both gasoline-range organics and diesel-range organics. Groundwater samples were analyzed for BTEX by method SW 846-8240 and PAH by method SW 846-8270. The groundwater and soil sample containers, preservatives, and holding times are summarized in Table 1.1 of the Quality Assurance Project Plan of the SAP (SAIC 1998). All samples were shipped to General Engineering Laboratories (GEL), Charleston, South Carolina.

Duplicate samples of soil and groundwater were collected throughout the project and represented approximately 10 percent of the total sample population. Rinsate blanks, which represented approximately 5 percent of the total sample population, were collected to detect sample cross-contamination. Duplicates and rinsates were submitted to GEL.

Split samples were collected in addition to other quality control samples but were sent to the USACE quality assurance laboratory in Marietta, Georgia, as an independent quality check.

3.2 SAMPLE PACKAGING AND SHIPMENT

Each sample container was labeled and taped shut with electrical tape (except those containing samples designated for volatile organic analysis), and an initialed/dated custody seal was placed over the lid. Each sample bottle was placed into a separate plastic bag and sealed. The samples were placed upright in thermally insulated rigid-body coolers and surrounded by vermiculite to prevent breakage during shipment. In addition, samples were cooled to approximately 4°C with wet ice. These measures were taken to slow the decomposition and volatilization of contaminants during shipping and handling. The sample coolers were shipped to the analytical laboratory via courier service provided by the laboratory.

ATTACHMENT B

REFERENCES

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