FINAL

CORRECTIVE ACTION PLAN - PART A REPORT
FOR
UNDERGROUND STORAGE TANKS 242 & 244
FACILITY ID #9-089041
BUILDING 241
FORT STEWART, 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 0024

Prepared by:

Science Applications International Corporation
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37830

August 1999

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List of Abbreviations and Acronyms

ACE	Anderson Columbia Environmental, Inc.
ACL	alternate concentration limits
AMSL	above mean sea level
ARAR	applicable, relevant, and appropriate requirement
ASTM	American Society for Testing and Materials
ATL	alternate threshold level
BGS	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylene
BTOC	below top of casing
CAP	Corrective Action Plan
COCs	chemicals of concern
DAF	dilution-attenuation factor
DPW	Directorate of Public Works
DRO	diesel-range organics
EPA	U.S. Environmental Protection Agency
GA EPD	Georgia Environmental Protection Division
GRO	gasoline-range organics

HQ	hazard quotient
ID	inside diameter
IDW	investigation-derived waste
MCL	maximum contaminant level
MSL	mean sea level
ND	not detected
NRC	no regulatory criteria
OVA	organic vapor analyzer
OVM	organic vapor meter
PAH	polynuclear aromatic hydrocarbon
PVC	polyvinyl chloride
SAIC	Science Applications International Corporation
TPH	total petroleum hydrocarbon
USACE	U.S. Army Corps of Engineers
UST	underground storage tank
USTMP	Underground Storage Tank Management Program

CORRECTIVE ACTION PLAN PART A

Facility Name: USTs 242 & 244, Building 241 Street Address: Bultman Avenue

Facility ID: 9-089041 City: Fort Stewart County: Liberty Zip Code: 31314

Latitude: 31° 51′ 50″ Longitude: 81° 36′ 00″

Submitted by UST Owner/Operator:
Name: Thomas C. Fry/ Environmental Branch
Company: U.S. Army/HQ 3d, Inf. Div (Mech)
Address: DPW ENRD ENV. Br. (Fry)
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Prepared by Consultant/Contractor:
Name: Patricia A. Stoll
Company: SAIC
Address: P.O. Box 2502
City: Oak Ridge State: TN
Zip Code: 37831
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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: 09/07/99

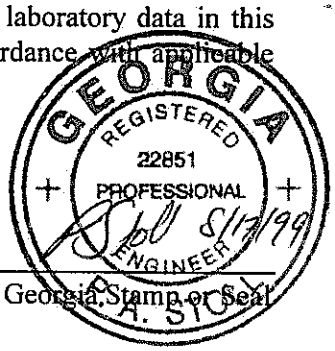
B. Registered Professional Engineer or Professional Geologist Certification

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: Patricia A. Stoll

Signature: Patricia A. Stoll

Date: 8/17/99



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 USTs 242 & 244 site. Therefore, contaminant migration and release prevention, fire and vapor migration, or emergency free product removal was not performed prior to, or during, the removal of USTs 242 & 244.

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 ____ NO X
If Yes, please summarize free product recovery efforts.

Continuing free product recovery proposed? YES ____ NO X
If yes, please indicate the method and frequency of removal.

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
242	1000	used oil	6/25/96
244	1000	used oil	6/25/96

D. Initial Site Characterization

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

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

   Anderson Columbia Environmental, Inc. (ACE) initiated characterization of petroleum-related contamination at the site during UST system closure activities on June 25, 1996. After removal of each tank, one soil sample was collected from each tank pit (Figure 7). TPH was detected in soil samples 242-T1-S1 and 244-T1-S1 at 441 mg/kg and 125 mg/kg, respectively. No BTEX or PAH compounds were detected in these two soil samples. However, the benzene detection limit of 0.114 mg/kg in sample 242-T1-S1 exceeds the applicable soil threshold level. No groundwater samples were collected during the tank removal activities.

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

   A detailed schematic diagram illustrating the former USTs 242 & 244 and ancillary piping as configured during operation is presented in Figure 2. During removal activities by ACE, no holes in the tank were reported. Therefore, the source of contamination is believed to have been piping leakage and/or tank overflow.

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:*	3000	*feet*	
ii. *Nearest down-gradient public water supply located within:*	>10,560	*feet*	
iii. *Nearest non-public water supply located within:*	>10,560	*feet*	
iv. *Nearest down-gradient non-public water supply located within:*	>10,560	*feet*	
c. *Surface Water Bodies and sewers:*			
i. *Nearest surface water located within*	1900	*feet*	
ii. *Nearest down-gradient surface water located within*	2500	*feet*	
iii. *Nearest storm or sanitary sewer located within:*	70	*feet*	
iv. *Depth to bottom of sewer at a point nearest the plume*	7.0	*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 soil cores were collected at 1.5- or 2.0-foot intervals during the installation of six boreholes. Field headspace gas analyses were performed on each sample to determine the organic vapor concentration. Two soil samples were selected from each borehole for laboratory chemical analysis of BTEX, TPH, and PAH. In boreholes where organic vapors were detected, one sample was collected from the sample interval where the highest vapor concentration was recorded, and the other from the deepest sample interval with the lowest concentration. If organic vapors were not detected, one sample was collected from the sample interval nearest the midpoint of the boring, and the other from the sample interval located immediately above the water table. 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.

The benzene detection limit in one of the soil closure samples was 0.114 mg/kg. This sample also contained an elevated concentration of TPH that may have caused the elevated benzene detection limit.

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, except the vertical profile boring, one groundwater sample was collected from the temporary piezometer screened from ground surface to approximately 5.0 feet below the water table. At the vertical profile location (59-04), groundwater samples were collected every 5 feet below the water table until several groundwater sample intervals indicated a headspace gas measurement of zero. 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 to collect groundwater samples.

i. *Groundwater contamination above MCLs?* YES X NO _____

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

YES _____ NO X

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

In May 1998, benzene was present in boring 59-01, located in the former UST 242 tank pit, at a concentration of 12.1 µg/L. Benzene was present in boring 58-02, located in the former UST 244 tank pit, at a concentration of 5.7 µg/L.

In September 1998, the investigation was extended to include additional sampling in an effort to determine extent. BTEX was not present in the three additional borings that were installed around the perimeter of contamination in September 1998. No contamination was present in the vertical profile boring (59-04), which was installed in the area of contamination that was observed in May 1998.

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 (ft BTOC):* 5.97 – 9.57 *(Table 4: Groundwater Elevations)*
b. *Groundwater Flow Direction:* north *(Figure 6: Potentiometric Surface Map)*
c. *Hydraulic Gradient* 0.025 ft/ft
d. *Geophysical Province:* coastal plain
e. *Unique geologic/hydrological conditions:* The Hawthorn Formation acts as a confining unit between the surficial and Floridan aquifers.

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 242 & 244 on June 25, 1996. The UST piping was drained into the tank, and all used oil was subsequently removed using a vacuum truck and/or compressor-driven barrel vacuum device. A backhoe was used to excavate down to the tank top. All lines were capped except the fill and vent. After the tank atmosphere was tested with a combustible gas indicator, all accessible tank openings were capped and the tanks were lifted from the excavation pit. The ancillary piping was closed in-place due to the fact that it was covered with 12 inches of high strength concrete. In-place closure consisted of purging the line and grouting the ends at each tank pit and in each respective maintenance 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 disposal off site	X

If soils were excavated, summarize excavation and treatment/disposal activities:

All contaminated soil removed during the entire project (i.e., all USTs removed under contract with ACE, 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 Closure Report was not submitted to GA EPD in 1996 because review of the closure analytical data indicated that a CAP-Part A would re required (i.e., per requirements of GUST-9, Item 15, page 12, dated August 1995). However, all pertinent information (i.e., copies of analytical data, manifests, and maps) are provided in this CAP-Part A Report. Disposal manifests for the UST 242 site were submitted to GA EPD, USTMP in September 1998 with the UST 207A (Facility ID#9-089039) Closure Report response to comments correspondence (Perez 1998). Approximately 22.33 tons of contaminated soil was excavated from the UST 242 tank pit. No contaminated soil was removed from the UST 244 tank pit.

7. Site Ranking:

Environmental Site Sensitivity Score: 350

(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 ____

(provide justification)

There was no soil contamination in excess of applicable GUST soil threshold levels (i.e., Table A, Column 2) during the CAP-Part A investigation. Benzene was detected in two CAP-Part A groundwater samples with the highest concentration being 12.1 µg/L. The horizontal and vertical extent of groundwater contamination was determined during the CAP-Part A investigation. The storm drain is located approximately 70 feet from the tank pit. The site ranking score was determined to be 350.

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

(provide justification)

c. CAP-B (if applicable) N/A X

(provide justification)

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 X
(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 X

   b. Dissolved phase N/A X

3. Surface Water N/A X

B. Proposed Investigation of Vadose Zone And Aquifer Characteristics:

Additional vadose zone and aquifer characteristics were collected as part of the CAP-Part A investigation, thus no additional data is required.

V. PUBLIC NOTICE

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

USTs 242 & 244 is located within the confines of Fort Stewart Military Reservation, a federal facility. The U.S. Government owns all of the property contiguous to the site. The Fort Stewart Directorate of Public Works (DPW) has complied with the public notice requirements defined by Georgia Environmental Protection Division (GA EPD) guidance by publishing an announcement in the *Savannah Morning News* on June 27 and July 4, 1999.

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

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

Fort Stewart is a federally owned facility and has funded the investigation for USTs 242 & 244, Building 241, Facility ID #9-089041, using Department of Defense 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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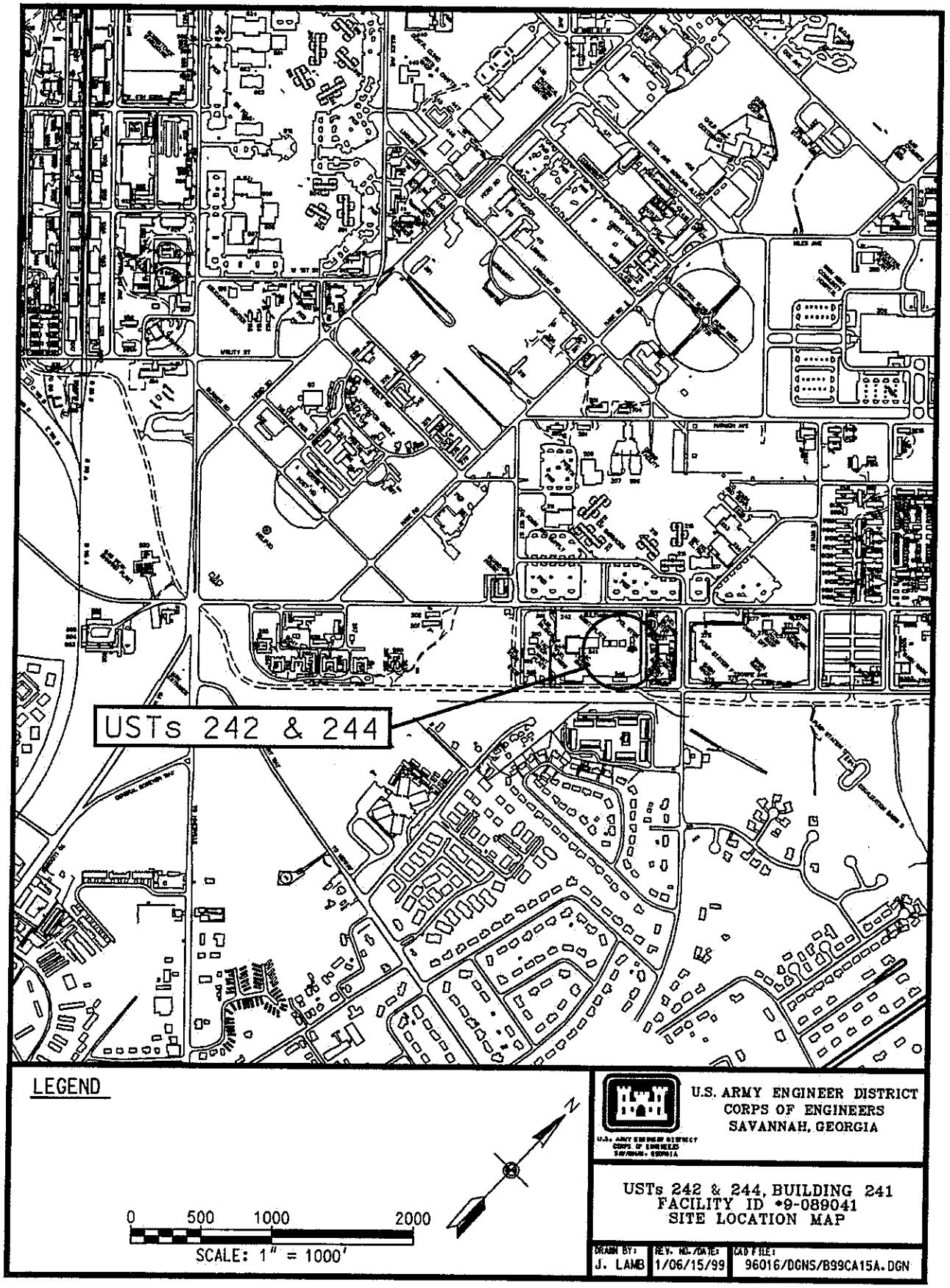

Figure 1. Location Map of USTs 242 & 244, Fort Stewart, Liberty County, Georgia

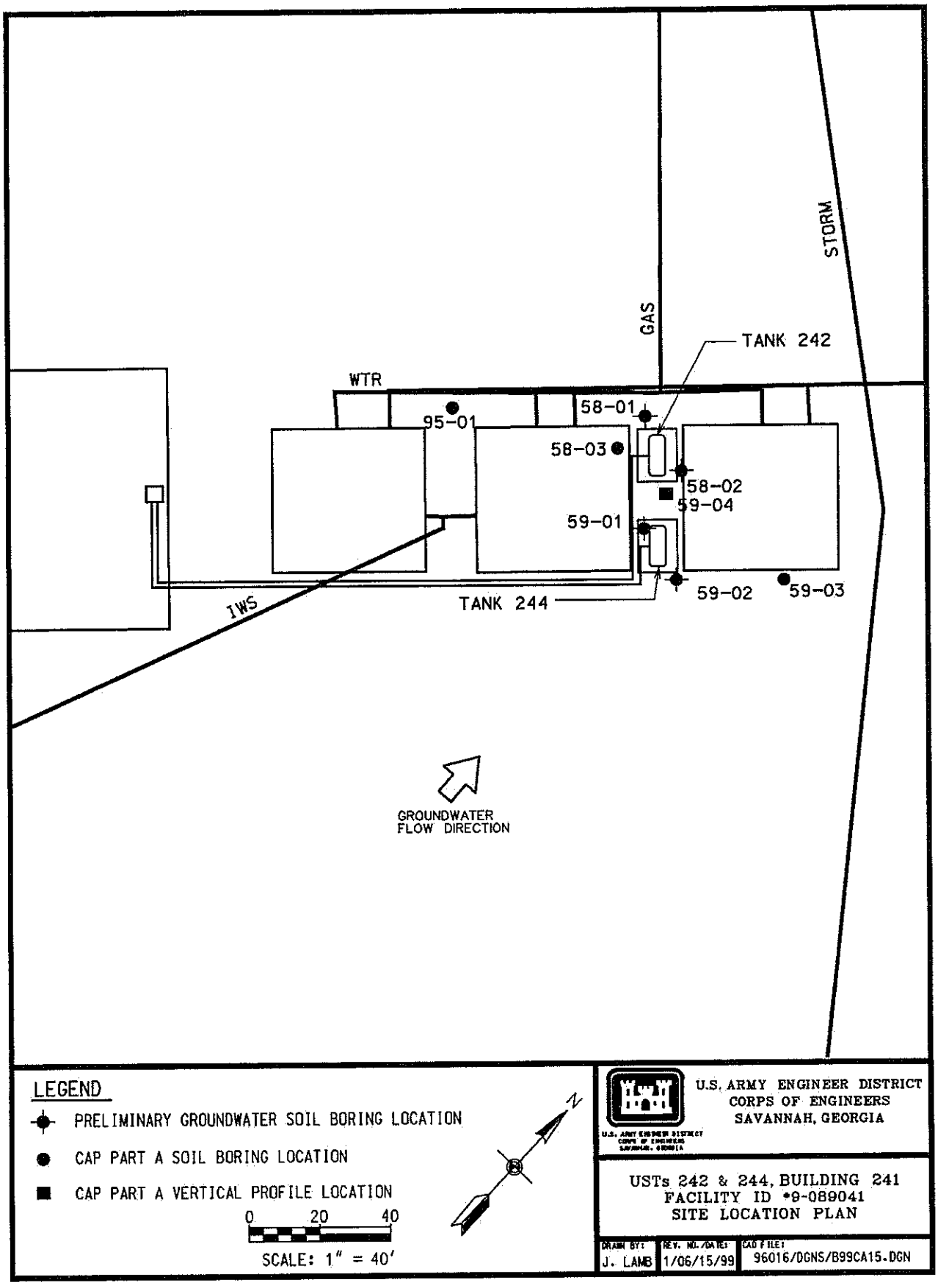

Figure 2. Site Plan for the USTs 242 & 244 Site Investigation

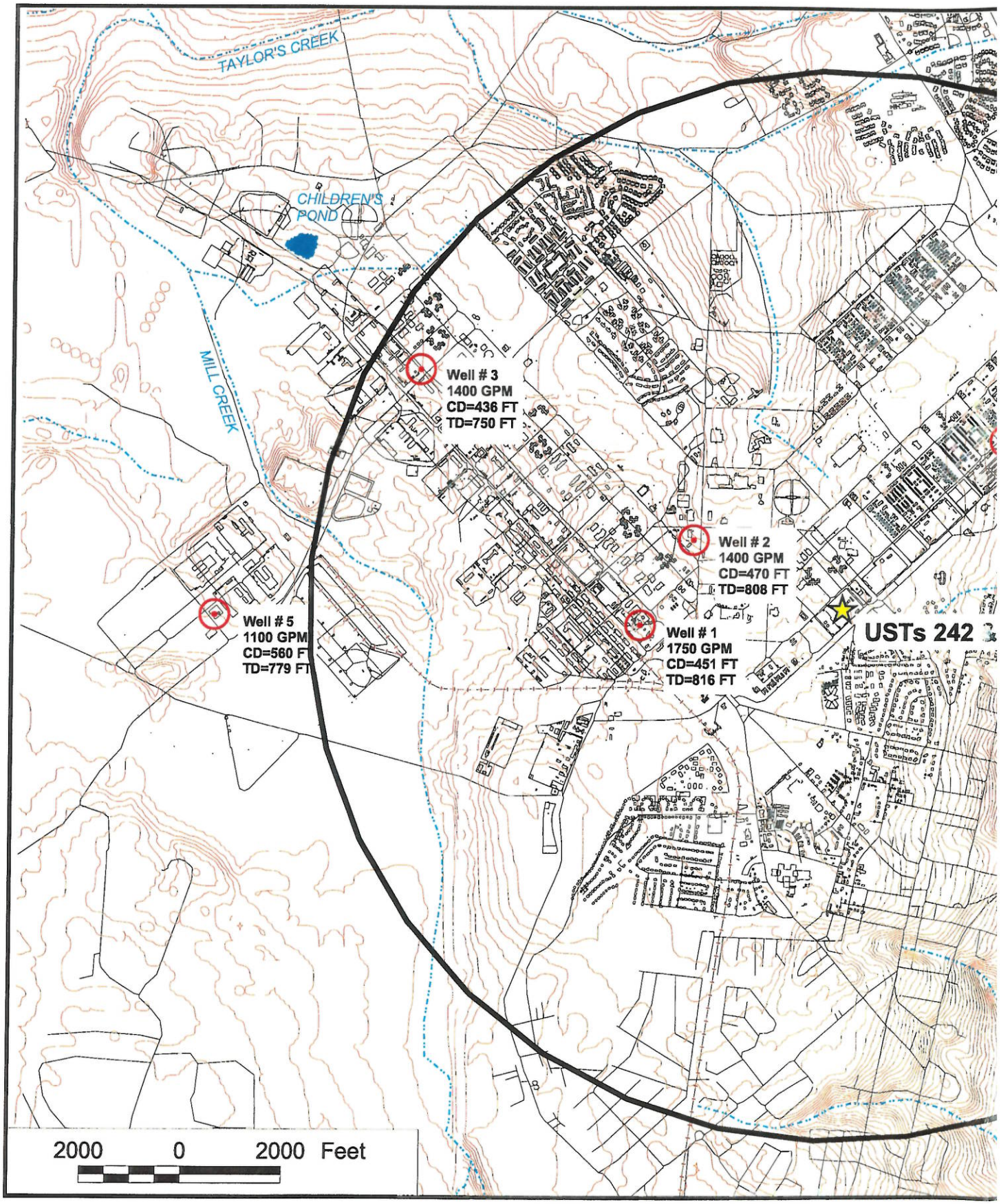

Figure 3. Map Showing Public and Private Drinking Water Sources Bodies at Fort Stewart, Liberty County, Georgia

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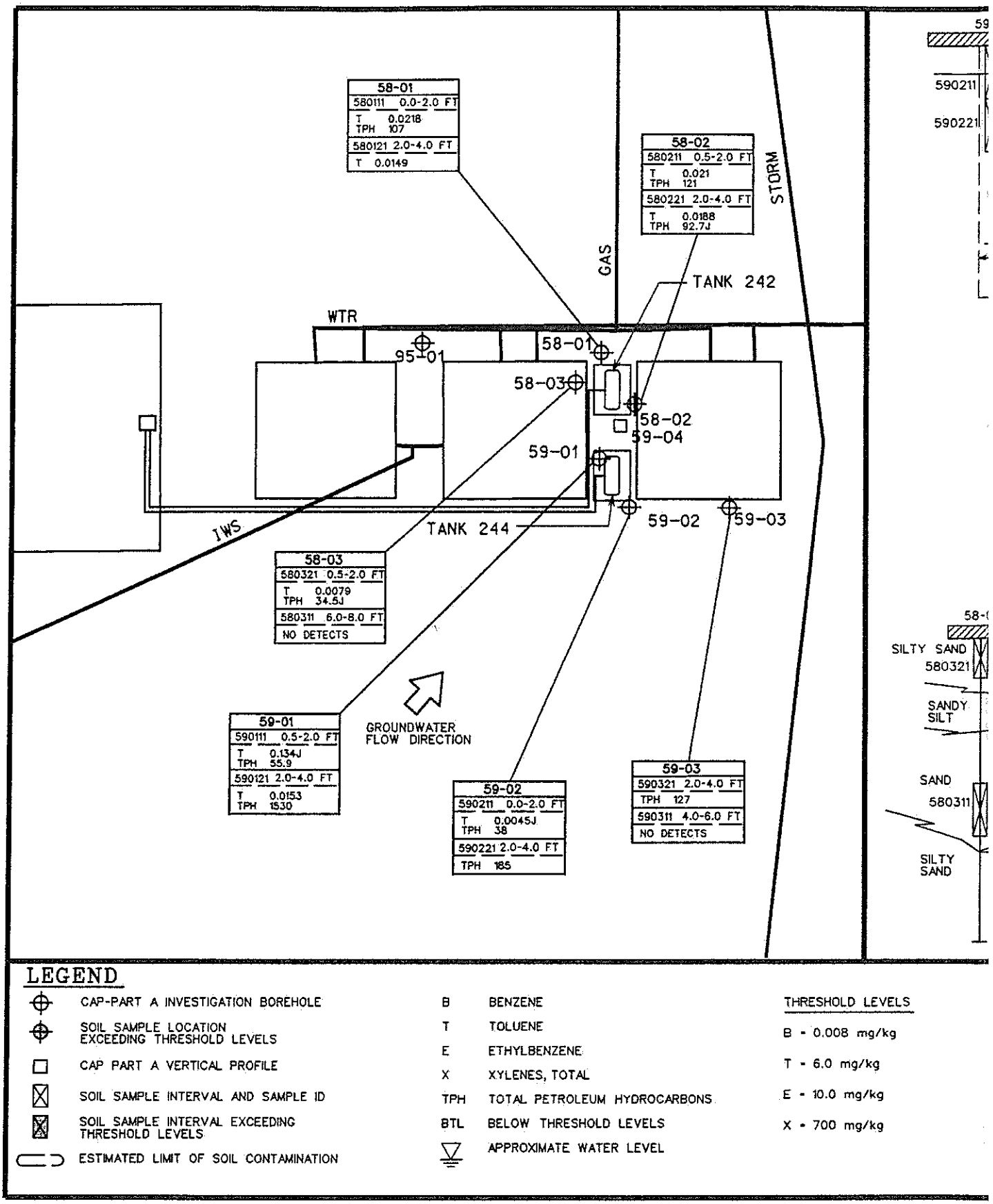

Figure 4. Soil Quality Ma

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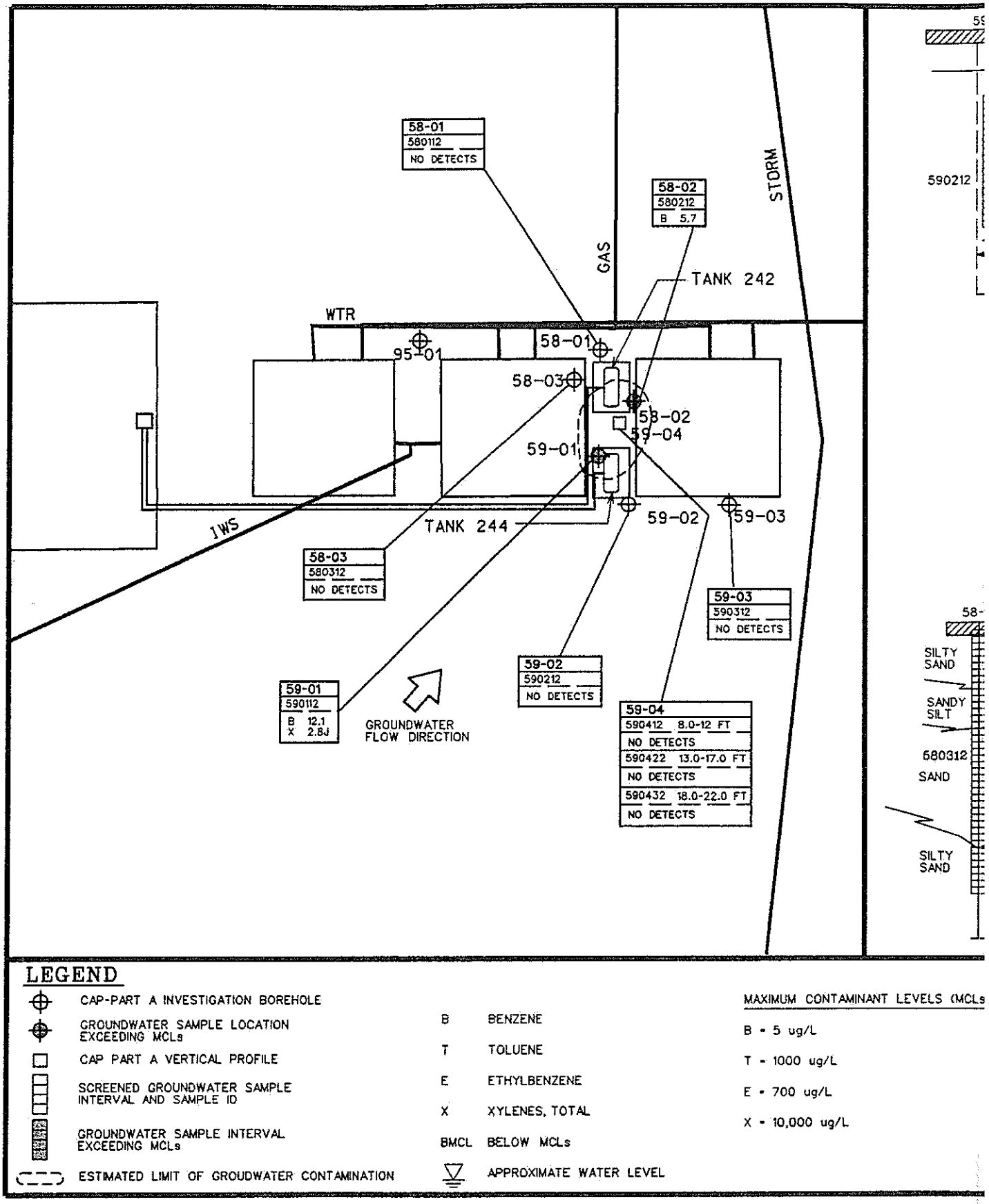

Figure 5. Groundwater Quali

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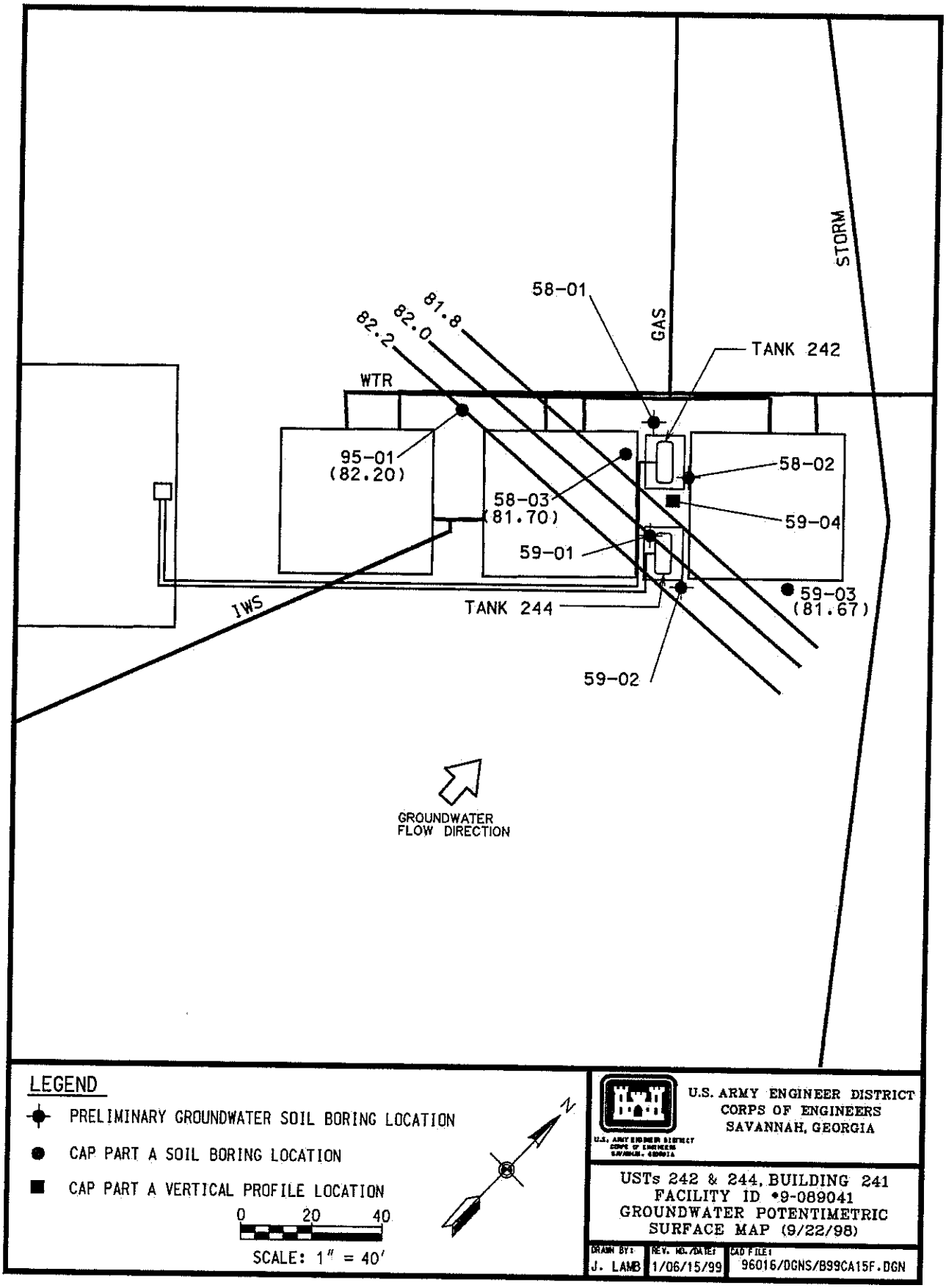

Figure 6. Potentiometric Surface Map of the USTs 242 & 244 Site

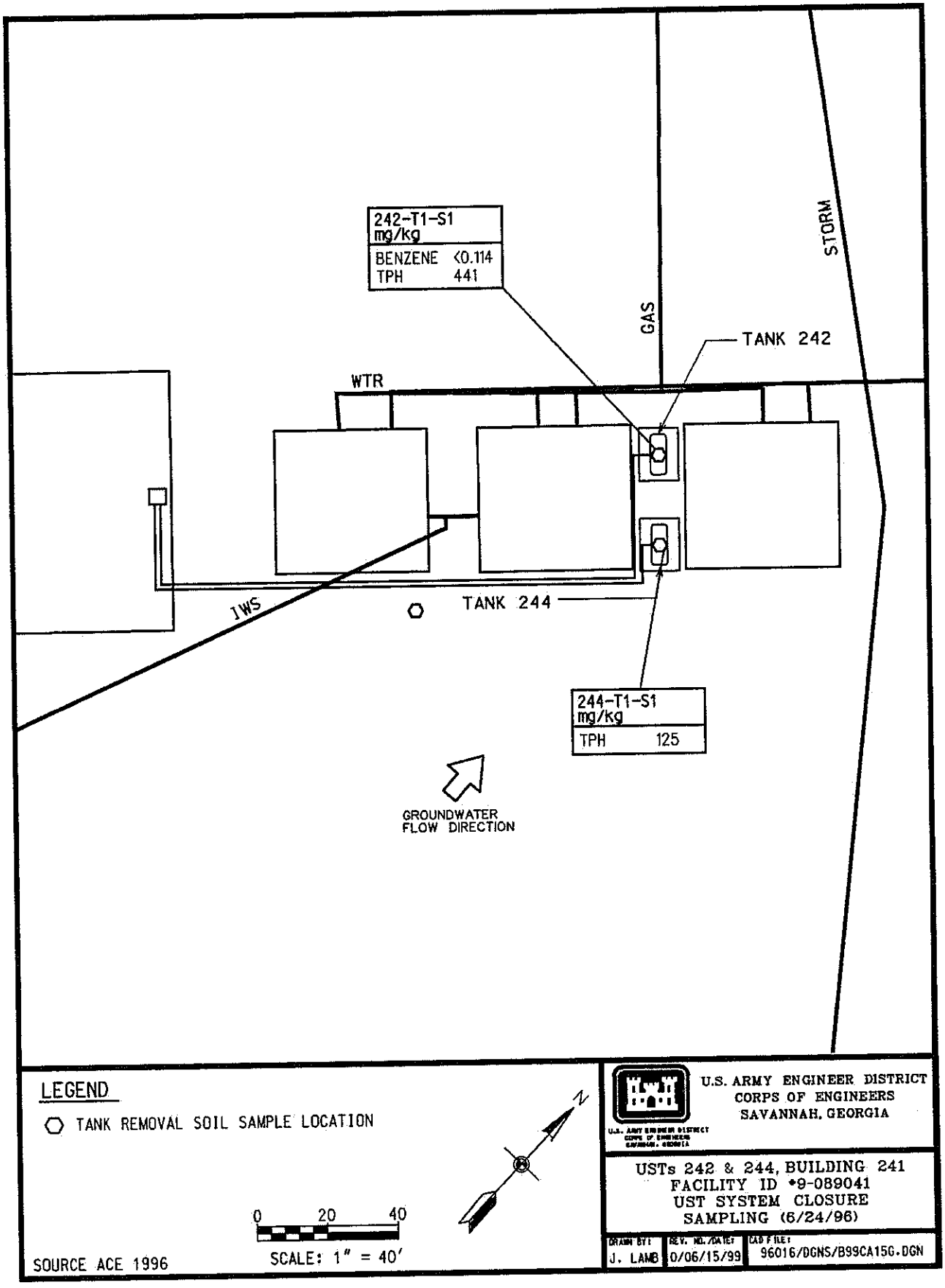

Figure 7. UST System Closure Sampling Locations at the USTs 242 & 244 Site

No additional borings or monitoring well locations are proposed for this site.

Figure 8. Proposed Additional Boring/Monitoring Well Locations

No tax map is available for Fort Stewart Military Reservation, which is a government owned facility.

Figure 9. Tax Map

APPENDIX II

REPORT TABLES

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TABLE 1: FREE PRODUCT REMOVAL

Monitoring Well Number: N/A				
Date of Measurement	Groundwater Elev. (ft AMSL)	Product Thickness (ft)	Corrected Water Elev. (ft AMSL)	Product Removed (gal)
No Free Product Detected				
			TOTAL	NONE

Monitoring Well Number: N/A				
Date of Measurement	Groundwater Elev. (ft AMSL)	Product Thickness (ft)	Corrected Water Elev. (ft AMSL)	Product Removed (gal)
No Free Product Detected				
			TOTAL	NONE

NOTE:
AMSL Above mean sea level.

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

Sample Location	Sample ID	Depth (ft BGS)	Date Sampled	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH (mg/kg)
58-01	580111	0.0 - 2.0	5/9/98	0.0022 U	0.0218 =	0.0022 U	0.0067 U	0.0218	107 =
58-01	580121	2.0 - 4.0	5/9/98	0.0022 U	0.0149 =	0.0022 U	0.0067 U	0.0149	11.2 U
58-02	580211	0.5 - 2.0	5/10/98	0.0011 U	0.021 =	0.0045 U	0.0136 U	0.021	121 =
58-02	580221	2.0 - 4.0	5/10/98	0.00063 U	0.0188 =	0.0025 U	0.0076 U	0.0188	92.7 J
58-03	580311	6.0 - 8.0	9/17/98	0.0022 U	0.0022 U	0.0022 U	0.0066 U	ND	1.92 UJ
58-03	580321	0.5 - 2.0	9/17/98	0.0022 U	0.0079 =	0.0022 U	0.0067 U	0.0079	34.5 J
59-01	590111	0.5 - 2.0	5/10/98	0.0011 U	0.0134 J	0.0044 U	0.0133 U	0.0134	55.9 =
59-01	590121	2.0 - 4.0	5/10/98	0.0057 U	0.0153 =	0.0023 U	0.0069 U	0.0153	1530 =
59-02	590211	0.0 - 2.0	5/7/98	0.0023 U	0.0045 J	0.0023 U	0.007 U	0.0045	38 =
59-02	590221	2.0 - 4.0	5/7/98	0.0022 U	0.0022 U	0.0022 U	0.0067 U	ND	185 =
59-03	590311	4.0 - 6.0	9/21/98	0.0022 U	0.0022 U	0.0022 U	0.0066 U	ND	5.58 UJ
59-03	590321	2.0 - 4.0	9/21/98	0.0022 U	0.0022 U	0.0022 U	0.0066 U	ND	127 =
Applicable Standards[1]				0.008	6	10	700	NRC	NRC

NOTES:

May 1998 sampling was conducted prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Contract for September 1998 sampling was issued prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

[1] Georgia Department of Natural Resources Applicable Soil Threshold Levels (Table A, Column 2)

BGS Below ground surface

BTEX Benzene, toluene, ethylbenzene, and xylene

ND Not detected

NRC No regulatory criteria

TPH Total petroleum hydrocarbon

Laboratory Qualifiers

U Indicates that the compound was not detected above the reported sample quantitation limit.

UJ Indicates that the compound was not detected above an approximated sample quantitation limit.

J Indicates that the value for the compound was an estimated value.

R Indicates that the sample results are unusable and the presence or absence of the compound could not be verified.

= Indicates that the compound was detected at the concentration reported.

TABLE 2b: SOIL ANALYTICAL RESULTS
(POLYNUCLEAR AROMATIC HYDROCARBONS)

Sample Location	Sample ID	Depth (ft BGS)	Date Sampled	Detected PAH Compounds (mg/kg)					Total PAHs (mg/kg)
58-01	580111	0.0 - 2.0	5/9/98						ND
58-01	580121	2.0 - 4.0	5/9/98						ND
58-02	580211	0.5 - 2.0	5/10/98						ND
58-02	580221	2.0 - 4.0	5/10/98						ND
58-03	580311	6.0 - 8.0	9/17/98						ND
58-03	580321	0.5 - 2.0	9/17/98						ND
59-01	590111	0.5 - 2.0	5/10/98						ND
59-01	590121	2.0 - 4.0	5/10/98						ND
59-02	590211	0.0 - 2.0	5/7/98						ND
59-02	590221	2.0 - 4.0	5/7/98						ND
59-03	590311	4.0 - 6.0	9/21/98						ND
59-03	590321	2.0 - 4.0	9/21/98						ND
Applicable Standards[1]									NRC

NOTES:

May 1998 sampling was conducted prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Contract for September 1998 sampling was issued prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

[1] Georgia Department of Natural Resources Applicable Soil Threshold Levels (Table A, Column 2)

BGS Below ground surface

ND Not detected (refer to Appendix V, Table V-A, for complete list of PAH results)

NRC No regulatory criteria

PAH Polynuclear aromatic hydrocarbon

Laboratory Qualifiers

U Indicates that the compound was not detected above the reported sample quantitation limit.

UJ Indicates that the compound was not detected above an approximated sample quantitation limit.

J Indicates that the value for the compound was an estimated value.

= Indicates that the compound was detected at the concentration reported.

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

Sample Location	Sample ID	Depth (ft BGS)	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethyl - benzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)
58-01	580112	3.0 - 8.0	5/7/98	2 U	2 U	2 U	6 U	ND
58-02	580212	2.0 - 12.0	5/10/98	5.7 =	2 U	2 U	6 U	5.7
58-03	580312	0.3 - 10.3	9/17/98	2 U	2 U	2 U	6 U	ND
59-01	590112	0.0 - 12.0	5/10/98	12.1 =	2 U	2 U	2.8 J	14.9
59-02	590212	0.0 - 7.5	5/7/98	2 U	2 U	2 U	6 U	ND
59-03	590312	0.1 - 10.1	9/21/98	2 U	2 U	2 U	6 U	ND
59-04	590412	8.0 - 12.0	9/17/98	2 U	2 U	2 U	6 U	ND
59-04	590422	13.0 - 17.0	9/17/98	2 U	2 U	2 U	6 U	ND
59-04	590432	18.0 - 22.0	9/17/98	2 U	2 U	2 U	6 U	ND
Applicable Standards[1]				5	700	1000	10000	NRC

NOTE:

May 1998 sampling was conducted prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Contract for September 1998 sampling was issued prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

[1] U.S. Environmental Protection Agency maximum contaminant level
BTEX Benzene, toluene, ethylbenzene, and xylene
BGS Below ground surface
ND Not detected
NRC No regulatory criteria

Laboratory Qualifiers
U Indicates the compound was not detected above the reported sample quantitation limit.
UJ Indicates that the compound was not detected above an approximated sample quantitation limit.
J Indicates the value for the compound is an estimated value.
= Indicates the compound was detected at the concentration reported.

TABLE 3b: GROUNDWATER ANALYTICAL RESULTS
(POLYNUCLEAR AROMATIC HYDROCARBONS)

Sample Location	Sample ID	Depth (ft BGS)	Date Sampled	Detected PAH Compounds (ug/L)				Total PAH (ug/L)
58-01	580112	3.0 - 8.0	5/7/98					ND
58-02	580212	2.0 - 12.0	5/10/98					ND
58-03	580312	0.3 - 10.3	9/17/98					ND
59-01	590112	0.0 - 12.0	5/10/98					ND
59-02	590212	0.0 - 7.5	5/7/98					ND
59-03	590312	0.1 - 10.1	9/21/98					ND
59-04	590412	8.0 - 12.0	9/17/98					ND
59-04	590422	13.0 - 17.0	9/17/98					ND
59-04	590432	18.0 - 22.0	9/17/98					ND
Applicable Standards[1]								NRC

NOTE:

May 1998 sampling was conducted prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Contract for September 1998 sampling was issued prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

[1] U.S. Environmental Protection Agency maximum contaminant level
BGS Below ground surface
N/A Not analyzes, insufficient sample volume for analysis
ND Not detected (refer to Appendix VIII, Table VIII-A, for complete list of PAH results)
NRC No regulatory criteria
PAH Polynuclear aromatic hydrocarbon

Laboratory Qualifiers

U Indicates the compound was not detected above the reported sample quantitation limit.
UJ Indicates that the compound was not detected above an approximated sample quantitation limit.
J Indicates the value for the compound is an estimated value.
= Indicates the compound was detected at the concentration reported.

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)
58-01	5/11/98	87.88	88.68	3.0 - 8.0	N/A	6.20	N/A	N/A	82.48
58-02	5/11/98	88.08	92.05	2.0 - 12.0	N/A	9.57	N/A	N/A	82.48
59-01	5/11/98	88.07	91.89	0.0 - 12.0	N/A	9.42	N/A	N/A	82.47
59-02	5/11/98	87.80	88.45	0.0 - 7.5	N/A	5.97	N/A	N/A	82.48
58-03	9/22/98	88.33	88.02	0.3 - 10.3	N/A	6.32	N/A	N/A	81.70
59-03	9/22/98	87.79	87.72	0.1 - 10.1	N/A	6.05	N/A	N/A	81.67
95.01	9/22/98	87.81	89.66	0.0 – 8.2	N/A	7.46	N/A	N/A	82.20

NOTE:

MSL	Mean sea level
BGS	Below ground surface
BTOC	Below top of casing
N/A	Not applicable

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 (mg/kg)
242-T1-S1	unknown	6/24/96	0.114 U	0.114 U	0.114 U	0.114 U	ND	441 =
244-T1-S1	unknown	6/24/96	0.0011 U	0.0011 U	0.0011 U	0.0011 U	ND	125 =
Applicable Standards[2]			0.008	6	10	700	NRC	NRC

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)
242-T1-S1	unknown	6/24/96					ND
244-T1-S1	unknown	6/24/96					ND
Applicable Standards[2]							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 (Table A, Column 2)
BGS Below ground surface
BTEX Benzene, toluene, ethylbenzene, and xylene
NRC No regulatory criteria
PAH Polynuclear aromatic hydrocarbon
TPH Total petroleum hydrocarbons

Laboratory Qualifiers

U Indicates the compound was not detected above the reported sample quantitation limit.
UJ Indicates that the compound was not detected above an approximated sample quantitation limit.
J Indicates the value for the compound is an estimated value.
= Indicates the compound was detected at the concentration reported.

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

Sample Location	Depth (ft BGS)	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethyl – benzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)
			No Groundwater Samples Collected				
Applicable Standards[2]			5	1,000	700	10,000	NRC

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

Sample Location	Depth (ft BGS)	Date Sampled	Detected PAH Compounds (ug/L)				Total PAHs (µg/L)
			No Groundwater Samples Collected				
Applicable Standards[2]							NRC

NOTE:

[1] Underground storage tank system closure performed by Anderson Columbia Environmental, Inc. (1996)
[2] U.S. Environmental Protection Agency maximum contaminant levels
BGS Below ground surface
BTEX Benzene, toluene, ethylbenzene, and xylene
NRC No regulatory criteria.
PAH Polynuclear aromatic hydrocarbons

Laboratory Qualifiers

U Indicates the compound was not detected above the reported sample quantitation limit.
UJ Indicates that the compound was not detected above an approximated sample quantitation limit.
J Indicates the value for the compound is an estimated value.
= Indicates the compound was detected at the concentration reported.

APPENDIX III

WATER RESOURCES SURVEY DOCUMENTATION

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WATER RESOURCES SURVEY DOCUMENTATION

1.0 LOCAL WATER RESOURCES

As required by the GA EPD UST CAP-Part A guidance, 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 the Fort Stewart UST investigation sites. The information presented in this appendix 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 EPD guidelines/requirements:

- Fort Stewart is located in an area of average or higher groundwater pollution susceptibility.
- Locate all public supply wells as defined by GA EPD 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.

A total of seven groundwater supply wells are located within a 2-mile radius of the Fort Stewart garrison area. Six of these wells are located within the confines of the garrison area. The other well is located at Wright Army Airfield, approximately 1.2 miles northeast of the garrison area. All of the groundwater supply wells are classified as public wells that supply water to Fort Stewart for drinking and nondrinking purposes. These wells are approximately 450 feet deep and draw groundwater from the Principal Artesian (also known as the Floridian) aquifer. Chlorine and fluoride are added into the groundwater at the well heads prior to being pumped into storage tanks and/or water towers, according to Fort Stewart DPW personnel. The location of these wells, along with a 500-foot radius drawn around each well, is shown in Figure 3.

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, 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 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 EPD 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 the investigation sites.

Several surface water bodies are located within a 1-mile radius of the Fort Stewart garrison area. These are shown in Figure 3 and include Mill Creek, Taylors Creek, Peacock Creek, Childpen's Pond, and two unnamed ponds. Mill Creek extends along the western side of the garrison area and flows into Taylors Creek, located approximately 0.75 miles northwest of the garrison area. Taylors Creek then flows northward approximately 3.5 miles to its confluence with Canoochee Creek. Peacock Creek originates near the east corner of the garrison area and flows southward from the garrison. Mill Creek, Taylors Creek, and Peacock Creek all have natural streambeds and exhibit perennial flow.

Childpen's Pond is located at the northwest end of the garrison area. The two unnamed ponds are located at the northwest end of the facility golf course in the vicinity of Childpen's Pond. All of the ponds are isolated water bodies that are relatively small in size, measuring less than 500 feet in diameter.

Typically, surface water run-off from the UST site moves over the existing concrete and asphalt cover to the Fort Stewart storm water drainage system. Since petroleum contamination at the sites primarily impacts surficial groundwater, the surface water run-off pathway is not a viable contaminant transport mechanism because of the concrete acting as a barrier and the location of the nearest surface water body.

2.0 POTENTIAL RECEPTOR SURVEY SUMMARY OF THE USTs 242 & 244 SITE

A field potential receptor survey was conducted for the USTs 242 & 244 site in September 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 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.

2.1 Water Supply Wells Near the USTs 242 & 244 Site

The USTs 242 & 244 site is located approximately 3000 feet southeast (sidegradient) of the Well #2. Therefore, the USTs 242 & 244 site is classified as being located greater than 500 feet to a withdrawal point. There are no other public or non-public supply wells located downgradient of the site within a 2-mile radius.

2.2 Surface Water Bodies Near the USTs 242 & 244 Site

At the closest point to the site, a tributary to Peacock Creek is located approximately 1900 feet east (sidegradient) of the site. In the direction of groundwater flow, a tributary to Taylors Creek is located approximately 2500 feet north of the site. Based on the distances between the UST and the nearest surface water body, the site is classified as being located greater than 500 feet to a downgradient surface water body.

2.3 Underground Utility Lines Near the USTs 242 & 244 Site

A storm drain is located about 70 feet north of the former tank pits. The invert elevation of this line is estimated to be approximately 81.0 feet AMSL or approximately 7.0 feet BGS, which is near the water table, thus the storm drain is considered a preferential pathway.

Science Applications International Corporation

CONTACT REPORT

INDIVIDUAL CONTACTED, TITLE: Pam Babbs	ORIGINATOR: Patty Stoll
ORGANIZATION: Fort Stewart DPW - Water Resources	DATE CONTACTED: October 10, 1998
PHONE: 912 - 767 - 2281	TIME CONTACTED: 11:00 am
ADDRESS:	CONTACT TYPE: telephone

SUBJECT: Update Supply Well Information for Fort Stewart Supply Wells for Water Resources Survey

DISCUSSION:

During a telephone conversation with Pam Babbs on October 10, 1998 the following information on the supply wells at Fort Stewart was provided.

Well No.1 1750 gpm, CD = 451 ft, TD = 816 ft
Well No.2 1400 gpm, CD = 470 ft, TD = 808 ft
Well No.3 1400 gpm, CD = 436 ft, TD = 750 ft
Well No.5 1100 gpm, CD = 560 ft, TD = 779 ft
Well No.6A 500 gpm, CD = 374 ft, TD = 472 ft
Well No.6B 500 gpm, CD = 393 ft, TD = 508 ft
Evans Well 190 gpm, CD = 404 ft, TD = 600 ft
Camp Oliver Well 400 gpm, CD = 451 ft, TD = 706 ft

COMMENTS, ACTIONS, DATES

Incorporate new pumping rate data into the CAP Part A and B reports being prepared for Fort Stewart.

DISTRIBUTION: Melanie Little (Fort Stewart DPW)
Central Records (SAIC)
Project File (SAIC)

Science Applications International Corporation

CONTACT REPORT

INDIVIDUAL CONTACTED, TITLE: Jeff Barnes	ORIGINATOR: Patty Stoll
ORGANIZATION: Georgia Department of Natural Resources	DATE CONTACTED: October 1, 1997
PHONE: 912 - 353 - 3225	TIME CONTACTED: 11:00 am
ADDRESS:	CONTACT TYPE: telephone

SUBJECT: Update Supply Well Information for Liberty County Supply Wells for Water Resources Survey

DISCUSSION:	COMMENTS, ACTIONS, DATES
During a telephone conversation with the Ga DNR, regarding drinking water wells in Liberty County, it was suggested I contact Mr. Jeff Barnes. After being transfered to Mr. Jeff Barnes and explaining our needs, he agreed to send a printout of the permitted drinking water systems in Liberty County. On October 17, 1997 we received the list of permitted drinking water systems in Liberty County.	Review list of permitted drinking water supply wells for proximity to Fort Stewart CAP Part A and B sites.

DISTRIBUTION: Melanie Little (Fort Stewart DPW)
Central Records (SAIC)
Project File (SAIC)

APPENDIX IV

SOIL BORING LOGS

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HTRW DRILLING LOG

HOLE NUMBER 58-01

PROJECT: Fort Stewart USTs

INSPECTOR P. Lucot

SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1	Clayey SAND, medium grained, very soft, moist, reddish brown (2.5YR4/4)	0ppm		Soil Sample 580111	
	2	Silty SAND, fine to medium grained, firm to hard, moist, very dark gray (10YR3/1)				
	3		0ppm		Soil Sample 580121	
	4					
	5		0ppm			
	6					▼ Wet below 5.7 FT BGS
	7					
	8					End of drilling 8.0 FT BGS Set piezometer
	9					
	10					

HTRW DRILLING LOG

HOLE NUMBER SB-02

PROJECT: Fort Stewart USTs

INSPECTOR S.K. Ledbetter

SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	0	Concrete				
	1	Sandy SILT, 20% sand, fine grained, soft, dry, dark brown (10YR3/3) mottled with yellowish brown (10YR5/4)	0ppm		Soil Sample 580211	
	2					
	3	Silty SAND, 20% silt, fine to medium grained, soft, dry light yellowish brown (10YR6/4)	0ppm		Soil Sample 580221	
	4	No Recovery				
	5	Silty SAND, 20% silt, fine to medium grained, soft, wet, light yellowish brown (10YR6/4)	0ppm			▼ Wet below 4.2 FT BGS
	6	color grading to black (10YR2/1)				
	7		0ppm			
	8	consistency grading to firm				
	9					Pushed to 12.0 FT Set piezometer
	10					

HTRW DRILLING LOG

HOLE NUMBER SB-03

PROJECT: Fort Stewart USTs | INSPECTOR | SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	0	CONCRETE				
	1	Silty SAND (SM), 10% silt, fine to medium grained, subrounded, soft, dry, grayish brown (10YR 5/2) mottled with brown (10YR 4/3)	40 ppm		Soil Sample SB0321	
	2	Sandy SILT (ML), 15% fine to medium grained sand, subrounded, soft, dry, brown (10YR 4/3)				
	3		16 ppm			
	4					
	5	GRAVEL SAND (SP), fine grained, soft, dry, very pale brown (10YR 7/3)	11 ppm			
	6					WET ZONE FROM 5.7' TO 6.1'
	7		5 ppm		Soil Sample SB0311	
	8					
	9	Silty SAND (SM), 20% silt, fine to medium grained sand, soft, wet, black (10YR 2/1)	8 ppm			▽ WET BELOW 8.6 FT BGS COLLECTED GROUNDWATER SAMPLE SB0312 FROM TEMPORARY PIEZOMETER SCREENED AT 0.3 TO 10.3 FT BGS (10 FT SCREEN)
	10					DRILLED TO 12.0 FT BGS

HTRW DRILLING LOG

HOLE NUMBER 59-01

PROJECT: Fort Stewart USTs

INSPECTOR S. K. Ledbetter

SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	0	Concrete				
	1	clayey SAND, 5% clay fine to medium grained, soft, moist, red (10R 4/6)	2.1 ppm		Soil Sample 590111	
	2	Sandy SILT, 10% sand, fine grained, soft, dry, dark brown (10YR 3/3) mottled with yellowish brown (10YR 5/4)				
	3	silty SAND, 25% silt, fine to medium grained, soft, dry, light yellowish brown (10YR 6/4)	2.6 ppm		Soil Sample 590121	
	4	No Recovery				
	5	silty SAND, 25% silt, fine to medium grained, soft, wet, light yellowish brown (10YR 6/4)	0 ppm			▼ Wet below 4.2 FT BGS
	6	color graded to black (10YR 2/2)				
	7		0 ppm			
	8					
	9					Pushed to 12.0 FT Set piezometer
	10					

HTRW DRILLING LOG

HOLE NUMBER 59-02

PROJECT: Fort Stewart USTs | INSPECTOR P. Lucot | SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	0–1	Clayey SAND, medium grained, very soft, moist, reddish brown (2.5 YR 4/4)	0ppm		Soil Sample 590211	
	1–2	Silty SAND, fine to medium grained, firm to hard, moist, very dark gray (10YR 3/1)				
	2–4	2.5'–8.0' Stratified layers of sand with some silt between silty sand layers are <0.1' thick and spaced approximately 0.4' apart.	0ppm		Soil Sample 590221	
	4–5					▼ Wet Below 4.4 FT BGS
	5–6		0ppm			
	6–7		N/A			End of Drilling 7.5 FT BGS
	7–10					Set piezometer

HTRW DRILLING LOG

HOLE NUMBER 59-03

PROJECT: Fort Stewart USTs | INSPECTOR K. Ledbetter | SHEET 1 OF 1

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	0	CONCRETE				
	1	sandy SILT (ML), 25% fine grained sand, soft, moist, gray (10YR 5/1)	15ppm			
	2					
	3	sandy SILT (ML), 10% fine sand, soft, dry, dark brown (10YR 3/3)	36ppm		Soil Sample 590321	
	4	silty SAND (SM), 10% silt, dry, soft, very pale brown (10 YR 7/3)				
	5		10ppm		Soil Sample 590311	WET BELOW ▽ 5.6 FT BGS
	6					
	7	silty SAND (SM), 10% silt, dry, soft, dark brown (10YR 3/3)				
	8					COLLECTED GROUNDWATER SAMPLE 590312 FROM TEMPORARY PIEZOMETER SCREENED AT 0.1 TO 10.1 FT BGS (10 FT SCREEN)
	9					
	10					PUSHED TO 10.1 FT BGS TO SET TEMPORARY PIEZOMETER

HTRW DRILLING LOG

HOLE NUMBER 59-04

PROJECT: Fort Stewart USTs | INSPECTOR J. Celeste | SHEET 1 OF 3

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		CONCRETE				
	1	DID NOT COLLECT SOIL FOR LITHOLOGY DESCRIPTION. NO SOIL CUTTINGS FROM GEOPROBE				
	2					
	3					
	4					
	5					
	6					
	7					
	8		34ppm		GW Sample 590412	Vertical profile screened from 8.0 to 12.0 ft BGS
	9					
	10					

HTRW DRILLING LOG

HOLE NUMBER 59-04

PROJECT: Fort Stewart USTs

INSPECTOR J. Celeste

SHEET 2 OF 3

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	11					
	12					
	13		21 ppm		GW Sample 590422	Vertical profile screened from 13.0 to 17.0 ft BGS
	14					
	15					
	16					
	17					
	18		14 ppm		GW Sample 590432	Vertical profile screened from 18.0 to 22.0 ft BGS
	19					
	20					

HTRW DRILLING LOG

HOLE NUMBER 59-04

PROJECT: Fort Stewart USTs | INSPECTOR J. Celeste | SHEET 3 OF 3

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	21					
	22					END OF GEOPROBE DRILLING AT 22.0 ft BGS
	23					
	24					
	25					
	26					
	27					
	28					
	29					
	30					

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APPENDIX V

SOIL LABORATORY REPORTS

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TABLE V-A. Summary of Soil Analytical Results

Station:	GA UST	58-01	58-01	58-02	58-02
Sample ID:	Soil	580111	580121	580211	580221
Sample Interval:	Threshold	0.0 - 2.0	2.0 - 4.0	0.5 - 2.0	2.0 - 4.0
Collection Date:	Level[1]	9-May-98	9-May-98	10-May-98	10-May-98
Units:	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
VOLATILE ORGANIC COMPOUNDS					
Benzene	0.008	0.0022 U	0.0022 U	0.0011 U	0.00063 U
Toluene	6	0.0218 =	0.0149 =	0.021 =	0.0188 =
Ethylbenzene	10	0.0022 U	0.0022 U	0.0045 U	0.0025 U
Xylenes, Total	700	0.0067 U	0.0067 U	0.0136 U	0.0076 U
POLYNUCLEAR AROMATIC HYDROCARBONS					
2-Chloronaphthalene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Acenaphthene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Acenaphthylene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Anthracene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Benzo(a)anthracene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Benzo(a)pyrene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Benzo(b)fluoranthene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Benzo(g,h,i)perylene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Benzo(k)fluoranthene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Chrysene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Dibenzo(a,h)anthracene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Fluoranthene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Fluorene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Indeno(1,2,3-cd)pyrene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Naphthalene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Phenanthrene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
Pyrene	NRC	0.37 U	0.372 U	3.78 U	1.69 U
OTHER ANALYTES					
Lead	NRC		2 =		40.5 =
Total Petroleum Hydrocarbons	NRC	107 =	11.2 U	121 =	92.7 J

NOTE:

May 1998 sampling was conducted prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Contract for the September 1998 sampling was issued prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Analytical data for the UST closure is summarized in Appendix II, and the analytical data is included at the end of this appendix but not summarized in this table.

Elevated PAH detection limits are a result of associated organic content such as TPH. During extraction of the PAH compounds, all other organic compounds are extracted, causing a wide range of organic compounds to be present; thus, the target PAHs become small peaks in the chromatograph. As a result, the laboratory dilutes the concentrate, in turn elevating the detection limit.

[1] Georgia Department of Natural Resources Applicable Soil Threshold Levels (Table A, Column 2)

Bold values exceed soil threshold levels

NRC No regulatory criteria

Laboratory Qualifiers

U Indicates that the compound was not detected above the reported sample quantitation limit.

UJ Indicates that the compound was not detected above an approximated sample quantitation limit.

J Indicates that the value for the compound was an estimated value.

= Indicates that the compound was detected at the concentration reported.

R Indicates that the sample results are unusable and the presence or absence of the compound could not be verified.

TABLE V-A. Summary of Soil Analytical Results (continued)

Station:	GA UST	58-03	58-03	59-01	59-01
Sample ID:	Soil	580311	580321	590111	590121
Sample Interval:	Threshold	6.0 - 8.0	0.5 - 2.0	0.5 - 2.0	2.0 - 4.0
Collection Date:	Level[1]	17-Sep-98	17-Sep-98	10-May-98	10-May-98
Units:	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
VOLATILE ORGANIC COMPOUNDS					
Benzene	0.008	0.0022 U	0.0022 U	0.0011 U	0.00057 U
Toluene	6	0.0022 U	0.0079 =	0.0134 J	0.0153 =
Ethylbenzene	10	0.0022 U	0.0022 U	0.0044 U	0.0023 U
Xylenes, Total	700	0.0066 U	0.0067 U	0.0133 U	0.0069 U
POLYNUCLEAR AROMATIC HYDROCARBONS					
2-Chloronaphthalene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Acenaphthene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Acenaphthylene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Anthracene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Benzo(a)anthracene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Benzo(a)pyrene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Benzo(b)fluoranthene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Benzo(g,h,i)perylene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Benzo(k)fluoranthene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Chrysene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Dibenzo(a,h)anthracene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Fluoranthene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Fluorene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Indeno(1,2,3-cd)pyrene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Naphthalene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Phenanthrene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
Pyrene	NRC	0.361 U	3.73 U	0.37 U	3.76 U
OTHER ANALYTES					
Lead	NRC		6.7 =		14.8 =
Total Petroleum Hydrocarbons	NRC	1.92 UJ	34.5 J	55.9 =	1530 =

NOTE:

May 1998 sampling was conducted prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Contract for the September 1998 sampling was issued prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Analytical data for the UST closure is summarized in Appendix II, and the analytical data is included at the end of this appendix but not summarized in this table.

Elevated PAH detection limits are a result of associated organic content such as TPH. During extraction of the PAH compounds, all other organic compounds are extracted, causing a wide range of organic compounds to be present; thus, the target PAHs become small peaks in the chromatograph. As a result, the laboratory dilutes the concentrate, in turn elevating the detection limit.

[1] Georgia Department of Natural Resources Applicable Soil Threshold Levels (Table A, Column 2)

Bold values exceed soil threshold levels

NRC No regulatory criteria

Laboratory Qualifiers

U Indicates that the compound was not detected above the reported sample quantitation limit.

UJ Indicates that the compound was not detected above an approximated sample quantitation limit.

J Indicates that the value for the compound was an estimated value.

= Indicates that the compound was detected at the concentration reported.

R Indicates that the sample results are unusable and the presence or absence of the compound could not be verified.

TABLE V-A. Summary of Soil Analytical Results (continued)

Station:	GA UST	59-02	59-02	59-03	59-03
Sample ID:	Soil	590211	590221	590311	590321
Sample Interval:	Threshold	0.0 - 2.0	2.0 - 4.0	4.0 - 6.0	2.0 - 4.0
Collection Date:	Level[1]	7-May-98	7-May-98	21-Sep-98	21-Sep-98
Units:	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
VOLATILE ORGANIC COMPOUNDS					
Benzene	0.008	0.0023 U	0.0022 U	0.0022 U	0.0022 U
Toluene	6	0.0045 J	0.0022 U	0.0022 U	0.0022 U
Ethylbenzene	10	0.0023 U	0.0022 U	0.0022 U	0.0022 U
Xylenes, Total	700	0.007 U	0.0067 U	0.0066 U	0.0066 U
POLYNUCLEAR AROMATIC HYDROCARBONS					
2-Chloronaphthalene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Acenaphthene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Acenaphthylene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Anthracene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Benzo(a)anthracene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Benzo(a)pyrene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Benzo(b)fluoranthene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Benzo(g,h,i)perylene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Benzo(k)fluoranthene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Chrysene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Dibenzo(a,h)anthracene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Fluoranthene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Fluorene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Indeno(1,2,3-cd)pyrene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Naphthalene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Phenanthrene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
Pyrene	NRC	0.384 U	0.373 U	0.365 U	0.365 U
OTHER ANALYTES					
Lead	NRC		7.7 =		3.2 J
Total Petroleum Hydrocarbons	NRC	38 =	185 =	5.58 UJ	127 =

NOTE:

May 1998 sampling was conducted prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Contract for the September 1998 sampling was issued prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Analytical data for the UST closure is summarized in Appendix II, and the analytical data is included at the end of this appendix but not summarized in this table.

Elevated PAH detection limits are a result of associated organic content such as TPH. During extraction of the PAH compounds, all other organic compounds are extracted, causing a wide range of organic compounds to be present; thus, the target PAHs become small peaks in the chromatograph. As a result, the laboratory dilutes the concentrate, in turn elevating the detection limit.

[1] Georgia Department of Natural Resources Applicable Soil Threshold Levels (Table A, Column 2)

Bold values exceed soil threshold levels

NRC No regulatory criteria

Laboratory Qualifiers

U Indicates that the compound was not detected above the reported sample quantitation limit.

UJ Indicates that the compound was not detected above an approximated sample quantitation limit.

J Indicates that the value for the compound was an estimated value.

= Indicates that the compound was detected at the concentration reported.

R Indicates that the sample results are unusable and the presence or absence of the compound could not be verified.

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580111

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4002S

Matrix: (soil/water) SOIL Lab Sample ID: 9805262-19

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2I407

Level: (low/med) LOW Date Received: 05/08/98

% Moisture: not dec. 10 Date Analyzed: 05/14/98

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	21.8		
100-41-4	Ethylbenzene	2.2	U	U
1330-20-7	Xylenes (total)	6.7	U	U

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580111

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4002S

Matrix: (soil/water) SOIL Lab Sample ID: 9805262-19

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2T305

Level: (low/med) LOW Date Received: 05/08/98

% Moisture: 10 decanted: (Y/N) N Date Extracted: 05/11/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/13/98

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
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
50-32-8	benzo(a)pyrene	370	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

U

DATA VALIDATION COPY

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Lorene Rollins
Project Description: CAP-Part A for UST Sites (Task Order No. 8)

cc: SAIC00598

Report Date: June 01, 1998

Sample ID	: 580111
Lab ID	: 9805262-19
Matrix	: Soil
Date Collected	: 05/07/98
Date Received	: 05/08/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry												
Total Rec. Petro. Hydrocarbons		107	= F01, F08	2.20	11.1	mg/kg	1.0	JLP	05/11/98	1400	121925	1

M = Method	Method-Description
M 1	EPA 418.1 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

9805262-19

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580121

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4003S

Matrix: (soil/water) SOIL Lab Sample ID: 9805263-02

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2I4018

Level: (low/med) LOW Date Received: 05/08/98

% Moisture: not dec. 11 Date Analyzed: 05/14/98

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	14.9		
100-41-4	Ethylbenzene	2.2	U	U
1330-20-7	Xylenes (total)	6.7	U	U

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580121

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4003S

Matrix: (soil/water) SOIL Lab Sample ID: 9805263-02

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 7T417

Level: (low/med) LOW Date Received: 05/08/98

% Moisture: 11 decanted: (Y/N) N Date Extracted: 05/12/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/15/98

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/KG	Q
91-20-3	naphthalene	372	U
91-58-7	2-chloronaphthalene	372	U
208-96-8	acenaphthylene	372	U
83-32-9	acenaphthene	372	U
86-73-7	fluorene	372	U
85-01-8	phenanthrene	372	U
120-12-7	anthracene	372	U
206-44-0	fluoranthene	372	U
129-00-0	pyrene	372	U
56-55-3	benzo(a)anthracene	372	U
218-01-9	chrysene	372	U
205-99-2	benzo(b)fluoranthene	372	U
207-08-9	benzo(k)fluoranthene	372	U
50-32-8	benzo(a)pyrene	372	U
193-39-5	indeno(1,2,3-cd)pyrene	372	U
53-70-3	dibenz(a,h)anthracene	372	U
191-24-2	benzo(g,h,i)perylene	372	U

U

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FS10035

DATA VALIDATION COPY

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Lorene Rollins
Project Description: CAP-Part A for UST Sites (Task Order No. 8)

cc: SAIC00598 Report Date: May 18, 1998

Sample ID	: 580121
Lab ID	: 9805263-02
Matrix	: Soil
Date Collected	: 05/07/98
Date Received	: 05/08/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry											
Total Rec. Petro. Hydrocarbons	J	11.2 ~~3.00~~ U	2.22	11.2	mg/kg	1.0	JLP	05/11/98	1400	121925	1

F01, F06

M = Method	Method-Description
M 1	EPA 418.1 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

9805263-02

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Form 1: Inorganic Analyses Data Sheet

SDG No.: FS4003S

Method Type: Total Metals

Sample ID: 9805263-02

Client ID: 580121

Contract: SAIC00598 Lab Code: GEL Case No.: SAS No.:

Matrix: SOIL Date Received: 5/8/98 Level: LOW

% Solids: 89.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	2.0	mg/kg	=		P	0.10	TJA61 Trace ICPAES	980514a-1

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580211

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4007S

Matrix: (soil/water) SOIL Lab Sample ID: 9805298-14

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2I6033

Level: (low/med) LOW Date Received: 05/11/98

% Moisture: not dec. 12 Date Analyzed: 05/17/98

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	1.1	U	U
108-88-3	Toluene	21.0		
100-41-4	Ethylbenzene	4.5	U	U
1330-20-7	Xylenes (total)	13.6	U	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580211

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4007S

Matrix: (soil/water) SOIL Lab Sample ID: 9805298-14

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 1U320

Level: (low/med) LOW Date Received: 05/11/98

% Moisture: 12 decanted: (Y/N) N Date Extracted: 05/15/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/21/98

Injection Volume: 1.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 6.0

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CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	naphthalene	3780	U
91-58-7	2-chloronaphthalene	3780	U
208-96-8	acenaphthylene	3780	U
83-32-9	acenaphthene	3780	U
86-73-7	fluorene	3780	U
85-01-8	phenanthrene	3780	U
120-12-7	anthracene	3780	U
206-44-0	fluoranthene	3780	U
129-00-0	pyrene	3780	U
56-55-3	benzo(a)anthracene	3780	U
218-01-9	chrysene	3780	U
205-99-2	benzo(b)fluoranthene	3780	U
207-08-9	benzo(k)fluoranthene	3780	U
50-32-8	benzo(a)pyrene	3780	U
193-39-5	indeno(1,2,3-cd)pyrene	3780	U
53-70-3	dibenz(a,h)anthracene	3780	U
191-24-2	benzo(g,h,i)perylene	3780	U

U

FORM I SV-1

OLM03.0

DATA VALIDATION COPY

Client:	Science Applications International Corp. P.O. Box 2502 800 Oak Ridge Turnpike Oak Ridge, Tennessee 37831
Contact:	Ms. Lorene Rollins
Project Description:	CAP-Part A for UST Sites (Task Order No. 8)

cc: SAIC00598 Report Date: June 01, 1998

Sample ID	: 580211
Lab ID	: 9805298-14
Matrix	: Soil
Date Collected	: 05/10/98
Date Received	: 05/11/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry											
Total Rec. Petro. Hydrocarbons		121 = F01, F08	2.26	11.4	mg/kg	1.0	JLP	05/26/98	1330	122880	1

M = Method	Method-Description
M 1	EPA 418.1 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

9805298-14

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580221

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4008S

Matrix: (soil/water) SOIL Lab Sample ID: 9805300-05

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2I7012

Level: (low/med) LOW Date Received: 05/11/98

% Moisture: not dec. 21 Date Analyzed: 05/18/98

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	0.63	U	U
108-88-3	Toluene	18.8		=
100-41-4	Ethylbenzene	2.5	U	U
1330-20-7	Xylenes (total)	7.6	U	U

FORM I VOA

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COPY SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580221

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4008S

Matrix: (soil/water) SOIL Lab Sample ID: 9805300-05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 7U416

Level: (low/med) LOW Date Received: 05/11/98

% Moisture: 21 decanted: (Y/N) N Date Extracted: 05/15/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/21/98

Injection Volume: 1.0(uL) Dilution Factor: 4.0

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	1690	U
91-58-7	2-chloronaphthalene	1690	U
208-96-8	acenaphthylene	1690	U
83-32-9	acenaphthene	1690	U
86-73-7	fluorene	1690	U
85-01-8	phenanthrene	1690	U
120-12-7	anthracene	1690	U
206-44-0	fluoranthene	1690	U
129-00-0	pyrene	1690	U
56-55-3	benzo(a)anthracene	1690	U
218-01-9	chrysene	1690	U
205-99-2	benzo(b)fluoranthene	1690	U
207-08-9	benzo(k)fluoranthene	1690	U
50-32-8	benzo(a)pyrene	1690	U
193-39-5	indeno(1,2,3-cd)pyrene	1690	U
53-70-3	dibenz(a,h)anthracene	1690	U
191-24-2	benzo(g,h,i)perylene	1690	U

U

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Lorene Rollins
Project Description: CAP-Part A for UST Sites (Task Order No. 8)

cc: SAIC00598

Report Date: June 01, 1998

Sample ID	: 580221
Lab ID	: 9805300-05
Matrix	: Soil
Date Collected	: 05/10/98
Date Received	: 05/11/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry											
Total Rec. Petro. Hydrocarbons		92.7 J	I02,F01,F08 2.51	12.7	mg/kg	1.0	JLP	05/26/98	1330	122880	1

M = Method	Method-Description
M 1	EPA 418.1 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

9805300-05

Form 1: Inorganic Analyses Data Sheet

SDG No.: FS4008S

Method Type: Total Metals

Sample ID: 9805300-05

Client ID: 580221

Contract: SAIC00598 Lab Code: GEL Case No.: SAS No.:

Matrix: SOIL Date Received: 5/11/98 Level: LOW

% Solids: 79.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	40.5	mg/kg			P	0.12	TJA61 Trace ICPAES	980517-1

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580311

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B03S

Matrix: (soil/water) SOIL Lab Sample ID: 9809639-01

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2C3011

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: not dec. 9 Date Analyzed: 09/30/98

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 ↓

FORM I VOA

DATA VALIDATION COPY

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

580311

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B03S

Matrix: (soil/water) SOIL Lab Sample ID: 9809639-01

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 2M408

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: 9 decanted: (Y/N) N Date Extracted: 09/23/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 09/24/98

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

U

DATA VALIDATION
COPY

Client:	Science Applications International Corp. P.O. Box 2502 800 Oak Ridge Turnpike Oak Ridge, Tennessee 37831
Contact:	Ms. Lorene Rollins
Project Description:	CAP-Part A for UST Sites (Task Order No. 8)

cc: SAIC00598 Report Date: October 08, 1998

Sample ID	: 580311
Lab ID	: 9809639-01
Matrix	: Soil
Date Collected	: 09/17/98
Date Received	: 09/21/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry												
Total Rec. Petro. Hydrocarbons	U	1.92	UJ I∅2	2.18	11.0	mg/kg	1.0	AAT	10/06/98	1100	132776	1

M = Method	Method-Description
M 1	EPA 418.1 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

207

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580321

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B04S

Matrix: (soil/water) SOIL Lab Sample ID: 9809641-06

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2B5011

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: not dec. 11 Date Analyzed: 09/25/98

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	7.9		=
100-41-4	Ethylbenzene	2.2	U	U
1330-20-7	Xylenes (total)	6.7	U	U

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580321

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B04S

Matrix: (soil/water) SOIL Lab Sample ID: 9809641-06

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 7M606

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: 11 decanted: (Y/N) N Date Extracted: 09/23/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 09/25/98

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	3730	U
91-58-7	2-chloronaphthalene	3730	U
208-96-8	acenaphthylene	3730	U
83-32-9	acenaphthene	3730	U
86-73-7	fluorene	3730	U
85-01-8	phenanthrene	3730	U
120-12-7	anthracene	3730	U
206-44-0	fluoranthene	3730	U
129-00-0	pyrene	3730	U
56-55-3	benzo(a)anthracene	3730	U
218-01-9	chrysene	3730	U
205-99-2	benzo(b)fluoranthene	3730	U
207-08-9	benzo(k)fluoranthene	3730	U
50-32-8	benzo(a)pyrene	3730	U
193-39-5	indeno(1,2,3-cd)pyrene	3730	U
53-70-3	dibenz(a,h)anthracene	3730	U
191-24-2	benzo(g,h,i)perylene	3730	U

U

Client:	Science Applications International Corp.
	P.O. Box 2502
	800 Oak Ridge Turnpike
	Oak Ridge, Tennessee 37831
Contact:	Ms. Lorene Rollins
Project Description:	CAP-Part A for UST Sites (Task Order No. 8)

cc: SAIC00598 Report Date: October 08, 1998 Page 1 of 1

Sample ID	: 580321
Lab ID	: 9809641-06
Matrix	: Soil
Date Collected	: 09/17/98
Date Received	: 09/21/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry			J F01, F08, I02								
Total Rec. Petro. Hydrocarbons		34.5	2.23	11.2	mg/kg	1.0	AAT	10/06/98	1100	132809	1

M = Method	Method-Description
M 1	EPA 418.1 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

9809641-06

216

COPY

Form 1: Inorganic Analyses Data Sheet

SDG No.: FS4B04S

Method Type: Total Metals

Sample ID: 9809641-06

Client ID: 580321

Contract: SAIC00598 Lab Code: GEL Case No.: SAS No.:

Matrix: SOIL Date Received: 9/21/98 Level: LOW

% Solids: 89.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	6.7	mg/kg			P	0.17	TJA61 Trace2 ICPAES	980924-1

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590111

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4007S

Matrix: (soil/water) SOIL Lab Sample ID: 9805298-19

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2I7013

Level: (low/med) LOW Date Received: 05/11/98

% Moisture: not dec. 10 Date Analyzed: 05/17/98

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	1.1	U	U
108-88-3	Toluene	13.4	P	J MØ8
100-41-4	Ethylbenzene	4.4	U	U
1330-20-7	Xylenes (total)	13.3	U	U

DATA VALIDATION COPY

FORM I VOA

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590111

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4007S

Matrix: (soil/water) SOIL Lab Sample ID: 9805298-19

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 1U403

Level: (low/med) LOW Date Received: 05/11/98

% Moisture: 10 decanted: (Y/N) N Date Extracted: 05/15/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/21/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

DATA VALIDATION COPY

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	naphthalene	370	U
91-58-7	2-chloronaphthalene	370	U
208-96-8	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
50-32-8	benzo(a)pyrene	370	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

U

FORM I SV-1

OLM03.0

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	02934

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Lorene Rollins
Project Description: CAP-Part A for UST Sites (Task Order No. 8)

DATA VALIDATION COPY

cc: SAIC00598

Report Date: June 19, 1998

Sample ID	: 590111
Lab ID	: 9805298-19
Matrix	: Soil
Date Collected	: 05/10/98
Date Received	: 05/11/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Organic Prep												
Evaporative Loss @ 105 C		10.0	=	1.00	1.00	wt%	1.0	ERH	05/12/98	1030	121988	1
General Chemistry												
Total Rec. Petro. Hydrocarbons		55.9	= FØ1, FØ8	2.20	11.1	mg/kg	1.0	JLP	05/26/98	1330	122880	2

M = Method	Method Description
M 1	EPA 3550
M 2	EPA 418.1 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.

Data reported in mass/mass units is reported as 'dry weight'.

DATA VALIDATION COPY

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590121

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4008S

Matrix: (soil/water) SOIL Lab Sample ID: 9805300-06

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2I6019

Level: (low/med) LOW Date Received: 05/11/98

% Moisture: not dec. 13 Date Analyzed: 05/17/98

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	0.57	U	U
108-88-3	Toluene	15.3		=
100-41-4	Ethylbenzene	2.3	U	U
1330-20-7	Xylenes (total)	6.9	U	U

FORM I VOA

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590121

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4008S

Matrix: (soil/water) SOIL Lab Sample ID: 9805300-06

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 7U417

Level: (low/med) LOW Date Received: 05/11/98

% Moisture: 13 decanted: (Y/N) N Date Extracted: 05/15/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/21/98

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	3760	U
91-58-7	2-chloronaphthalene	3760	U
208-96-8	acenaphthylene	3760	U
83-32-9	acenaphthene	3760	U
86-73-7	fluorene	3760	U
85-01-8	phenanthrene	3760	U
120-12-7	anthracene	3760	U
206-44-0	fluoranthene	3760	U
129-00-0	pyrene	3760	U
56-55-3	benzo(a)anthracene	3760	U
218-01-9	chrysene	3760	U
205-99-2	benzo(b)fluoranthene	3760	U
207-08-9	benzo(k)fluoranthene	3760	U
50-32-8	benzo(a)pyrene	3760	U
193-39-5	indeno(1,2,3-cd)pyrene	3760	U
53-70-3	dibenz(a,h)anthracene	3760	U
191-24-2	benzo(g,h,i)perylene	3760	U

U

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Lorena Rollins
Project Description: CAP-Part A for UST Sites (Task Order No. 8)

cc: SAIC00598

Report Date: June 01, 1998

Sample ID	: 590121
Lab ID	: 9805300-06
Matrix	: Soil
Date Collected	: 05/10/98
Date Received	: 05/11/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry											
Total Rec. Petro. Hydrocarbons		1530 =	22.8	115	mg/kg	10.	JLP	05/26/98	1330	122880	1

M = Method	Method-Description
M 1	EPA 418.1 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

9805300-06

Form 1: Inorganic Analyses Data Sheet

SDG No.: FS400SS

Method Type: Total Metals

Sample ID: 9805300-06

Client ID: 590121

Contract: SAIC00598 **Lab Code:** GEL **Case No.:** **SAS No.:**

Matrix: SOIL **Date Received:** 5/11/98 **Level:** LOW

% Solids: 87.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	14.8	mg/kg			P	0.10	TJA61 Trace ICPAES	980517-1

Color Before: **Clarity Before:** **Texture:**

Color After: **Clarity After:** **Artifacts:**

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590211

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4002S

Matrix: (soil/water) SOIL Lab Sample ID: 9805262-18

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2I3027

Level: (low/med) LOW Date Received: 05/08/98

% Moisture: not dec. 14 Date Analyzed: 05/13/98

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	2.3	U	U
108-88-3	Toluene	4.5	P	J
100-41-4	Ethylbenzene	2.3	U	U
1330-20-7	Xylenes (total)	7.0	U	U

MΦ8

DATA VALIDATION COPY

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590211

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4002S

Matrix: (soil/water) SOIL Lab Sample ID: 9805262-18

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 2T304

Level: (low/med) LOW Date Received: 05/08/98

% Moisture: 14 decanted: (Y/N) N Date Extracted: 05/11/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/13/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

DATA VALIDATION COPY

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	naphthalene	384	U
91-58-7	2-chloronaphthalene	384	U
209-96-8	acenaphthylene	384	U
83-32-9	acenaphthene	384	U
86-73-7	fluorene	384	U
85-01-8	phenanthrene	384	U
120-12-7	anthracene	384	U
206-44-0	fluoranthene	384	U
129-00-0	pyrene	384	U
56-55-3	benzo(a)anthracene	384	U
218-01-9	chrysene	384	U
205-99-2	benzo(b)fluoranthene	384	U
207-08-9	benzo(k)fluoranthene	384	U
50-32-8	benzo(a)pyrene	384	U
193-39-5	indeno(1,2,3-cd)pyrene	384	U
53-70-3	dibenz(a,h)anthracene	384	U
191-24-2	benzo(g,h,i)perylene	384	U

U

DATA VALIDATION COPY

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Lorene Rollins
Project Description: CAP-Part A for UST Sites (Task Order No. 8)

cc: SAIC00598

Report Date: June 01, 1998

Sample ID	: 590211
Lab ID	: 9805262-18
Matrix	: Soil
Date Collected	: 05/07/98
Date Received	: 05/08/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry												
Total Rec. Petro. Hydrocarbons		38.0	= F01, F08	2.30	11.6	mg/kg	1.0	JLP	05/11/98	1400	121925	1

M = Method	Method-Description
M 1	EPA 418.1 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

*980 310

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590221

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4002S

Matrix: (soil/water) SOIL Lab Sample ID: 9805262-10

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2I3012

Level: (low/med) LOW Date Received: 05/08/98

% Moisture: not dec. 11 Date Analyzed: 05/13/98

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)	6.7	U	

DATA VALIDATION
COPY

FORM I VOA

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590221

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4002S

Matrix: (soil/water) SOIL Lab Sample ID: 9805262-10

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 2T216

Level: (low/med) LOW Date Received: 05/08/98

% Moisture: 11 decanted: (Y/N) N Date Extracted: 05/11/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/12/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

DATA VALIDATION COPY

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	naphthalene	373	U
91-58-7	2-chloronaphthalene	373	U
209-96-8	acenaphthylene	373	U
83-32-9	acenaphthene	373	U
86-73-7	fluorene	373	U
85-01-8	phenanthrene	373	U
120-12-7	anthracene	373	U
206-44-0	fluoranthene	373	U
129-00-0	pyrene	373	U
56-55-3	benzo(a)anthracene	373	U
218-01-9	chrysene	373	U
205-99-2	benzo(b)fluoranthene	373	U
207-08-9	benzo(k)fluoranthene	373	U
50-32-8	benzo(a)pyrene	373	U
193-39-5	indeno(1,2,3-cd)pyrene	373	U
53-70-3	dibenz(a,h)anthracene	373	U
191-24-2	benzo(g,h,i)perylene	373	U

U

DATA VALIDATION COPY

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Lorene Rollins
Project Description: CAP-Part A for UST Sites (Task Order No. 8)

cc: SAIC00598

Report Date: June 01, 1998

Sample ID	: 590221
Lab ID	: 9805262-10
Matrix	: Soil
Date Collected	: 05/07/98
Date Received	: 05/08/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry												
Total Rec. Petro. Hydrocarbons		185	= F01,F08	22.2	112	mg/kg	10.	JLP	05/11/98	1400	121925	1

M = Method	Method-Description
M 1	EPA 418.1 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

9805262-10

07

SDG No.: FS4002S

Method Type: Total Metals

Sample ID: 9805262-10

Client ID: 590221

Contract: SAIC00598 Lab Code: GEL Case No.: SAS No.:

Matrix: SOIL Date Received: 5/8/98 Level: LOW

% Solids: 89.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	7.7	mg/kg			P	0.10	TJA61 Trace ICPAES	980514a-1

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

DATA VALIDATION COPY

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590311

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B09S

Matrix: (soil/water) SOIL Lab Sample ID: 9809704-01

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2C2014

Level: (low/med) LOW Date Received: 09/22/98

% Moisture: not dec. 9 Date Analyzed: 09/29/98

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 ↓

FORM I VOA

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DATA VALIDATION COPY

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590311

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B09S

Matrix: (soil/water) SOIL Lab Sample ID: 9809704-01

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 1M411

Level: (low/med) LOW Date Received: 09/22/98

% Moisture: 9 decanted: (Y/N) N Date Extracted: 09/24/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 09/24/98

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	365	U
91-58-7	2-chloronaphthalene	365	U
209-96-8	acenaphthylene	365	U
83-32-9	acenaphthene	365	U
86-73-7	fluorene	365	U
85-01-8	phenanthrene	365	U
120-12-7	anthracene	365	U
206-44-0	fluoranthene	365	U
129-00-0	pyrene	365	U
56-55-3	benzo(a)anthracene	365	U
218-01-9	chrysene	365	U
205-99-2	benzo(b)fluoranthene	365	U
207-08-9	benzo(k)fluoranthene	365	U
50-32-8	benzo(a)pyrene	365	U
193-39-5	indeno(1,2,3-cd)pyrene	365	U
53-70-3	dibenz(a,h)anthracene	365	U
191-24-2	benzo(g,h,i)perylene	365	U

U

DATA VALIDATION
COPY

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Lorene Rollins
Project Description: CAP-Part A for UST Sites (Task Order No. 8)

cc: SAIC00598 Report Date: October 08, 1998 Page 1 of 1

Sample ID	: 590311
Lab ID	: 9809704-01
Matrix	: Soil
Date Collected	: 09/21/98
Date Received	: 09/22/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry											
Total Rec. Petro. Hydrocarbons	J	5.58 UJF01, F06, I02	2.18	11.0	mg/kg	1.0	AAT	10/06/98	1100	132809	1

M = Method	Method-Description
M 1	EPA 418.1 Modified

Notes:
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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

105

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590321

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B09S

Matrix: (soil/water) SOIL Lab Sample ID: 9809704-02

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2C2015

Level: (low/med) LOW Date Received: 09/22/98

% Moisture: not dec. 9 Date Analyzed: 09/29/98

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

FORM I VOA

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590321

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B09S

Matrix: (soil/water) SOIL Lab Sample ID: 9809704-02

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 1M412

Level: (low/med) LOW Date Received. 09/22/98

% Moisture: 9 decanted: (Y/N) N Date Extracted:09/24/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 09/24/98

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	365	U
91-58-7	2-chloronaphthalene	365	U
209-96-8	acenaphthylene	365	U
83-32-9	acenaphthene	365	U
86-73-7	fluorene	365	U
85-01-8	phenanthrene	365	U
120-12-7	anthracene	365	U
206-44-0	fluoranthene	365	U
129-00-0	pyrene	365	U
56-55-3	benzo(a)anthracene	365	U
218-01-9	chrysene	365	U
205-99-2	benzo(b)fluoranthene	365	U
207-08-9	benzo(k)fluoranthene	365	U
50-32-8	benzo(a)pyrene	365	U
193-39-5	indeno(1,2,3-cd)pyrene	365	U
53-70-3	dibenz(a,h)anthracene	365	U
191-24-2	benzo(g,h,i)perylene	365	U

DATA VALIDATION
COPY

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Lorene Rollins
Project Description: CAP-Part A for UST Sites (Task Order No. 8)

cc: SAIC00598 Report Date: October 08, 1998

Sample ID	: 590321
Lab ID	: 9809704-02
Matrix	: Soil
Date Collected	: 09/21/98
Date Received	: 09/22/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry												
Total Rec. Petro. Hydrocarbons		127	=	2.18	11.0	mg/kg	1.0	AAT	10/06/98	1100	132809	1

M = Method	Method-Description
M 1	EPA 418.1 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.
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This data report has been prepared and reviewed
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standard operating procedures. Please direct
any questions to your Project Manager, Valerie Davis at (803) 769-7391.

Reviewed By

106

DATA VALIDATION COPY

Form 1: Inorganic Analyses Data Sheet

SDG No.: FS4B09S

Method Type: Total Metals

Sample ID: 9809704-02

Client ID: 590321

Contract: SAIC00598 Lab Code: GEL Case No.: SAS No.:

Matrix: SOIL Date Received: 9/22/98 Level: LOW

% Solids: 91.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run	
7439-92-1	Lead	3.2	mg/kg			P	0.16	TJA61 Trace ICPAES	980930-3	J I05

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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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.: GA13 0024

PROJECT NAME: Fort Stewart CAP Part A UST Investigation

PROJECT NUMBER: 01-0331-04-~~6481~~-200 (9805)

PROJECT MANAGER: Patty Stoll

Sampler (Signature): Laura Lumley (Printed Name): Laura Lumley

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	VOC	SVOA, RCRA METALS	RCRA METALS	BTEX	PAH	TPH	BTEX, GRO	PAH, DRO	TOC	PAH, DRO, Lead	PAH, DRO, Lead, TOC	PAH, TPH, Lead	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
060113	5/7/98	1720	Soil							1			1			2	
060121	5/7/98	1720								1			1			2	
100421	5/7/98	1715								1				1		2	
210421	5/7/98	1300								1			1			2	
580121	5/7/98	1550	↓				1								1	2	

5/7/98

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	5/7/98 1100		
COMPANY NAME: SAIC		COMPANY NAME:	
RECEIVED BY: Bob Lockhart	Date/Time 5/8/98 1100	RELINQUISHED BY:	Date/Time
COMPANY NAME: OEC		COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 10

Cooler ID: #2

Cooler Temperature: 4°C

FEDEX NUMBER:

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1 of 2

CHAIN OF CUSTODY RECORD

COC NO.: GAB016

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation 9805

PROJECT NUMBER: 01-0331-04-~~9305~~-200

PROJECT MANAGER: Patty Stoll

Sampler (Signature) Laura Lumley (Printed Name) Laura Lumley

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	TOC	BTEX, GRO	PAH, DRO	PAH, DRO, Lead	PAH, TPH	PAH, TPH, Lead	PAH, TPH, Lead, TOC	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
580211	5/10/98	1120	Soil	1						1			2	
730111	5/10/98	1110		1						1			2	
730311	5/10/98	1430		1						1			2	
640211	5/9/98	1510		1						1			2	
100521	5/10/98	1035		1						1			2	
590111	5/10/98	1010		1						1			2	
130541	5/10/98	1455		1						1			2	
130531	5/10/98	1450		1						1			2	
730411	5/10/98	1545		1						1			2	
130521	5/10/98	1335		1						1			2	
600111	5/10/98	1520		1						1			2	
580221	5/10/98	1120		1							1		2	
590121	5/10/98	1010		1							1		2	

REQUESTED PARAMETERS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS:	Cooler Temperature: 2°C
Laura Lumley	5/11/98			Cooler ID: # 2321	FEDEX NUMBER:
COMPANY NAME: SAIC	1130	COMPANY NAME:			
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL	5/11/98 1130	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

V-50

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1 of 2

CHAIN OF CUSTODY RECORD

COC NO.: GAS08

PROJECT NAME: ~~16 SWMUs Investigations~~ CAP-A Options

PROJECT NUMBER: 01-0331-04-~~7329-200~~ 9405-210

PROJECT MANAGER: ~~Jeff Longaker~~ Patty Stoll

Sampler (Signature) / (Printed Name): Laura Lumley / Laura Lumley

Sample ID	Date Collected	Time Collected	Matrix	VOC	SVOC	TOTAL LEAD	FILTERED LEAD	RCRA METALS	PAH	BTEX	PAH, TPH	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
600722	9/20/98	1535	water						2			2		9809698-18
600312	9/20/98	1435	water						2			2		-19
580311	9/17/98	1316	Soil							1	1	2		9809699-01
600313	9/20/98	1739								1	1	2		-02
600311	9/20/98	1739								1	1	2		-03
600411	9/16/98	1044								1	1	2		-04
620511	9/16/98	1445								1	1	2		-05
630311	9/19/98	810								1	1	2		-06
620311	9/20/98	1013								1	1	2		-07
600611	9/16/98	1235								1	1	2		-08
630611	9/19/98	920								1	1	2		-09
630313	9/19/98	810								1	1	2		-10
630411	9/19/98	1620								1	1	2		-11

REQUESTED PARAMETERS

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	9/21/98		9/21/98
COMPANY NAME: SAIC	1145	COMPANY NAME: GEL	1545
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL	9/21/98 1145	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME: GEL	9/21/98 1545	COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS:

Cooler ID: #567, 3°C

Cooler Temperature: 4°C

FEDEX NUMBER:

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1 of 5

CHAIN OF CUSTODY RECORD

COC NO.: GAS09

PROJECT NAME: ~~16 SWMUs Investigations~~ CAP-A Options

PROJECT NUMBER: 01-0331-04 ~~7328-200~~ 9605-210

PROJECT MANAGER: ~~Jeff Longaker~~ Patty Stoll

Sampler (Signature): Laura Lumley (Printed Name): Laura Lumley

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	VOC	SVOC	TOTAL LEAD	FILTERED LEAD	RCRA METALS	BTEX	PAH, TPH, Lead	BTEX, GRO	PAH, DRO, Lead	PAH, DRO	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
600321	9/20/98	1724	So. 1						1	1				2		9809641-02
630621	9/19/98	915							1	1				2		-03
630321	9/19/98	805							1	1				2		-04
600521	9/18/98	1150							1	1				2		-05
560321	9/17/98	1304							1	1				2		-06
630421	9/19/98	1622							1	1				2		-07
620321	9/20/98	1006							1	1				2		-08
620323	9/20/98	1008							1	1				2		-09
650321	9/17/98	913						8		1	1			2		-10
650421	9/17/98	1021								1	1			2		-11
650311	9/17/98	930								1		1		2		-12
650411	9/19/98	1023	↓							1		1		2		-13
630612	9/19/98	1030	Water						2					2		9809642-01

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	9/21/98 1645	Francis	9/21/98 1545
COMPANY NAME: SAIC		COMPANY NAME: GEL	
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
Francis	9-21-98 1145		
COMPANY NAME: GEL		COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Francis	9/21/98 1545		
COMPANY NAME: GEL		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS:

Cooler ID: # 406, 3°C

Cooler Temperature: 4°C

FEDEX NUMBER:

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

2 of 3

CHAIN OF CUSTODY RECORD

COC NO.: GAB003

PROJECT NAME: Fort Stewart CAP Part A UST Investigation

PROJECT NUMBER: 01-0331-04-~~6481~~9805-200

PROJECT MANAGER: Patty Stoll

Sampler (Signature) (Printed Name)

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	VOC	SVOA, RCRA METALS	RCRA METALS	BTEX	PAH	TPH	BTEX, GRO	PAH, DRO	TOC	PAH, TPH, Lead	PAH, DRO, Lead	PAH, TPH	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
900622	5/7/96	1520	water				2									2	
TBA004	5/7/96	745	water				2									2	
650211	5/7/96	1522	Soil							1	1					2	
620121	5/7/96	1040					1						1			2	
~~650127~~	~~5/7/96~~	1435								1							
650221	5/7/96	1527								1				1		2	
620211	5/7/96	1136					1								1	2	
620221	5/7/96	1145					1						1			2	
650111	5/7/96	1430								1	1					2	
620111	5/7/96	1035					1								1	2	
650121	5/7/96	1435								1				1		2	
590211	5/7/96	1435					1								1	2	
650131 Duplicate	5/7/96	1430								1	1					2	

REQUESTED PARAMETERS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS:	Cooler Temperature: 4°C
COMPANY NAME: SAIC	5/8/96 1100	COMPANY NAME:		Cooler ID: # 546	FEDEX NUMBER:
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time		
COMPANY NAME: DEC	5/8/96 1100	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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

3 of 3

CHAIN OF CUSTODY RECORD

COC NO.: GAB 003

PROJECT NAME: Fort Stewart CAP Part A UST Investigation

PROJECT NUMBER: 01-0331-04-~~6481~~ 9805-200

PROJECT MANAGER: Patty Stoll

Sampler (Signature): Laura Lumley (Printed Name): Laura Lumley

Sample ID	Date Collected	Time Collected	Matrix	VOC	SVOA, RCRA METALS	RCRA METALS	BTEX	PAH	TPH	BTEX, GRO	PAH, DRO	TOC	DAH, TPH, Lead	PAH, DRO, Lead	PAH, TPH							No. of Bottles/ Vials:
590221	5/7/98	1425	Soil				1						1									2
210311	5/7/98	1105								1	1											2
580111	5/7/98	1555					1								1							2
210321	5/7/98	1115								1				1								2
210313	5/7/98	1105								1	1											2
210411	5/7/98	1310								1	1											2
900411	5/7/98	1720								1	1											2

SB 5/6/98

REQUESTED PARAMETERS

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	5/8/98		
COMPANY NAME: SAIC	1100	COMPANY NAME:	
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
COMPANY NAME: OEC	5/8/98 1100	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 60

Cooler ID: #548

Cooler Temperature: 4°C

FEDEX NUMBER:

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

2/2

CHAIN OF CUSTODY RECORD

COC NO.: GAB016

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation 9805

PROJECT NUMBER: 01-0331-04-~~9305~~-200

PROJECT MANAGER: Patty Stoll

Sampler (Signature) Laura Lumley (Printed Name) Laura Lumley

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	TOC	BTEX, GRO	PAH, DRO	PAH, DRO, Lead	PAH, TPH	PAH, TPH, Lead	PAH, TPH, Lead, TOC	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
580211	5/10/98	1120	Soil	1						1			2	
730111	5/10/98	1110	↓	1						1			2	
730311	5/10/98	1430	↓	1						1			2	
640211	5/9/98	1510	↓	1						1			2	
100521	5/10/98	1035	↓	1						1			2	
590111	5/10/98	1010	↓	1						1			2	
130541	5/10/98	1455	↓	1						1			2	
130531	5/10/98	1450	↓	1						1			2	
730411	5/10/98	1545	↓	1						1			2	
130521	5/10/98	1335	↓	1						1			2	
600111	5/10/98	1520	↓	1						1			2	
580221	5/10/98	1120	↓	1							1		2	
590121	5/10/98	1010	↓	1							1		2	

RELINQUISHED BY: Laura Lumley	Date/Time 5/11/98 1130	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS:	Cooler Temperature: 2°C
COMPANY NAME: SAIC		COMPANY NAME:		Cooler ID: # 234	FEDEX NUMBER:
RECEIVED BY: B Kochler	Date/Time 5/11/98 1130	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL		COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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.: GAS10

PROJECT NAME: ~~16 SWMUs Investigations~~ CAPA Options

PROJECT NUMBER: 01-0331-04-~~7320-200~~ 9805-210

PROJECT MANAGER: ~~Jeff Longaker~~ Patty Stoll

Sampler (Signature) (Printed Name) Laura Lumley

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	VOC	SVOC	TOTAL LEAD	FILTERED LEAD	RCRA METALS	PAH	BTEX	PAH, TPH	PAH, TPH, Lead	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
590314	9/21/98	1505	water						2	2			4		9809703-01
590312	9/21/98	1505	↓						2	2			4		-02
TB3007	9/21/98	745	↓							2			2		-03
590311	9/21/98	1438	Soil							1	1		2		9809704-01
590321	9/2/98	1429	Soil							1		1	2		-02

9/22/98

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME: SAIC	9/22/98 1230	COMPANY NAME: GEL	9/22/98 1600
RECEIVED BY:	Date/Time 9/22/98 1230	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL		COMPANY NAME:	
RELINQUISHED BY:	Date/Time 9-22-98 1600	RECEIVED BY:	Date/Time
COMPANY NAME: GEL		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 14

Cooler ID: #249

Cooler Temperature: 4°C

FEDEX NUMBER:

SOIL ANALYTICAL DATA OBTAINED DURING USTS 242 & 244 CLOSURE ACTIVITIES (June 1996)

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SPECIALIZED ASSAYS, INC.

2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

DIRECTOR U.S. ARMY CORPS ENG. 5394
CESAD LABORATORY
611 SOUTH COBB DRIVE
MARIETTA, GA 30060-3172

Sample Location: 29349 #242-T1-S1
FT. STEWART

Lab Number: 96-A038067

Sampler: BOBBI THORN

Date Collected: 6/24/96

Date Received: 6/26/96

Time Collected: 12:05

Time Received: 8:30

Sample type: Soil

SEMIVOLATILE ORGANICS and PESTICIDE/PCB's

Analyte	Result	Flag	DF	Units	Date	Time	Analyst	Method
2-Chlorophenol	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
4-Chlorophenylphenylether	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Chrysene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Dibenzofuran	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Dibenz(a,h)anthracene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
1,2-Dichlorobenzene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
1,3-Dichlorobenzene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
1,4-Dichlorobenzene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
3,3'-Dichlorobenzidine	763.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
2,4-Dichlorophenol	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Diethylphthalate	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
2,4-Dimethylphenol	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Dimethylphthalate	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Di-n-butylphthalate	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
4,6-Dinitro-2-methylphenol	945.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
2,4-Dinitrophenol	945.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
2,4-dinitrotoluene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
2,6-Dinitrotoluene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Di-n-octylphthalate	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
[illegible]oranthene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
[illegible]orene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
[illegible]achlorobenzene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
[illegible]ichlorobutadiene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Hexachlorocyclopentadiene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Hexachloroethane	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B

COPY 1

SPECIALIZED ASSAYS, INC.

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Nashville, TN 37204-0566
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ANALYTICAL REPORT

DIRECTOR U.S. ARMY CORPS ENG. 5394
CESAD LABORATORY
611 SOUTH COBB DRIVE
MARIETTA, GA 30060-3172

Sample Location: 29349 #242-T1-S1
FT. STEWART

Lab Number: 96-A038067

Sampler: BOBBI THORN

Date Collected: 6/24/96

Date Received: 6/26/96

Time Collected: 12:05

Time Received: 8:30

Sample type: Soil

SEMIVOLATILE ORGANICS and PESTICIDE/PCB's

Lyte	Result	Flag	DF	Units	Date	Time	Analyst	Method
Indeno(1,2,3-cd)pyrene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Isophorone	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
2-Methylnaphthalene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
2-Methylphenol	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
m,p-Methylphenol	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Naphthalene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
2-Nitroaniline	945.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
3-Nitroaniline	945.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
4-Nitroaniline	945.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Nitrobenzene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
2-Nitrophenol	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
4-Nitrophenol	945.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
N-nitrosodi-n-propylamine	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
N-nitrosodiphenylamine	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Pentachlorophenol	945.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Phenanthrene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Phenol	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Pyrene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
Bis(2-ethylhexyl)phthalate	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
[illegible],4-Trichlorobenzene	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	8270B
[illegible],5-Trichlorophenol	945.	U	1	ug/kg	6/28/96	6:17	G. Baun	827[illegible]
[illegible]4,6-Trichlorophenol	376.	U	1	ug/kg	6/28/96	6:17	G. Baun	827
[illegible]action, BNA,s	Completed			ug/kg	6/27/96	14:36	C.Bardwell	3550

SPECIALIZED ASSAYS, INC.

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Nashville, TN 37204-0566
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ANALYTICAL REPORT

DIRECTOR U.S. ARMY CORPS ENG. 5394
CESAD LABORATORY
611 SOUTH COBB DRIVE
MARIETTA, GA 30060-3172

Sample Location: 29349 #242-T1-S1
FT. STEWART

Lab Number: 96-A038067

Sampler: BOBBI THORN

Date Collected: 6/24/96

Date Received: 6/26/96

Time Collected: 12:05

Time Received: 8:30

Sample type: Soil

UNDERGROUND STORAGE TANK RESULTS

Analyte	Result	Units	PQL	Dil Factor	Date	Time	Analyst	Method
Benzene	< 0.114	mg/kg	0.114	1	6/28/96	2:17	Holingwrth	8020
Toluene	< 0.114	mg/kg	0.114	1	6/28/96	2:17	Holingwrth	8020
Ethylbenzene	< 0.114	mg/kg	0.114	1	6/28/96	2:17	Holingwrth	8020
Xylenes, total	< 0.114	mg/kg	0.114	1	6/28/96	2:17	Holingwrth	8020
Petroleum Hydrocarbons,IR	441.	mg/kg	11.4	1	6/28/96	16:51	M.Himelick	418.1 M

Sample Extraction Data

BNA's Extracted 6/27/96 Wt extracted: 30.0 gm Extract Volume: 1.0 ml

** QUALITY CONTROL DATA **

Surrogate Recoveries

Surrogate	% Recovery	Target Range
GRO Surrogate, soil	102.	50 - 150
BNA Surrogate, Nitrobenzene	53.0	23 - 120
BNA Surr., 2-Fluorobiphenyl	57.0	30 - 115
BNA Surrogate, Terphenyl d14	81.0	18 - 140

U.S. / ny Corps of Engineers Work Ord / ______ Job # 3969 Chain of Cus dy Rec
(ER 1110-1-263)

Proj. No.	Project Name Ft. Stewart					Number of Containers	8020	8240	418.1 TRPH					TAT Expedited
Sampler : (Signature) 46778														
Date	Time	Pres.	Grab	Comp	Site Code/Sample Number									Remarks: SAD NO. / MATR
6/4/96	1215				#242-TI-SL	3	✓	✓	✓	96-A038067				99349 Soil
↓	—				TCP BLANK	2	✓			96-A038068				99350 Water

Sampler Relinquished by:	Date/Time	Received by: (Sig.)	Date/Time	Hazards Associated with Samples
Relinquished by: (Sig.)	Date/Time 6/5/96	Received by: (Sig.)	Date/Time	96-A038069
Relinquished by: (Sig)	Date/Time	Received for Laboratory by: (Sig.)	Date/Time 6/6/96 0830	Remarks at time of receipt:
Custody Seal No.		Lab Case No.:		

EN Form 21-R, Oct 90 Pr ent: CEMP

ECOSYS
LABORATORY SERVICES

ANALYTICAL REPORT

1412 Oakbrook Drive
Suite 105
Norcross, Georgia 30093
Phone (770) 368-0636
Fax (770) 368-0806

Client Code	29112130
Ledger Number	107849
P.O. Number	
Date Received	06/28/96
Time Received	09:45
Reporting Date	07/12/96

USACE-SAD
Blaisdell Willis
611 South Cobb Drive
Marietta, GA 30060
P: 919-5270 F: 919-4977

Lab Sample ID	AB35169	**Client Site #**	29356
Project #	3972	**Client Sample #**	244-T1-S1
Project Name	FT. STEWART		
Sampling Date/Time	06/24/96 16:50		

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
Sample Comment	Results are reported on a dry weight basis.								
SE	C/MS) SOIL				Prep Date 07/08/96		Batch 0708960001		
8270B	PHENOL	S06013	*Below MDL*	378	ug/Kg	1.0	108-95-2	BS	07/08/96
8	BIS(2-CHLOROETHYL) ETHER	S06013	*Below MDL*	378	ug/Kg	1.0	111-44-4	BS	07/08/96
8	2-CHLOROPHENOL	S06013	*Below MDL*	378	ug/Kg	1.0	95-57-8	BS	07/08/96
8270B	1,3-DICHLOROBENZENE	S06013	*Below MDL*	378	ug/Kg	1.0	541-73-1	BS	07/08/96
8270B	1,4-DICHLOROBENZENE	S06013	*Below MDL*	378	ug/Kg	1.0	106-46-7	BS	07/08/96
8270B	1,2-DICHLOROBENZENE	S06013	*Below MDL*	378	ug/Kg	1.0	95-50-1	BS	07/08/96
8270B	BIS(2-CHLOROISOPROPYL) ETHER	S06013	*Below MDL*	378	ug/Kg	1.0	108-60-1	BS	07/08/96
8270B	2-METHYLPHENOL	S06013	*Below MDL*	378	ug/Kg	1.0	95-48-7	BS	07/08/96
8270B	4-METHYLPHENOL	S06013	*Below MDL*	378	ug/Kg	1.0	106-44-5	BS	07/08/96
8270B	N-NITROSODI-N-PROPYLAMINE	S06013	*Below MDL*	378	ug/Kg	1.0	621-64-7	BS	07/08/96
8270B	HEXACHLOROETHANE	S06013	*Below MDL*	378	ug/Kg	1.0	67-72-1	BS	07/08/96
8270B	NITROBENZENE	S06013	*Below MDL*	378	ug/Kg	1.0	98-95-3	BS	07/08/96
8270B	ISOPHORONE	S06013	*Below MDL*	378	ug/Kg	1.0	78-59-1	BS	07/08/96
8270B	2-NITROPHENOL	S06013	*Below MDL*	757	ug/Kg	1.0	88-75-5	BS	07/08/96
8270B	2,4-DIMETHYLPHENOL	S06013	*Below MDL*	378	ug/Kg	1.0	105-67-9	BS	07/08/96
8270B	BIS(2-CHLOROETHOXY)METHANE	S06013	*Below MDL*	378	ug/Kg	1.0	111-91-1	BS	07/08/96
8270B	2,4-DICHLOROPHENOL	S06013	*Below MDL*	378	ug/Kg	1.0	120-83-2	BS	07/08/96
8270B	1,2,4-TRICHLOROBENZENE	S06013	*Below MDL*	378	ug/Kg	1.0	120-82-1	BS	07/08/96
8270B	NAPHTHALENE	S06013	*Below MDL*	378	ug/Kg	1.0	91-20-3	BS	07/08/96
8270B	4-CHLOROANILINE	S06013	*Below MDL*	378	ug/Kg	1.0	106-47-8	BS	07/08/96
8270B	HEXACHLOROBUTADIENE	S06013	*Below MDL*	378	ug/Kg	1.0	87-68-3	BS	07/08/96
82	4-CHLORO-3-METHYLPHENOL	S06013	*Below MDL*	757	ug/Kg	1.0	59-50-7	BS	07/08/96
82	2-METHYLNAPHTHALENE	S06013	*Below MDL*	378	ug/Kg	1.0	91-57-6	BS	07/08/96
8270B	HEXACHLOROCYCLOPENTADIENE	S06013	*Below MDL*	378	ug/Kg	1.0	77-47-4	BS	07/08/96
8	2,4,6-TRICHLOROPHENOL	S06013	*Below MDL*	378	ug/Kg	1.0	88-06-2	BS	07/08/96
82	2,4,5-TRICHLOROPHENOL	S06013	*Below MDL*	378	ug/Kg	1.0	95-95-4	BS	07/08/96
8270B	2-CHLORONAPHTHALENE	S06013	*Below MDL*	378	ug/Kg	1.0	91-58-7	BS	07/08/96

Lab Sample ID	AB35169	**Client Site #**	29356
Project #	3972	**Client Sample #**	244-T1-S1
Pl : Name	FT. STEWART		
Sampling Date/Time	06/24/96 16:50		

I	D	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE ANALYSI
Sample Comment		Results are reported on a dry weight basis.								
SEMI (GC/MS) SOIL					**Prep Date**	07/08/96		**Batch**	0708960001	
8270B		2-NITROANILINE	S06013	*Below MDL*	378	ug/Kg	1.0	88-74-4	BS	07/08/96
8270B		DIMETHYL PHTHALATE	S06013	*Below MDL*	378	ug/Kg	1.0	131-11-3	BS	07/08/96
8270B		ACENAPHTHYLENE	S06013	*Below MDL*	378	ug/Kg	1.0	208-96-8	BS	07/08/96
8270B		2,6-DINITROTOLUENE	S06013	*Below MDL*	378	ug/Kg	1.0	606-20-2	BS	07/08/96
8270B		3-NITROANILINE	S06013	*Below MDL*	378	ug/Kg	1.0	99-09-2	BS	07/08/96
8270B		ACENAPHTHENE	S06013	*Below MDL*	378	ug/Kg	1.0	83-32-9	BS	07/08/96
8270B		2,4-DINITROPHENOL	S06013	*Below MDL*	1892	ug/Kg	1.0	51-28-5	BS	07/08/96
8270B		4-NITROPHENOL	S06013	*Below MDL*	1892	ug/Kg	1.0	100-02-7	BS	07/08/96
8270B		DIBENZOFURAN	S06013	*Below MDL*	378	ug/Kg	1.0	132-64-9	BS	07/08/96
8270B		2,4-DINITROTOLUENE	S06013	*Below MDL*	378	ug/Kg	1.0	121-14-2	BS	07/08/96
8270B		DIETHYL PHTHALATE	S06013	*Below MDL*	378	ug/Kg	1.0	84-66-2	BS	07/08/96
8270B		4-CHLOROPHENYL PHENYL ETHER	S06013	*Below MDL*	378	ug/Kg	1.0	7005-72-3	BS	07/08/96
8270B		FLUORENE	S06013	*Below MDL*	378	ug/Kg	1.0	86-73-7	BS	07/08/96
8270B		4-NITROANILINE	S06013	*Below MDL*	378	ug/Kg	1.0	100-01-6	BS	07/08/96
8270B		2-METHYL-4,6-DINITROPHENOL	S06013	*Below MDL*	1892	ug/Kg	1.0	534-52-1	BS	07/08/96
8270B		N-NITROSODIPHENYLAMINE	S06013	*Below MDL*	378	ug/Kg	1.0	86-30-6	BS	07/08/96
8270B		4-BROMOPHENYL PHENYL ETHER	S06013	*Below MDL*	378	ug/Kg	1.0	101-55-3	BS	07/08/96
8270B		HEXACHLOROBENZENE	S06013	*Below MDL*	378	ug/Kg	1.0	118-74-1	BS	07/08/96
8270B		PENTACHLOROPHENOL	S06013	*Below MDL*	1892	ug/Kg	1.0	87-86-5	BS	07/08/96
8270B		PHENANTHRENE	S06013	*Below MDL*	378	ug/Kg	1.0	85-01-8	BS	07/08/96
8270B		ANTHRACENE	S06013	*Below MDL*	378	ug/Kg	1.0	120-12-7	BS	07/08/96
8270B		DI-N-BUTYL PHTHALATE	S06013	*Below MDL*	378	ug/Kg	1.0	84-74-2	BS	07/08/96
8270B		FLUORANTHENE	S06013	*Below MDL*	378	ug/Kg	1.0	206-44-0	BS	07/08/96
8270B		PYRENE	S06013	*Below MDL*	378	ug/Kg	1.0	129-00-0	BS	07/08/96
8270B		BUTYL BENZYL PHTHALATE	S06013	*Below MDL*	378	ug/Kg	1.0	85-68-7	BS	07/08/96
8270B		3,3'-DICHLOROBENZIDINE	S06013	*Below MDL*	757	ug/Kg	1.0	91-94-1	BS	07/08/96
8270B		BENZO(A)ANTHRACENE	S06013	*Below MDL*	378	ug/Kg	1.0	56-55-3	BS	07/08/96
8270B		BIS(2-ETHYLHEXYL) PHTHALATE	S06013	*Below MDL*	378	ug/Kg	1.0	117-81-7	BS	07/08/96
8270B		CHRYSENE	S06013	*Below MDL*	378	ug/Kg	1.0	218-01-9	BS	07/08/96
8270B		DI-N-OCTYL PHTHALATE	S06013	*Below MDL*	378	ug/Kg	1.0	117-84-0	BS	07/08/96
8270B		BENZO(B)FLUORANTHENE	S06013	*Below MDL*	378	ug/Kg	1.0	205-99-2	BS	07/08/96
8270B		BENZO(K)FLUORANTHENE	S06013	*Below MDL*	378	ug/Kg	1.0	207-08-9	BS	07/08/96
8270B		BENZO(A)PYRENE	S06013	*Below MDL*	378	ug/Kg	1.0	50-32-8	BS	07/08/96
8270B		INDENO(1,2,3-CD)PYRENE	S06013	*Below MDL*	378	ug/Kg	1.0	193-39-5	BS	07/08/96
8270B		DIBENZO(A,H)ANTHRACENE	S06013	*Below MDL*	378	ug/Kg	1.0	53-70-3	BS	07/08/96
8270B		BENZO(G,H,I)PERYLENE	S06013	*Below MDL*	378	ug/Kg	1.0	191-24-2	BS	07/08/96
8270B		2-FLUOROPHENOL (SURR)	S06013	*35*	%	REC	1.0	367-12-4	BS	07/08/96
8270B		PHENOL-D5 (SURR)	S06013	*43*	%	REC	1.0	13127-88-3	BS	07/08/96
8270B		NITROBENZENE-D5 (SURR)	S06013	*40*	%	REC	1.0	4165-60-0	BS	07/08/96
8270B		2-FLUOROBIPHENYL (SURR)	S06013	*48*	%	REC	1.0	321-60-8	BS	07/08/96
8270B		2,4,6-TRIBROMOPHENOL (SURR)	S06013	*60*	%	REC	1.0	118-79-6	BS	07/08/96
8270B		TERPHENYL-D14 (SURR)	S06013	*72*	%	REC	1.0	1718-51-0	BS	07/08/96
8270B		CARBAZOLE	S06013	*Below MDL*	378	ug/Kg	1.0	86-74-8	BS	07/08/96
BTEX (GC) SOIL					**Prep Date**	07/08/96		**Batch**	0708968	

Lab Sample ID AB35169 Client Site # 29356
Project # 3972 Client Sample # 244-T1-S1
P :t Name FT. STEWART
Sampling Date/Time 06/24/96 16:50

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
Sample Comment	Results are reported on a dry weight basis.								
BTEX (GC) SOIL				Prep Date 07/08/96			Batch 070896B		
8020A	BENZENE	S08006	*Below MDL*	1.1	ug/Kg	1.0	71-43-2	DTA	07/08/96
8020A	TOLUENE	S08006	*Below MDL*	1.1	ug/Kg	1.0	108-88-3	DTA	07/08/96
8020A	ETHYLBENZENE	S08006	*Below MDL*	1.1	ug/Kg	1.0	100-41-4	DTA	07/08/96
8020A	XYLENES (TOTAL)	S08006	*Below MDL*	1.1	ug/Kg	1.0	1330-20-7	DTA	07/08/96
8020A	A,A,A-TRIFLUOROTOLUENE (SURR)	S08006	*77*		% REC	1.0	98-08-8	DTA	07/08/96
8020A	4-BROMOFLUOROBENZENE (SURR)	S08006	*69*		% REC	1.0	460-00-4	DTA	07/08/96
8020A	CHLOROBENZENE	S08006	*Below MDL*	1.1	ug/Kg	1.0	108-90-7	DTA	07/08/96
8020A	1,2-DICHLOROBENZENE	S08006	*Below MDL*	1.1	ug/Kg	1.0	95-50-1	DTA	07/08/96
8020A	1,3-DICHLOROBENZENE	S08006	*Below MDL*	1.1	ug/Kg	1.0	541-73-1	DTA	07/08/96
8020A	1,4-DICHLOROBENZENE	S08006	*Below MDL*	1.1	ug/Kg	1.0	106-46-7	DTA	07/08/96
8020A	TERT-METHYLBUTYL ETHER	S08006	*Below MDL*	1.1	ug/Kg	1.0	1634-04-4	DTA	07/08/96
				Prep Date 07/04/96			Batch 070496		
9071A	TRPH SOIL	08041	*125*	11.5	mg/Kg	1.0		ML	07/05/96
				Prep Date 07/03/96			Batch 070396		
1	% TOTAL SOLIDS SOIL (N/C)	09099	*87.2*	0.1	%	1.0		MN	07/03/96

L ample ID AB35170 Client Site # 29357
Project # 3972 Client Sample # 261-T1-S1
Project Name FT. STEWART
Sampling Date/Time 06/25/96 16:30

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
Sample Comment	Results are reported on a dry weight basis.								
SEMI (GC/MS) SOIL				Prep Date 07/08/96			Batch 0708960001		
8270B	PHENOL	S06013	*Below MDL*	379	ug/Kg	1.0	108-95-2	BS	07/08/96
8270B	BIS(2-CHLOROETHYL) ETHER	S06013	*Below MDL*	379	ug/Kg	1.0	111-44-4	BS	07/08/96
8270B	2-CHLOROPHENOL	S06013	*Below MDL*	379	ug/Kg	1.0	95-57-8	BS	07/08/96
8270B	1,3-DICHLOROBENZENE	S06013	*Below MDL*	379	ug/Kg	1.0	541-73-1	BS	07/08/96
8270B	1,4-DICHLOROBENZENE	S06013	*Below MDL*	379	ug/Kg	1.0	106-46-7	BS	07/08/96
8270B	1,2-DICHLOROBENZENE	S06013	*Below MDL*	379	ug/Kg	1.0	95-50-1	BS	07/08/96
8270B	BIS(2-CHLOROISOPROPYL) ETHER	S06013	*Below MDL*	379	ug/Kg	1.0	108-60-1	BS	07/08/96
8270B	2-METHYLPHENOL	S06013	*Below MDL*	379	ug/Kg	1.0	95-48-7	BS	07/08/96
8270B	4-METHYLPHENOL	S06013	*Below MDL*	379	ug/Kg	1.0	106-44-5	BS	07/08/96
8270B	N-NITROSODI-N-PROPYLAMINE	S06013	*Below MDL*	379	ug/Kg	1.0	621-64-7	BS	07/08/96
8	HEXACHLOROETHANE	S06013	*Below MDL*	379	ug/Kg	1.0	67-72-1	BS	07/08/96
8270B	NITROBENZENE	S06013	*Below MDL*	379	ug/Kg	1.0	98-95-3	BS	07/08/96
8	ISOPHORONE	S06013	*Below MDL*	379	ug/Kg	1.0	78-59-1	BS	07/08/96
8	2-NITROPHENOL	S06013	*Below MDL*	759	ug/Kg	1.0	88-75-5	BS	07/08/96
8270B	2,4-DIMETHYLPHENOL	S06013	*Below MDL*	379	ug/Kg	1.0	105-67-9	BS	07/08/96
8270B	BIS(2-CHLOROETHOXY)METHANE	S06013	*Below MDL*	379	ug/Kg	1.0	111-91-1	BS	07/08/96

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(ER 1110-1-263)

TAT 14 day

Proj. No.:

Project Name: Ft. Stewart

Sampler: (Signature) Robert Ward

Remarks: Due 7/8

Date	Time	Pres.	Grab	Comp	Site Code/Sample Number	Number of Containers	8020	8270	9013					SAD NO.		MATRIX
06/24/96	1650				244-Ti-SI	3	✓	✓	✓					29356	AB35169	Soil
06/25/96	1630				261-Ti-SI	3	✓	✓	✓					29357	AB35170	Soil
06/23/96	—				Trip Blk	2	✓							29358	AB35171	Water
					method Blank soil		X	X	X						AB35172	
					method Blank water		X								AB35173	

Sampler Relinquished by: [signature]	Date/Time 06/27/96 1100	Received by: (Sig.)	Date/Time	Hazards Associated with Samples
Relinquished by: (Sig.)	Date/Time	Received by: (Sig.)	Date/Time	
Relinquished by: (Sig)	Date/Time	Received for Laboratory by: (Sig.) [signature]	Date/Time 6/28 ~~9:45~~ 10:31 (OA)	Remarks at time of receipt:
Custody Seal No.		Lab case No.: 107849		

V-66

ENG Form [illegible], Oct 90 Propo[illegible]: CEMP-[illegible]

APPENDIX VI

ALTERNATE THRESHOLD LEVEL (ATL) CALCULATIONS

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The contaminant concentrations in soil did not exceed their respective soil threshold levels, except for the closure sample with an elevated benzene detection limit. Thus, no alternate threshold levels were calculated.

The maximum benzene concentration in groundwater was 12.1 µg/L in May 1998, the horizontal and vertical extent of contamination was determined, and the potential downgradient receptor is located 70 feet from the site, thus no alternate concentration limits were calculated.

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APPENDIX VII

MONITORING WELL DETAILS

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Monitoring wells were not installed as part of the CAP-Part A investigation. Temporary piezometers were installed at the USTs 242 & 244 site for the determination of free product. Refer to Figure 5 (Appendix I) for locations and screened intervals.

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APPENDIX VIII

GROUNDWATER LABORATORY RESULTS

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TABLE VIII-A. Summary of Groundwater Analytical Results

Station:		In Stream	58-01	58-02	58-03	59-01	59-02
Sample ID:	Federal	Water	580112	580212	580312	590112	590212
Screened Interval (ft BGS):	SDWA	Quality	3.0 - 8.0	2.0 - 12.0	0.3 - 10.3	0.0 - 12.0	0.0 - 7.5
Collection Date:	MCLs	Standards	07-May-98	10-May-98	17-Sep-98	10-May-98	07-May-98
Units:	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
VOLATILE ORGANIC COMPOUNDS							
Benzene	5	71.28	2 U	5.7 =	2 U	12.1 =	2 U
Ethylbenzene	1000	200000	2 U	2 U	2 U	2 U	2 U
Toluene	700	28718	2 U	2 U	2 U	2 U	2 U
Xylenes, Total	10000		6 U	6 U	6 U	2.8 J	6 U
POLYNUCLEAR AROMATIC HYDROCARBONS							
2-Chloronaphthalene	-	-	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Acenaphthene	-	-	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Acenaphthylene	-	-	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Anthracene	-	110000	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Benzo(a)anthracene	-	0.0311	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Benzo(a)pyrene	0.2	0.0311	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Benzo(b)fluoranthene	-	-	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Benzo(g,h,i)perylene	-	-	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Benzo(k)fluoranthene	-	0.0311	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Chrysene	-	0.0311	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Dibenzo(a,h)anthracene	-	0.0311	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Fluoranthene	-	370	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Fluorene	-	14000	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Indeno(1,2,3-cd)pyrene	-	0.0311	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Naphthalene	-	-	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Phenanthrene	-	-	11.2 U	10.5 U	11.1 U	10.6 U	112 U
Pyrene	-	11000	11.2 U	10.5 U	11.1 U	10.6 U	112 U

NOTES:

May 1998 sampling was conducted prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Contract for the September 1998 sampling was issued prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Analytical data for QA/QC samples 580214 (duplicate), 580316 (equipment rinsate), 590216 (equipment rinsate), and 590314 (duplicate) are contained within this appendix, but are not summarized in this table.

Elevated PAH detection limits are a result of associated organic content such as TPH or other organic compounds. During extraction of the PAH compounds, all other organic compounds are extracted, causing a wide range of organic compounds to be present; thus, the target PAHs become small peaks in the chromatograph. As a result, the laboratory dilutes the concentrate, in turn elevating the detection limit.

[1] U.S. Environmental Protection Agency Safe Drinking Water Act Maximum Contaminant Level

[2] GA EPD water quality standards (Chapter 391-3-6.03)

Bold values exceed MCLs

Laboratory Qualifiers

U	Indicates the compound was not detected above the reported quantitation limit.
UJ	Indicates that the compound was not detected above an approximated sample quantitation limit.
J	Indicates the value for the compound is an estimated value.
=	Indicates the compound was detected at the concentration reported.

TABLE VIII-A. Summary of Groundwater Analytical Results (continued)

Station:		In Stream	59-03	59-04	59-04	59-04
Sample ID:	Federal	Water	590312	590412	590422	590432
Screened Interval (ft BGS):	SDWA	Quality	0.1 - 10.1	8.0 - 12.0	13.0 - 17.0	18.0 - 22.0
Collection Date:	MCLs	Standards	21-Sep-98	17-Sep-98	17-Sep-98	17-Sep-98
Units:	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
VOLATILE ORGANIC COMPOUNDS						
Benzene	5	71.28	2 U	2 U	2 U	2 U
Toluene	1000	200000	2 U	2 U	2 U	2 U
Ethylbenzene	700	28718	2 U	2 U	2 U	2 U
Xylenes, Total	10000		6 U	6 U	6 U	6 U
POLYNUCLEAR AROMATIC HYDROCARBONS						
2-Chloronaphthalene	-	-	10.4 U	10.6 U	42.6 U	42.1 U
Acenaphthene	-	-	10.4 U	10.6 U	42.6 U	42.1 U
Acenaphthylene	-	-	10.4 U	10.6 U	42.6 U	42.1 U
Anthracene	-	110000	10.4 U	10.6 U	42.6 U	42.1 U
Benzo(a)anthracene	-	0.0311	10.4 U	10.6 U	42.6 U	42.1 U
Benzo(a)pyrene	0.2	0.0311	10.4 U	10.6 U	42.6 U	42.1 U
Benzo(b)fluoranthene	-	-	10.4 U	10.6 U	42.6 U	42.1 U
Benzo(g,h,i)perylene	-	-	10.4 U	10.6 U	42.6 U	42.1 U
Benzo(k)fluoranthene	-	0.0311	10.4 U	10.6 U	42.6 U	42.1 U
Chrysene	-	0.0311	10.4 U	10.6 U	42.6 U	42.1 U
Dibenzo(a,h)anthracene	-	0.0311	10.4 U	10.6 U	42.6 U	42.1 U
Fluoranthene	-	370	10.4 U	10.6 U	42.6 U	42.1 U
Fluorene	-	14000	10.4 U	10.6 U	42.6 U	42.1 U
Indeno(1,2,3-cd)pyrene	-	0.0311	10.4 U	10.6 U	42.6 U	42.1 U
Naphthalene	-	-	10.4 U	10.6 U	42.6 U	42.1 U
Phenanthrene	-	-	10.4 U	10.6 U	42.6 U	42.1 U
Pyrene	-	11000	10.4 U	10.6 U	42.6 U	42.1 U

NOTES:

May 1998 sampling was conducted prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Contract for the September 1998 sampling was issued prior to the new CAP-Part A guidance that was published in May 1998, thus the new SW-846 analytical methods were not used during that sampling event.

Analytical data for QA/QC samples 580214 (duplicate), 580316 (equipment rinsate), 590216 (equipment rinsate), and 590314 (duplicate) are contained within this appendix, but are not summarized in this table.

Elevated PAH detection limits are a result of associated organic content such as TPH or other organic compounds. During extraction of the PAH compounds, all other organic compounds are extracted, causing a wide range of organic compounds to be present; thus, the target PAHs become small peaks in the chromatograph. As a result, the laboratory dilutes the concentrate, in turn elevating the detection limit.

[1] U.S. Environmental Protection Agency Safe Drinking Water Act Maximum Contaminant Level

[2] GA EPD water quality standards (Chapter 391-3-6.03)

Bold values exceed MCLs

Laboratory Qualifiers

U	Indicates the compound was not detected above the reported quantitation limit.
UJ	Indicates that the compound was not detected above an approximated sample quantitation limit.
J	Indicates the value for the compound is an estimated value.
=	Indicates the compound was detected at the concentration reported.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580112

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4001W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805260-10

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2I2026

Level: (low/med) LOW Date Received: 05/09/98

% Moisture: not dec. _____ Date Analyzed: 05/12/98

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	2.0	U	
100-41-4	Ethylbenzene	2.0	U	
1330-20-7	Xylenes (total)	6.0	U	

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580112

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4001W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805260-10

Sample wt/vol: 895.0 (g/mL) ML Lab File ID: 4T116

Level: (low/med) LOW Date Received: 05/08/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:05/10/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/11/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

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CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	11.2	U
91-58-7	2-chloronaphthalene	11.2	U
208-96-8	acenaphthylene	11.2	U
83-32-9	acenaphthene	11.2	U
86-73-7	fluorene	11.2	U
85-01-8	phenanthrene	11.2	U
120-12-7	anthracene	11.2	U
206-44-0	fluoranthene	11.2	U
129-00-0	pyrene	11.2	U
56-55-3	benzo(a)anthracene	11.2	U
218-01-9	chrysene	11.2	U
205-99-2	benzo(b)fluoranthene	11.2	U
207-08-9	benzo(k)fluoranthene	11.2	U
50-32-8	benzo(a)pyrene	11.2	U
193-39-5	indeno(1,2,3-cd)pyrene	11.2	U
53-70-3	dibenz(a,h)anthracene	11.2	U
191-24-2	benzo(g,h,i)perylene	11.2	U

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580212

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4013W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805307-03

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2J1010

Level: (low/med) LOW Date Received: 05/11/98

% Moisture: not dec. _____ Date Analyzed: 05/19/98

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	5.7	
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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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580212

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4011W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805303-15

Sample wt/vol: 950.0 (g/mL) ML Lab File ID: 4T421

Level: (low/med) LOW DATA VALIDATION COPY Date Received: 05/11/98

% Moisture: _____ decanted (Y/N) ___ Date Extracted: 05/12/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 05/15/98

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	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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VOLATILE ORGANICS ANALYSIS DATA SHEET

DUPLICATE
EPA SAMPLE NO.

580214

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4013W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805307-18

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2J1050

Level: (low/med) LOW Date Received: 05/11/98

% Moisture: not dec. _____ Date Analyzed: 05/20/98

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	5.1	
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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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

DUPLICATE

EPA SAMPLE NO.

580214

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4011W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805303-03

Sample wt/vol: 930.0 (g/mL) ML Lab File ID: 4T409

Level: (low/med) LOW Date Received: 05/11/98

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 05/12/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 05/14/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

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CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	10.8	U
91-58-7	2-chloronaphthalene	10.8	U
208-96-8	acenaphthylene	10.8	U
83-32-9	acenaphthene	10.8	U
86-73-7	fluorene	10.8	U
85-01-8	phenanthrene	10.8	U
120-12-7	anthracene	10.8	U
206-44-0	fluoranthene	10.8	U
129-00-0	pyrene	10.8	U
56-55-3	benzo(a)anthracene	10.8	U
218-01-9	chrysene	10.8	U
205-99-2	benzo(b)fluoranthene	10.8	U
207-08-9	benzo(k)fluoranthene	10.8	U
50-32-8	benzo(a)pyrene	10.8	U
193-39-5	indeno(1,2,3-cd)pyrene	10.8	U
53-70-3	dibenz(a,h)anthracene	10.8	U
191-24-2	benzo(g,h,i)perylene	10.8	U

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FORM I SV-1

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DATA VALIDATION COPY

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580312

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B05W

Matrix: (soil/water) WATER Lab Sample ID: 9809642-13

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2B2019

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: not dec. _____ Date Analyzed: 09/22/98

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

DATA VALIDATION COPY

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580312

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B01W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9809637-14

Sample wt/vol: 900.0 (g/mL) ML Lab File ID: 4N205

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:09/22/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 09/29/98

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	11.1	U
91-58-7	2-chloronaphthalene	11.1	U
209-96-8	acenaphthylene	11.1	U
83-32-9	acenaphthene	11.1	U
86-73-7	fluorene	11.1	U
85-01-8	phenanthrene	11.1	U
120-12-7	anthracene	11.1	U
206-44-0	fluoranthene	11.1	U
129-00-0	pyrene	11.1	U
56-55-3	benzo(a)anthracene	11.1	U
218-01-9	chrysene	11.1	U
205-99-2	benzo(b)fluoranthene	11.1	U
207-08-9	benzo(k)fluoranthene	11.1	U
50-32-8	benzo(a)pyrene	11.1	U
193-39-5	indeno(1,2,3-cd)pyrene	11.1	U
53-70-3	dibenz(a,h)anthracene	11.1	U
191-24-2	benzo(g,h,i)perylene	11.1	U

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RINSATE

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

580316

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B05W

Matrix: (soil/water) WATER Lab Sample ID: 9809642-20

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2B2027

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: not dec. _____ Date Analyzed: 09/23/98

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)	3.2	J	J

FORM I VOA

RINSATE

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

580316

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B02W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9809638-08

Sample wt/vol: 930.0 (g/mL) ML Lab File ID: 8M517

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:09/22/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 09/25/98

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	10.8	U
91-58-7	2-chloronaphthalene	10.8	U
208-96-8	acenaphthylene	10.8	U
83-32-9	acenaphthene	10.8	U
86-73-7	fluorene	10.8	U
85-01-8	phenanthrene	10.8	U
120-12-7	anthracene	10.8	U
206-44-0	fluoranthene	10.8	U
129-00-0	pyrene	10.8	U
56-55-3	benzo(a)anthracene	10.8	U
218-01-9	chrysene	10.8	U
205-99-2	benzo(b)fluoranthene	10.8	U
207-08-9	benzo(k)fluoranthene	10.8	U
50-32-8	benzo(a)pyrene	10.8	U
193-39-5	indeno(1,2,3-cd)pyrene	10.8	U
53-70-3	dibenz(a,h)anthracene	10.8	U
191-24-2	benzo(g,h,i)perylene	10.8	U

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590112

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4015W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805309-02

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2J303

Level: (low/med) LOW Date Received: 05/11/98

% Moisture: not dec. _____ Date Analyzed: 05/20/98

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	12.1		=
108-88-3	Toluene	2.0	U	U
100-41-4	Ethylbenzene	2.0	U	U
1330-20-7	Xylenes (total)	2.8	J	J

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590112

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4011W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805303-11

Sample wt/vol: 940.0 (g/mL) ML Lab File ID: 4T417

Level: (low/med) LOW Date Received: 05/11/98

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 05/12/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 05/15/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

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CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	10.6	U
91-58-7	2-chloronaphthalene	10.6	U
208-96-8	acenaphthylene	10.6	U
83-32-9	acenaphthene	10.6	U
86-73-7	fluorene	10.6	U
85-01-8	phenanthrene	10.6	U
120-12-7	anthracene	10.6	U
206-44-0	fluoranthene	10.6	U
129-00-0	pyrene	10.6	U
56-55-3	benzo(a)anthracene	10.6	U
218-01-9	chrysene	10.6	U
205-99-2	benzo(b)fluoranthene	10.6	U
207-08-9	benzo(k)fluoranthene	10.6	U
50-32-8	benzo(a)pyrene	10.6	U
193-39-5	indeno(1,2,3-cd)pyrene	10.6	U
53-70-3	dibenz(a,h)anthracene	10.6	U
191-24-2	benzo(g,h,i)perylene	10.6	U

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590212

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4001W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805260-11

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2I2027

Level: (low/med) LOW Date Received: 05/09/98

% Moisture: not dec. _____ Date Analyzed: 05/12/98

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	2.0	U	
100-41-4	Ethylbenzene	2.0	U	
1330-20-7	Xylenes (total)	6.0	U	

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590212

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4001W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805260-11

Sample wt/vol: 890.0 (g/mL) ML Lab File ID: 4T117

Level: (low/med) LOW Date Received: 05/08/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:05/10/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/11/98

Injection Volume: 1.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

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CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	112	U
91-58-7	2-chloronaphthalene	112	U
208-96-8	acenaphthylene	112	U
83-32-9	acenaphthene	112	U
86-73-7	fluorene	112	U
85-01-8	phenanthrene	112	U
120-12-7	anthracene	112	U
206-44-0	fluoranthene	112	U
129-00-0	pyrene	112	U
56-55-3	benzo(a)anthracene	112	U
218-01-9	chrysene	112	U
205-99-2	benzo(b)fluoranthene	112	U
207-08-9	benzo(k)fluoranthene	112	U
50-32-8	benzo(a)pyrene	112	U
193-39-5	indeno(1,2,3-cd)pyrene	112	U
53-70-3	dibenz(a,h)anthracene	112	U
191-24-2	benzo(g,h,i)perylene	112	U

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RINSATE

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590216

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4001W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805260-12

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2I2028

Level: (low/med) LOW Date Received: 05/09/98

% Moisture: not dec. _____ Date Analyzed: 05/13/98

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	2.0	U	
100-41-4	Ethylbenzene	2.0	U	
1330-20-7	Xylenes (total)	6.0	U	

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

RINSATE

EPA SAMPLE NO.

590216

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4001W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805260-12

Sample wt/vol: 915.0 (g/mL) ML Lab File ID: 4T118

Level: (low/med) LOW Date Received: 05/08/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:05/10/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/11/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH 7.0

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CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	10.9	U
91-58-7	2-chloronaphthalene	10.9	U
208-96-8	acenaphthylene	10.9	U
83-32-9	acenaphthene	10.9	U
86-73-7	fluorene	10.9	U
85-01-8	phenanthrene	10.9	U
120-12-7	anthracene	10.9	U
206-44-0	fluoranthene	10.9	U
129-00-0	pyrene	10.9	U
56-55-3	benzo(a)anthracene	10.9	U
218-01-9	chrysene	10.9	U
205-99-2	benzo(b)fluoranthene	10.9	U
207-08-9	benzo(k)fluoranthene	10.9	U
50-32-8	benzo(a)pyrene	10.9	U
193-39-5	indeno(1,2,3-cd)pyrene	10.9	U
53-70-3	dibenz(a,h)anthracene	10.9	U
191-24-2	benzo(g,h,i)perylene	10.9	U

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590312

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B08W

Matrix: (soil/water) WATER Lab Sample ID: 9809703-02

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2B4017

Level: (low/med) LOW Date Received: 09/22/98

% Moisture: not dec. _____ Date Analyzed: 09/24/98

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	2.0	U	
100-41-4	Ethylbenzene	2.0	U	
1330-20-7	Xylenes (total)	6.0	U	

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590312

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B08W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9809703-02

Sample wt/vol: 960.0 (g/mL) ML Lab File ID: 1N714

Level: (low/med) LOW Date Received: 09/22/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:09/23/98

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

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
209-96-8	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

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

DUPLICATE
EPA SAMPLE NO.

590314

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B08W

Matrix: (soil/water) WATER Lab Sample ID: 9809703-01

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2B4016

Level: (low/med) LOW Date Received: 09/22/98

% Moisture: not dec. _____ Date Analyzed: 09/24/98

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

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1B

DUPLICATE

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

590314

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B08W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9809703-01

Sample wt/vol: 950.0 (g/mL) ML Lab File ID: 1N713

Level: (low/med) LOW Date Received: 09/22/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:09/23/98

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

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
209-96-8	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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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590412

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B05W

Matrix: (soil/water) WATER Lab Sample ID: 9809642-11

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2B306

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: not dec. _____ Date Analyzed: 09/23/98

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

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590412

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B01W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9809637-11

Sample wt/vol: 940.0 (g/mL) ML Lab File ID: 4M418

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:09/22/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 09/25/98

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	10.6	U
91-58-7	2-chloronaphthalene	10.6	U
209-96-8	acenaphthylene	10.6	U
83-32-9	acenaphthene	10.6	U
86-73-7	fluorene	10.6	U
85-01-8	phenanthrene	10.6	U
120-12-7	anthracene	10.6	U
206-44-0	fluoranthene	10.6	U
129-00-0	pyrene	10.6	U
56-55-3	benzo(a)anthracene	10.6	U
218-01-9	chrysene	10.6	U
205-99-2	benzo(b)fluoranthene	10.6	U
207-08-9	benzo(k)fluoranthene	10.6	U
50-32-8	benzo(a)pyrene	10.6	U
193-39-5	indeno(1,2,3-cd)pyrene	10.6	U
53-70-3	dibenz(a,h)anthracene	10.6	U
191-24-2	benzo(g,h,i)perylene	10.6	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590422

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B05W

Matrix: (soil/water) WATER Lab Sample ID: 9809642-12

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2B2018

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: not dec. _____ Date Analyzed: 09/22/98

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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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590422

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B01W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9809637-16

Sample wt/vol: 940.0 (g/mL) ML Lab File ID: 4N207

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:09/22/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 09/29/98

Injection Volume: 1.0(uL) Dilution Factor: 4.0

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	42.6	U
91-58-7	2-chloronaphthalene	42.6	U
209-96-8	acenaphthylene	42.6	U
83-32-9	acenaphthene	42.6	U
86-73-7	fluorene	42.6	U
85-01-8	phenanthrene	42.6	U
120-12-7	anthracene	42.6	U
206-44-0	fluoranthene	42.6	U
129-00-0	pyrene	42.6	U
56-55-3	benzo(a)anthracene	42.6	U
218-01-9	chrysene	42.6	U
205-99-2	benzo(b)fluoranthene	42.6	U
207-08-9	benzo(k)fluoranthene	42.6	U
50-32-8	benzo(a)pyrene	42.6	U
193-39-5	indeno(1,2,3-cd)pyrene	42.6	U
53-70-3	dibenz(a,h)anthracene	42.6	U
191-24-2	benzo(g,h,i)perylene	42.6	U

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

590432

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B05W

Matrix: (soil/water) WATER Lab Sample ID: 9809642-10

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2B2016

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: not dec. _____ Date Analyzed: 09/22/98

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.

590432

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4B01W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9809637-13

Sample wt/vol: 950.0 (g/mL) ML Lab File ID: 4N204

Level: (low/med) LOW Date Received: 09/21/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:09/22/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 09/29/98

Injection Volume: 1.0(uL) Dilution Factor: 4.0

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	42.1	U
91-58-7	2-chloronaphthalene	42.1	U
209-96-8	acenaphthylene	42.1	U
83-32-9	acenaphthene	42.1	U
86-73-7	fluorene	42.1	U
85-01-8	phenanthrene	42.1	U
120-12-7	anthracene	42.1	U
206-44-0	fluoranthene	42.1	U
129-00-0	pyrene	42.1	U
56-55-3	benzo(a)anthracene	42.1	U
218-01-9	chrysene	42.1	U
205-99-2	benzo(b)fluoranthene	42.1	U
207-08-9	benzo(k)fluoranthene	42.1	U
50-32-8	benzo(a)pyrene	42.1	U
193-39-5	indeno(1,2,3-cd)pyrene	42.1	U
53-70-3	dibenz(a,h)anthracene	42.1	U
191-24-2	benzo(g,h,i)perylene	42.1	U

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CHAIN OF CUSTODY RECORD

COC NO.: GAB001

PROJECT NAME: Fort Stewart CAP Part A UST Investigation

PROJECT NUMBER: 01-0331-04-6481-200 (9805)

PROJECT MANAGER: Patty Stoll

Sampler (Signature) Laura Lumley (Printed Name) Laura Lumley

Sample ID	Date Collected	Time Collected	Matrix	VOC	SVOA, RCRA METALS	RCRA METALS	BTEX	PAH	TPH	BTEX, GRO	PAH, DRO	TOC	No. of Bottles/ Vials:
900412	5/7/96	1730	Water					2					2
900622	5/7/96	1520						2					2
580112	5/7/96	1600						2					2
590216	5/7/96	1450						2					2
590212	5/7/96	1445						2					2
210312	5/7/96	1115						2					2
210412	5/7/96	1300						1					1

REQUESTED PARAMETERS

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	5/8/96		
COMPANY NAME: SAIC	1100	COMPANY NAME:	
RECEIVED BY: Bob Lockhart	Date/Time 5/8/96	RELINQUISHED BY:	Date/Time
COMPANY NAME: OGC	1100	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 13

Cooler ID: # 473

Cooler Temperature: 4°C

FEDEX NUMBER:

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CHAIN OF CUSTODY RECORD

COC NO.: GAB0003

PROJECT NAME: Fort Stewart CAP Part A UST Investigation

PROJECT NUMBER: 01-0331-04-~~6481~~ 9805-200

PROJECT MANAGER: Patty Stoll

Sampler (Signature) Laura Lumley (Printed Name) Laura Lumley

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	VOC	SVOA, RCRA METALS	RCRA METALS	BTEX	PAH	TPH	BTEX, GRO	PAH, DRO	TOC	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
650214	5/7/98	1550	Water				2	2					4	
620112	5/7/98	1100					2						2	
650212	5/7/98	1550					2						2	
650112	5/7/98	1450					2						2	
620212	5/7/98	1230					2						2	
620116	5/7/98	1645					2						2	
910312	5/7/98	1115					2						2	
910412	5/7/98	1300					2						2	
910414	5/7/98	1300					2						2	
580112	5/7/98	1600					2						2	
590212	5/7/98	1445					2						2	
590216	5/7/98	1450					2						2	
900412	5/7/98	1730					2						2	

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS:	Cooler Temperature: 4°C
COMPANY NAME: SAIC	5/8/98 1100	COMPANY NAME:		Cooler ID: # 5446	FEDEX NUMBER:
RECEIVED BY:	Date/Time 5/8/98	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL	1100	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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CHAIN OF CUSTODY RECORD

COC NO.: GAB010

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation 9305

PROJECT NUMBER: 01-0331-04-9305-200

PROJECT MANAGER: Patty Stoll

Sampler (Signature) (Printed Name)

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	TOC	BTEX, GRO	PAH, DRO	PAH, DRO, Lead	PAH, TPH	PAH, TPH, Lead	PAH, TPH, Lead, TOC	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
730312	5/10/98	1445	water		1								1	
590112	5/10/98	1040			2								2	
600112	5/10/98	1555			2								2	
690312	5/9/98	1620			2								2	
730112	5/10/98	1135			2								2	
560212	5/10/98	1150			2								2	
730416	5/10/98	1430	↓		2								2	

5/11/98

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 13	Cooler Temperature: 4°C
Laura Dunlap	5/11/98				
COMPANY NAME: SAIC	1130	COMPANY NAME:		Cooler ID: #508	FEDEX NUMBER:
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL	5-11-98 1130	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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CHAIN OF CUSTODY RECORD

COC NO.: GA3818

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation 9805

PROJECT NUMBER: 01-0331-04-~~9305~~-200

PROJECT MANAGER: Patty Stoll

Sampler (Signature) [signature] (Printed Name) Laura Lumley

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	TOC	BTEX, GRO	PAH, DRO	PAH, DRO, Lead	PAH, TPH	PAH, TPH, Lead	PAH, TPH, Lead, TOC	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
600112	5/10/96	1555	water	2									2	(Unpreserved)
760514	5/6/96	1715		2									2	
590112	5/10/96	1040		2									2	
760412	5/6/96	1345		2									2	
760532	5/6/96	1845		2									2	
600212	5/10/96	1630		2									2	
760522	5/8/96	1745		2									2	
640912	5/9/96	1530		2									2	
640112	5/9/96	1445		2									2	
760312	5/6/96	1630		2									2	
600214	5/10/96	1620		2									2	
760812	5/9/96	1930		2									2	
761012	5/10/96	1445		2									2	

REQUESTED PARAMETERS

RELINQUISHED BY: [signature]	Date/Time 5/11/96 1130	RECEIVED BY:	Date/Time
COMPANY NAME: SAIC		COMPANY NAME:	
RECEIVED BY: [signature]	Date/Time 5/11/96 1130	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:

Cooler ID: #3888

Cooler Temperature: 4°C

FEDEX NUMBER:

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CHAIN OF CUSTODY RECORD

COC NO.: GAS 03

PROJECT NAME: ~~16 SWMUs Investigations~~ CAP-A Options

PROJECT NUMBER: 01-0331-04 ~~7928-200~~ 9605-210

PROJECT MANAGER: ~~Jeff Longaker~~ Patty Stoll

Sampler (Signature): Laura Lumley (Printed Name): Laura Lumley

Sample ID	Date Collected	Time Collected	Matrix	VOC	SVOC	TOTAL LEAD	FILTERED LEAD	RCRA METALS	PAH	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
590412	9/17/98	1530	water						2	2		9809637-11
~~620498~~												~~-12~~
620714	9/18/98	1610	water						2	2		-12
590432	9/17/98	1720							2	2		-13
590312	9/17/98	1345							2	2		-14
620712	9/18/98	1610							2	2		-15
590422	9/17/98	1620	↓						1	1		-16

9/21/98

REQUESTED PARAMETERS

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	9/21/98 1145	Frances	9/21/98 1545
COMPANY NAME: SAIC		COMPANY NAME: GEL	
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL	9/21/98 1145	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME: GEL	9/21/98 1545	COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 11

Cooler ID: #9, 3°C

Cooler Temperature: 4°C

FEDEX NUMBER:

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CHAIN OF CUSTODY RECORD

COC NO.: GAS09

PROJECT NAME: ~~16 SWMUs Investigations~~ CAP-A Options

PROJECT NUMBER: 01-0331-04-~~7328-200~~ 9405-210

PROJECT MANAGER: ~~Jeff Longaker~~ Patsy Stoll

Sampler (Signature) Laura Lumley (Printed Name) Laura Lumley

Sample ID	Date Collected	Time Collected	Matrix	VOC	SVOC	TOTAL LEAD	FILTERED LEAD	RCRA METALS	BTEX	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
630512	9/19/96	1615	water						2	2		9809642-02
630312	9/19/96	450							2	2		-03
630712	9/19/96	1230							2	2		-04
630722	9/19/96	1450							2	2		-05
620722	9/18/96	1640							2	2		-06
630714	9/19/96	1230							2	2		-07
650312	9/17/96	1000							2	2		-08
620732	9/18/96	1710							2	2		-09
590432	9/17/96	1720							2	2		-10
590412	9/17/96	1530							2	2		-11
590422	9/17/96	1620							2	2		-12
560312	9/17/96	1345							2	2		-13
650522	9/18/96	930							2	2		-14

REQUESTED PARAMETERS

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod Charleston, SC 29417

PHONE NO: (803) 556-8171

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	9/21/96 1145	Branco	9/21/96 1545
COMPANY NAME: SAIC		COMPANY NAME: GEL	
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL	9/21/96 1145	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME: GEL	9/21/96 1545	COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS:

Cooler ID: #406, 3°C

Cooler Temperature: 4°C

FEDEX NUMBER:

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CHAIN OF CUSTODY RECORD

COC NO.: GAB001

PROJECT NAME: Fort Stewart CAP Part A UST Investigation

PROJECT NUMBER: 01-0331-C4-~~6481~~-9805-200

PROJECT MANAGER: Patty Stoll

Sampler (Signature) (Printed Name) Laura Lumley

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	VOC	SVOA, RCRA METALS	RCRA METALS	BTEX	PAH	TPH	BTEX, GRO	PAH, DRO	TOC	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
900412	5/7/96	1730	water					2					2	
900822	5/7/96	1520						2					2	
580112	5/7/96	1600						2					2	
590216	5/7/96	1450						2					2	
590212	5/7/96	1445						2					2	
210312	5/7/96	1115						2					2	
210412	5/7/96	1300						1					1	

REQUESTED PARAMETERS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 13	Cooler Temperature: 4°C
Laura Lumley	5/8/96			Cooler ID: # 473	FEDEX NUMBER:
COMPANY NAME: SAIC	1100	COMPANY NAME:			
RECEIVED BY: Bob Hackett	Date/Time 5/8/96	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL	1100	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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CHAIN OF CUSTODY RECORD

COC NO.: GAB0003

PROJECT NAME: Fort Stewart CAP Part A UST Investigation

PROJECT NUMBER: 01-0331-04-~~6481~~ 9405-200

PROJECT MANAGER: Patty Stoll

Sampler (Signature): Laura Lumley (Printed Name): Laura Lumley

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	VOC	SVOA, RCRA METALS	RCRA METALS	BTEX	PAH	TPH	BTEX, GRO	PAH, DRO	TOC	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
650214	5/7/98	1550	water				2	2					4	
620112	5/7/98	1100					2						2	
650212	5/7/98	1550					2						2	
650112	5/7/98	1450					2						2	
620212	5/7/98	1230					2						2	
620116	5/7/98	1645					2						2	
910312	5/7/98	1115					2						2	
910412	5/7/98	1300					2						2	
910414	5/7/98	1300					2						2	
580112	5/7/98	1600					2						2	
590212	5/7/98	1445					2						2	
590216	5/7/98	1450					2						2	
900412	5/7/98	1730					2						2	

REQUESTED PARAMETERS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS:	Cooler Temperature: 4°C
COMPANY NAME: SAIC	5/8/98 1100	COMPANY NAME:		Cooler ID: # 5146	FEDEX NUMBER:
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL	5/8/98 1100	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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CHAIN OF CUSTODY RECORD

COC NO.: GAB004

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation 9605

PROJECT NUMBER: 01-0331-04-~~9305~~-200

PROJECT MANAGER: Patty Stoll

Sampler (Signature): Laura Lumley (Printed Name): Laura Lumley

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	TOC	BTEX, GRO	PAH, DRO	PAH, DRO, Lead	PAH, TPH	PAH, TPH, Lead	PAH, TPH, Lead, TOC	No. of Bottles/ Vials:
770412	5/8/98	1730	water		2								2
640212	5/9/98	1530			2								2
760532	5/8/98	1645			2								2
760522	5/8/98	1745			2								2
580214	5/10/98	1150			2								2
760712	5/9/98	1840			2								2
690112	5/9/98	1600			2								2

5/11/98

REQUESTED PARAMETERS

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod Charleston, SC 29417

PHONE NO: (803) 556-8171

OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	5/11/98		
COMPANY NAME: SAIC	1130	COMPANY NAME:	
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
	5-11-98		
COMPANY NAME: GEL	1130	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 13

Cooler Temperature: 4°C

Cooler ID: ~~4~~ 469

FEDEX NUMBER:

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CHAIN OF CUSTODY RECORD

COC NO.: GAB010

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation 9305
PROJECT NUMBER: 01-0331-04-9305-200
PROJECT MANAGER: Patty Stoll
Sampler (Signature) (Printed Name)

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	TOC	BTEX, GRO	PAH, DRO	PAH, DRO, Lead	PAH, TPH	PAH, TPH, Lead	PAH, TPH, Lead, TOC	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
730312	5/10/98	1445	water		1								1	
590112	5/10/98	1040			2								2	
600112	5/10/98	1555			2								2	
690312	5/9/98	1620			2								2	
730112	5/10/98	1135			2								2	
560212	5/10/98	1150			2								2	
730416	5/10/98	1430			2								2	

5/11/98

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 13	Cooler Temperature: 4°C
Laura Lundy	5/11/98			Cooler ID: #508	FEDEX NUMBER:
COMPANY NAME: SAIC	1130	COMPANY NAME:			
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL	5-11-98 1130	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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015

CHAIN OF CUSTODY RECORD

COC NO.: SAB012

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation 9605

PROJECT NUMBER: 01-0331-04-9305-200

PROJECT MANAGER: Patty Stoll

Sampler (Signature): Laura Lumley (Printed Name): Laura Lumley

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	TOC	BTEX, GRO	PAH, DRO	PAH, DRO, Lead	PAH, TPH	PAH, TPH, Lead	PAH, TPH, Lead, TOC	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
710416	5/10/96	1800	water	2									2	Unpreserved
780125	5/10/96	1900		2									2	
760125	5/10/96	1935					2						2	
710412	5/10/96	1605		2									2	
760112	5/10/96	1705		2									2	Unpreserved
700712	5/10/96	1200		2									2	
760712	5/10/96	1315		2									2	
730416	5/10/96	1430		2									2	
730312	5/10/96	1415		2									2	
730212	5/10/96	1525		2									2	
690912	5/10/96	1700		2									2	
760214	5/10/96	1130		2									2	
710412	5/10/96	945	↓	2									2	Unpreserved

REQUESTED PARAMETERS

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	5/11/96		
COMPANY NAME: SAIC	1130	COMPANY NAME:	
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL	5/11/96 1130	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS:

Cooler ID: # 388

Cooler Temperature: 4°C

FEDEX NUMBER:

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

2015

CHAIN OF CUSTODY RECORD

COC NO.: GAB018

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation

PROJECT NUMBER: 01-0331-04-~~9305~~ 9405-200

PROJECT MANAGER: Patty Stoll

Sampler (Signature) [signature] (Printed Name) Laura Lumley

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	TOC	BTEX, GRO	PAH, DRO	PAH, DRO, Lead	PAH, TPH	PAH, TPH, Lead	PAH, TPH, Lead, TOC	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
730112	5/10/98	1135	water	2									2	
[illegible]0112	5/[illegible]/98	1605		2									2	
360212	5/10/98	1150		2									2	Unpreserved
730412	5/10/98	1420		2									2	
760712	5/9/98	1640		2									2	Unpreserved
760612	5/9/98	1750		2									2	Unpreserved
630212	5/9/98	1250		2									2	
760212	5/8/98	1045		2									2	
770212	5/8/98	1740		2									2	
770412	5/8/98	1730		2									2	
750112	5/8/98	1400		2									2	
750212	5/8/98	1915		2									2	
750412	5/8/98	1640		2									2	

RELINQUISHED BY: [signature] Date/Time 5/11/98 1130
COMPANY NAME: SAIC

RECEIVED BY:
COMPANY NAME:
Date/Time

TOTAL NUMBER OF CONTAINERS:
Cooler ID: #388

Cooler Temperature: 4°C
FEDEX NUMBER:

RECEIVED BY: [signature] Date/Time 5/11/98 1130
COMPANY NAME: GEL

RELINQUISHED BY:
COMPANY NAME:
Date/Time

RELINQUISHED BY:
COMPANY NAME:
Date/Time

RECEIVED BY:
COMPANY NAME:
Date/Time

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.: GAS 03

PROJECT NAME: ~~16 SWMUs Investigations~~ CAP-A Options

PROJECT NUMBER: 01-0331-04 ~~7326-200~~ 9605-210

PROJECT MANAGER: ~~Jeff Longaker~~ Patty Stoll

Sampler (Signature): Laura Lumley (Printed Name): Laura Lumley

Sample ID	Date Collected	Time Collected	Matrix	VOC	SVOC	TOTAL LEAD	FILTERED LEAD	RCRA METALS	PAH	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
590412	9/17/98	1530	water						2	2		9809637-11
~~620498~~												~~-12~~
620714	9/18/98	1610	water						2	2		-12
590432	9/17/98	1720							2	2		-13
580312	9/17/98	1345							2	2		-14
620712	9/18/98	1610							2	2		-15
590422	9/17/98	1620							1	1		-16

35453

REQUESTED PARAMETERS

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	9/21/98	Dfrances	9/21/98
COMPANY NAME: SAIC	1145	COMPANY NAME: GEL	1545
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL	9/21/98 1145	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME: GEL	9/21/98 1545	COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 11

Cooler ID: #9, 3°C

Cooler Temperature: 4°C

FEDEX NUMBER:

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.: GAS 46

PROJECT NAME: ~~16 SWMUs Investigations~~ CAP-A Option

PROJECT NUMBER: 01-0331-04 ~~7328-200~~ 9805-210

PROJECT MANAGER: ~~Jeff Longaker~~ Patty Stoll

Sampler (Signature) Laura Lumley (Printed Name) Laura Lumley

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	VOC	SVOC	TOTAL LEAD	FILTERED LEAD	RCRA METALS	PAH	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
600616	9/18/98	1253	water						Z	2		9809638-07
560316	9/17/98	1335	↓						Z	2		-08
630714	9/19/98	1230							Z	2		-09
950112	9/17/98	1445							Z	2		-10
620616	9/20/98	910							Z	2		-11
630412	9/19/98	1635	↓						1	1		-12

35795

9/21/98

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	9/21/98 1145		9/21/98 1545
COMPANY NAME: SAIC		COMPANY NAME: GEL	
RECEIVED BY: Bob Locklear	9/21/98 1145	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL		COMPANY NAME:	
RELINQUISHED BY: Bob Locklear	9/21/98 1545	RECEIVED BY:	Date/Time
COMPANY NAME: GEL		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 11

Cooler ID: #2, 4°C

Cooler Temperature: 4°C

FEDEX NUMBER:

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.: GAS09

PROJECT NAME: ~~16 SWMUs Investigations~~ CAP-A Options

PROJECT NUMBER: 01-0331-04-~~7328-280~~ 9605-210

PROJECT MANAGER: ~~Jeff Longaker~~ Bobby Stell

Sampler (Signature) Laura Lumley (Printed Name) Laura Lumley

Sample ID	Date Collected	Time Collected	Matrix	VOC	SVOC	TOTAL LEAD	FILTERED LEAD	RCRA METALS	BTEX	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
630512	9/19/96	1915	water						Z	Z		9809642-02
630312	9/19/96	950							Z	Z		-03
630712	9/19/96	1230							Z	Z		-04
630722	9/19/96	1450							Z	Z		-05
620722	9/16/96	1640							Z	Z		-06
630714	9/19/96	1230							Z	Z		-07
650312	9/17/96	1000							Z	Z		-08
620732	9/16/96	1710							Z	Z		-09
590432	9/17/96	1720							Z	Z		-10
590412	9/17/96	1530							Z	Z		-11
590422	9/17/96	1620							Z	Z		-12
560312	9/17/96	1345							Z	Z		-13
650522	9/16/96	930							Z	Z		-14

REQUESTED PARAMETERS

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod Charleston, SC 29417

PHONE NO: (803) 556-8171

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	9/21/96 1145	B Franco	9/21/96 1545
COMPANY NAME: SAIC		COMPANY NAME: GEL	
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL	9/21/96 1145	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME: GEL	9/21/96 1545	COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS:

Cooler ID: #406, 3°C

Cooler Temperature: 4°C

FEDEX NUMBER:

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

3 of 5

CHAIN OF CUSTODY RECORD

COC NO.: GAS09

PROJECT NAME: ~~16 SWMUs Investigations~~ CAP-A Options

PROJECT NUMBER: 01-0331-04-~~7329-200~~ 9405-210

PROJECT MANAGER: ~~Jeff Longaker~~ Patty Stoll

Sampler (Signature): Laura Lumley (Printed Name): Laura Lumley

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	VOC	SVOC	TOTAL LEAD	FILTERED LEAD	RCRA METALS	BTEX	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
950112	9/17/98	1445	Water Soil						2	2		9809642-15
620714	9/16/98	1610							2	2		-16
650412	9/17/98	1045							2	2		-17
650325	9/17/98	920							2	2		-18
620712	9/16/98	1610							2	2		-19
560316	9/17/98	1335							2	2		-20
600616	9/16/98	1255							2	2		9809645-01
600415	9/16/98	1040							2	2		-02
600412	9/16/98	1115							2	2		-03
650512	9/16/98	900							2	2		-04
620512	9/16/98	1535							2	2		-05
620742	9/16/98	1745							2	2		-06
600512	9/16/98	1215							2	2		-07

REQUESTED PARAMETERS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS:	Cooler Temperature: 4°C
Laura Lumley	9/21/98	Francis	9/21/98		
COMPANY NAME: SAIC	1145	COMPANY NAME: GEL	1545	Cooler ID: #406, 3°	FEDEX NUMBER:
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL	9/21/98 1145	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME: GEL	9/21/98 1545	COMPANY NAME:			

APPENDIX IX

CONTAMINATED SOIL DISPOSAL MANIFESTS

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All contaminated soil removed during the entire project (i.e., all USTs removed under contract with ACE, 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 Closure Report was not submitted to GA EPD in 1996 because review of the closure analytical data indicated that a CAP-Part A would re required (i.e., per requirements of GUST-9, Item 15, page 12, dated August 1995). However, all pertinent information (i.e., copies of analytical data, manifests, and maps) are provided in this CAP-Part A Report. Disposal manifests for the UST 242 site were submitted to GA EPD, USTMP in September 1998 with the UST 207A (Facility ID#9-089039) Closure Report response to comments correspondence (Perez 1998). Approximately 22.33 tons of contaminated soil was excavated from the UST 242 tank pit. No contaminated soil was removed from the UST 244 tank pit.

I certify that the above information is true and accurate.

Name: Thomas C. Fry

Title: Acting Chief, ENRD

Signature: Thomas C. Fry

Date: 09/07/99

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Mel.

DEPARTMENT OF THE ARMY
HEADQUARTERS, 3D INFANTRY DIVISION (MECHANIZED) AND FORT STEWART
Directorate of Public Works
1557 Frank Cochran Drive
Fort Stewart, Georgia 31314-4928

REPLY TO
ATTENTION OF

SEP 15 1998

Directorate of Public Works

CERTIFIED MAIL
Z-098-024-167

Georgia Department of Natural Resources
Environmental Protection Division
Underground Storage Tank Management Program
Attention: Mr. William Logan, Environmental Specialist
4244 International Parkway, Suite 104
Atlanta, Georgia 30354

Dear Mr. Logan:

Fort Stewart is pleased to receive the Georgia Environmental Protection Division's correspondence dated August 14, 1998, in reference to the Closure Report submitted for Fort Stewart's former Underground Storage Tank (UST) #207A, Building 230, Facility Identification Number 9089039. As requested in that correspondence, the April 3, 1998 Closure Report Addendum should be amended to include the enclosed manifests for Anderson Columbia Environmental Delivery Order 101, which are provided for your use and convenience. These manifests include additional UST sites (as shown on the attached list). A total of 45 USTs were removed under this delivery order. In addition, this delivery order removed dispensing islands (note included on the provided list) from another 22 sites, for a total of 67 sites as noted in the Closure Report Addendum.

If you have any questions or comments, please contact Ms. Melanie Little or Ms. Tressa Rutland, Directorate of Public Works, Environmental Branch, at (405) 364-8461 or (912) 767-7919, respectively.

Sincerely,

Dale F. Kiefer
for Ovidio E. Perez
Colonel, U.S. Army
Director, Public Works

Enclosure

FORT STEWART UST Removal List for FY 1996

Anderson Columbia Delivery Order #101

TANK #	LOCATION	SIZE	FACILITY ID #
2	Bldg 1840: Diesel	25,000	9-089065
3	Bldg 1850: Mogas	5,000	9-089065
4	Bldg 1840: Waste Oil	2,500	9-089065
4A	Bldg 1840: Waste Oil	1,000	9-089065
5	Bldg 1824: Mogas	6,000	9-089066
6	Bldg 1824: Diesel	25,000	9-089066
22	Bldg 1720: Waste Oil	2,000	9-089011
24	Bldg 1720: Waste Oil	2,000	9-089011
28B	Bldg 1720: Waste Oil	2,000	9-089011
38	Bldg 1510/13: Waste Oil	1,000	9-089109
41	Bldg 1542: Waste Oil	1,000	9-089145
45	Bldg 1172: Waste Oil	500	9-089054
56	Bldg 1056: Waste Oil	2,000	9-089116
65	Bldg 927: Mogas	10,000	9-089091
66	Bldg 967: Diesel	10,000	9-089091
71	Bldg 1203: Waste Oil	1,000	9-089022
71A	Bldg 1260: Waste Oil	1,000	9-089023
74	Bldg 1280: Waste Oil	2,500	9-089072
79	Bldg 1224: Waste Oil	1,000	9-089026
87	Bldg 1245: Diesel	5,000	9-089073
88	Bldg 1245: Diesel	5,000	9-089073
93	Bldg 1330: Waste Oil	2,500	9-089112
94	Bldg 1320/23: Waste Oil	1,000	9-089076
94B	Bldg 1339: Waste Oil	1,000	9-089110
94C	Bldg 1339A: Waste Oil	1,000	9-089110
100A	Bldg 1349: Waste Oil	1,000	9-089080
100B	Bldg 1350: Waste Oil	1,000	9-089081
201A	Bldg 260: Waste Oil	1,000	9-089043
201B	Bldg 260: Waste Oil	1,000	9-089043
207	Bldg 232: Waste Oil	500	9-089038
207A	Bldg 230: Waste Oil	2,500	9-089039
214	Bldg 1503: Waste Oil	550	9-089015
215	Bldg 1503: Waste Oil	500	9-089015
216	Bldg 4502: Waste Oil	1,000	9-089060
224	Bldg 4528: Waste Oil	1,000	9-089063
225	Bldg 4529: Waste Oil	1,000	9-089090
238	Bldg 4586: Waste Oil	1,000	9-089044
241	Bldg 241: Waste Oil	2,000	9-089041
242	Bldg 241: Waste Oil	1,000	9-089041
243	Bldg 241: Waste Oil	1,000	9-089041
244	Bldg 241: Waste Oil	1,000	9-089041
261	Bldg 430 (AAFES):Waste Oil	500	9-089118
115	Bldg 15003 Em. Gen: Diesel	250	9-054005
118	Bldg 1239 Em. Gen: Diesel	1,000	9-089070
123	Bldg 933 Em. Gen: Diesel	1,000	9-089092

UST 242

242

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. — Customer

PCS soil — Description

KRR 104 — Project Number

Ft. Stewart — Location

Liberty — County

44,660 Net
20080 lb ~~Net~~ Tare
00 lb Tare
20080 lb+ Gross
11:23 AM AU 12 96

64740 lb Net
00 lb Tare
64740 lb+ Gross
11:18 AM AU 12 96

Signature of Weigher

TONS: 22.37 TOTAL TONS: 85.83

Hendrix — TRUCKER

44 — TRUCK NO.

DRIVER

TICKET NO. 58821

VIP-1518-HV

UST 242

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 0025

1. Page 1 of 1

2. Generator's Name and Mailing Address
Ft. Stewart
Hinesville, GA 31313

3. Generator's Phone (912) 234-6579

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 Constr Co.
Rt. 84
Ludowici, GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-6758
C. Facility's Phone 912-756-3655

GENERATOR

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

8101

Tank # 242

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
Tom C. Fry	Tom C. Fry	08	06	96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Raymond G. Baca	Raymond G. Baca	08	12	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	Signature	Month	Day	Year
Charles Pruitt	Charles Pruitt	8	12	96

ORIGINAL – RETURN TO GENERATOR

APPENDIX X

SITE RANKING FORM

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SITE RANKING FORM

Facility Name: USTs 242 & 244, Building 241 **Ranked by:** S. Stoller

County: Liberty **Facility ID #:** 9-089041 **Date Ranked:** 6/30/99

SOIL CONTAMINATION (based on soil closure data)

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

* Elevated detection limit associated with 1 closure sample.

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. 0) + (B. 10) = (10) x (C. 10) = (D. 100)

GROUNDWATER CONTAMINATION (based on CAP-Part A groundwater data)

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. 0) + (F. 5) = (G. 5)

Facility Name: USTs 242 & 244, Building 241 **County:** Liberty **Facility ID #:** 9-089041

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.

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

* For justification that withdrawal point is not hydraulically connected, see attached text.

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. 5) x (L. 50) = M. 250

(M. 250) + (D. 100) = N. 350

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. 350) x (P. 1) = (350) + (Q. 0)**

= 350 (based on closure soil detection limits and CAP-Part A groundwater data)
ENVIRONMENTAL SENSITIVITY SCORE

ADDITIONAL GEOLOGIC AND HYDROLOGIC DATA

The following information is presented to provide supplemental information to Section II.D.5 of the CAP-Part A form and Item H of the Site Ranking Form and provides detailed information relating to the geologic and hydrogeologic conditions at Fort Stewart which supports Fort Stewart's determination that the water withdrawal point(s) located at Fort Stewart is (are) not hydraulically connected to the surficial aquifer.

1.0 REGIONAL AND LOCAL GEOLOGY

Fort Stewart is located within the coastal plain physiographic province. This province is typified by nine southeastward dipping strata that increase in thickness from 0 feet at the fall line located approximately 150 miles inland from the Atlantic coast, to approximately 4,200 feet at the coast. State geologic records describe a probable petroleum exploration well (the No. 1 Jelks-Rogers) located in the region as encountering crystalline basement rocks at a depth of 4254 feet BGS. This well provides the most complete record for Cretaceous, Tertiary, and Quaternary sedimentary strata in the region.

The Cretaceous section was found to be approximately 1970 feet thick and dominated by clastics. The Tertiary section was found to be approximately 2170 feet thick and dominated by limestone with a 175-foot-thick cap of dark green phosphatic clay. This clay is regionally extensive and is known as the Hawthorn Group. The interval from approximately 110 feet to the surface is Quaternary in age and composed primarily of sand with interbeds of clay or silt. This section is undifferentiated into separate formations (Herrick and Vochis 1963).

State geologic records contain information regarding a well drilled in October 1942, 1.8 miles north of Flemington at Liberty Field of Camp Stewart (now known as Fort Stewart). This well is believed to be an artesian well located approximately one-quarter mile north of the runway at Wright Army Airfield within the Fort Stewart Military Reservation. The log for this well describes a 410-foot section, the lowermost 110 feet of which consisted predominantly of limestone sediments, above which 245 feet of dark green phosphatic clay typical of the Hawthorn Group was encountered. The uppermost portion of the section was found to be Quaternary-age interbedded sands and clays. The top 15 feet of these sediments were described as sandy clay (Herrick and Vochis 1963).

The surface soil located throughout the Fort Stewart garrison area consists of Stilson loamy sand. The surface layer of this soil is typically dark grayish-brown loamy sand measuring approximately 6 inches in depth. The surface layer is underlain by material consisting of pale yellow loamy sand and extends to a depth of approximately 29 inches. The subsoil is dominantly sandy clay loam and extends to a depth of 72 inches or more (Herrick and Vochis 1963).

2.0 REGIONAL AND LOCAL HYDROGEOLOGY

The hydrogeology in the vicinity of Fort Stewart is dominated by two aquifers referred to as the Principal Artesian and the surficial aquifers. The Principal Artesian 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 is composed primarily of Tertiary-age limestone, including the

Bug Island Formation, the Ocala Group, and the Suwannee Limestone. These formations are approximately 800 feet thick, and groundwater from this aquifer is used primarily for drinking water (Arora 1984).

The uppermost hydrologic unit is the surficial aquifer, which consists of widely varying amounts of sand and clay ranging from 55 to 150 feet in thickness. This aquifer is primarily used for domestic lawn and agricultural irrigation. The top of the water table ranges from approximately 2 to 10 feet BGS (Geraghty and Miller 1993). The base of the aquifer corresponds to the top of the underlying dense clay of the Hawthorn Group. The Hawthorn Group was not encountered during drilling at this site but is believed to be located at 40 to 50 feet BGS; thus, the effective aquifer thickness would be approximately 35 to 45 feet. Soil surveys for Liberty and Long Counties describe the occurrence of a perched water table within the Stilson loamy sands present within Fort Stewart (Looper 1980).

The confining layer for the Principal Artesian aquifer is the phosphatic clay of the Hawthorn Group and ranges in thickness from 15 to 90 feet. The vertical hydraulic conductivity of this confining unit is on the order of 10^{-8} cm/sec. There are minor occurrences of aquifer material within the Hawthorn Group; however, they have limited utilization (Miller 1990). The Hawthorn Group has been divided into three formations: Coosawhatchie Formation, Markshead Formation, and the Parachula Formation, which are listed from youngest to oldest.

The Coosawhatchie Formation is composed predominantly of clay but also has sandy clay, argillaceous sand, and phosphorite units. The formation is approximately 170 feet thick in the Savannah Georgia area. This unit disconformably overlies the Markshead Formation and is distinguished from the underlying unit by dark phosphatic clays or phosphorite in the lower part and fine-grained sand in the upper part.

The Markshead Formation is approximately 70 feet thick in the Savannah Georgia area and consists of light- colored phosphatic, slightly dolomitic, argillaceous sand to fine-grained sandy clay with scattered beds of dolostone and limestone.

The Parachula Formation consists of sand, clay, limestone, and dolomite, and is approximately 10 feet thick in the Savannah Georgia area. The Parachula Formation generally overlies the Suwannee Limestone in Georgia.

Groundwater encountered at all the UST 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 the Surficial Aquifer (and associated groundwater plumes, if applicable) located beneath former UST sites and identified water supply withdrawal points at Fort Stewart.

APPENDIX XI

COPIES OF PUBLIC NOTIFICATION LETTERS AND CERTIFIED RECEIPTS OF NEWSPAPER NOTICE

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STATE OF GEORGIA
CHATHAM COUNTY

Affidavit of Publication
___Savannah Morning News
___Savannah Evening Press

Personnally appeared before me, Lynnette Tuck, to me known, who being sworn, deposes and says:

That he is the Class. Inside Sales Mgr. 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 6-27, 1999, 7-4, 1999, _____, 1999, _____, 1999, 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, Ga.

The Georgia EPD (GEPD) has required Fort Stewart Directorate of Public Works to prepare a Corrective Action Plans Part-A to investigate and/or clean up contamination at the underground storage tank sites listed at the end of this notification. These plans will be submitted to the GEPD on or before September 30, 1999. If you want to examine a copy of one or more of the plans, please contact Commander, 3rd Infantry Division (Mechanized) and Fort Stewart, attn: DPW ENRD ENV. Br. (T. Rutland), 1557 Frank Cochran, Fort Stewart, Ga. 31314-4928

A copy will be mailed at a nominal fee.

Comments to the plan will be accepted until October 31, 1999, and should be directed to GEPD at 404-362-2687. Following is the mailing address:

GEPD USTMP, 4244 International Parkway, Suite 104, Atlanta, Ga. 30354

Fort Stewart CAP - Part A and Part B Underground Storage Tank Sites

UST; Building; Facility ID#
2 & 3, 1840, 0-089065
5 & 6, 1824, 0-089066
28B, 1720, 9-089011
36 & 37m 1510, 9-089016
38, 1510/13, 9-089109
63 & 64, 1128, 9-089051
71, 1203, 9-089022
79, 1224, 9-089026
87 & 88, 1245, 9-089073
100B, 1350, 9-089081
122, 2705, 9-089083
123, 933, 9-089092
214, 1503, 9-089015
225, 4529, 9-089090
242 & 244, 241, 9-089041
248 & 249, 15016, 9-054006
4 & 5 NGTC, 9395, 0-890028
6 & 7 NGTC, 9795, 0-890028

appeared in each of said editions.

Lynnette Tuck
(Deponent)

Sworn to and subscribed before me this 7 day of July, 1999.

Zillie D. Jay
Notary Public, Chatham County, Georgia

Form 121 rev.

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APPENDIX XII

GUST TRUST FUND REIMBURSEMENT APPLICATION AND CLAIM FOR REIMBURSEMENT

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Fort Stewart is a federally owned facility and has funded the investigation for USTs 242 & 244, Building 241, Facility ID #9-089041, using Department of Defense 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 is to provide the engineering services required to produce Corrective Action Plans (CAPs) for the subject UST sites. These reports will conform to the site closure requirements of a CAP-Part A for sites in Georgia. The field investigations necessary to support the report preparation included the installation of temporary piezometers, soil borings, and associated sampling of soil and groundwater. Upon completion of the field investigations, a CAP-Part A will be prepared to meet GA EPD, Fort Stewart, and the USACE-Savannah requirements.

2.0 FIELD ACTIVITIES

The following sections detail the methodologies used for geoprobe drilling, sampling, and piezometer installation. A geologist from SAIC was on site at all times during operations. No drilling activities were undertaken until all utility clearances and permits had been obtained from Fort Stewart's utility personnel.

2.1 Subsurface Soil Sampling

2.1.1 Geoprobe Drilling

The geoprobe method was used during the project for collecting soil samples. During all geoprobe drilling, soil samples were collected continuously on 4.0-foot centers from the ground surface to the bottom of the borehole. The total depth of each borehole was dictated by the depth where the water table was encountered.

2.1.2 Sample Collection

Soil samples for chemical analyses were collected from boreholes using 4.0-foot macro-core samplers. Upon retrieval of the sampling device, the 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.

During the May and June 1998 sampling events, samples designated for possible laboratory analysis were collected from the section using a stainless steel spoon. The spoon was run lengthwise down the core to collect a sample representative of the entire core section. 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 in the containers. 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 part per million.

Due to a change in the state regulations governing sample analysis, the collection of samples designated for volatile organic analyses was modified beginning with the November 1998 field effort. Soil samples designated for volatile organic analyses were collected using En Core™ samplers. The samplers were locked into an En Core T-Handle. Using the T-Handle, the sampler was pushed into the soil until the coring body of the sampler was full. Once the samplers were filled, caps were locked onto them insuring that no

headspace was present. The samplers were then removed from the handle and placed in an En Core zipper bag. Three encore samples are collected from each section 2.0-foot section.

Immediately after 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 split-barrel sampling device was used to collect soil core from each interval of the project boreholes. Information regarding the criteria for selection of soil samples for off-site shipment to a laboratory for chemical analysis is presented in Section 3.1.3 of the project Work Plan. Soil samples, which were not selected for laboratory analysis, were disposed of as investigation-derived waste (IDW).

2.2 Groundwater Sampling

2.2.1 Groundwater Collection

Groundwater samples from geoprobe boreholes installed during Preliminary Groundwater and CAP-Part A investigations were collected using a geoprobe sampler or from temporary piezometers. The geoprobe sampler is a probe that allows the collection of a groundwater sample from a discrete undisturbed depth interval in a soil boring. Temporary piezometers were constructed of 1.0-inch inside diameter (ID) polyvinyl chloride (PVC) casing with a 5-foot or 10-foot screened interval. These piezometers were installed in the open borehole following completion of all drilling activities.

Each soil borehole was advanced to the top of the water table using direct push methods. For each borehole, the geoprobe sampler was lowered to the bottom of the borehole and driven through the undisturbed soil to a depth of approximately 3.0 feet below the water table. The outer casing of the geoprobe sampler was retracted to expose the screen and allow groundwater to enter the chamber. In cases where the geoprobe sampler could not be driven or where groundwater recovery through the geoprobe sampler was poor, the groundwater sample was collected through the temporary piezometer.

Groundwater samples were collected using a peristaltic pump or a 0.75-inch diameter stainless steel bailer. The portion of the sample designated for volatile organic analysis was poured into laboratory sample containers first, followed by pouring the remaining sample portion into containers designated for other types of chemical analyses. Sample containers designated for volatile organic analysis were filled so that no headspace was present in the containers.

2.2.2 Field Measurements

Groundwater field measurements performed during the project included measurement of static groundwater level, pH, specific conductance, and temperature. Measurement of groundwater levels in soil boreholes was accomplished through the installation of temporary PVC piezometers. A summary of the procedures and criteria to be used for groundwater sample 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 noted by the alarm and/or indicator 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 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). If this was the case, then the first measured level was recorded as the depth to groundwater. If this was not the case, the procedure was repeated until consistent readings were obtained from three consecutive measurements.

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 combination meter designed to measure these parameters. A portion of each groundwater sample was retrieved from the PowerPunch 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. The pH measurement procedure was repeated, using a new sample each time, until the pH measurements were consistent (less than 0.2 pH units variation).

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 within the sample 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 mmhos/cm and the temperature to the nearest 0.1° C. All recorded conductivity values were converted to conductance at 25° C. The conductivity and temperature measurement procedure was repeated a minimum of three times using a new sample each time, until the measurements were consistent (less than 10 percent variation for conductance and less than 0.5° C variation for temperatures).

2.3 Temporary Piezometer Installation

Following the collection of the groundwater sample, a 1.0-inch PVC piezometer, with a 5-foot or 10-foot screened section, was installed in the borehole to prevent the borehole from collapsing. These piezometers remained in the boreholes approximately 24 hours, after which time the static water level was measured. During field activities in November 1998 or later, the temporary piezometers were screened from ground surface to the bottom of the borehole.

2.4 Borehole Abandonment

Once the static water level was measured, the temporary piezometers were removed and the boreholes were abandoned. Abandonment was conducted in a manner precluding 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 grout.

2.5 Surveying

A topographic survey of the horizontal and vertical locations of all soil boreholes was conducted after completion of all 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 0.1 foot. Elevations were referenced to the National Geodetic Vertical Datum of 1983.

2.6 Decontamination Procedures

2.6.1 Geoprobe Equipment

Decontamination of equipment used for drilling boreholes was conducted within the temporary decontamination pad constructed at the central staging area. The decontamination pad was constructed so that all decontamination liquids were contained from the surrounding environment and were recovered for disposal as IDW. The entire geoprobe vehicle and equipment were decontaminated once they arrived on site and the geoprobe sampling equipment was decontaminated after completion of each soil borehole. The equipment was decontaminated by removing the caked soil material from the exterior of equipment using a rod and/or brush, steam cleaning the interior and exterior of equipment, allowing the equipment to air dry as long as possible, and wrapping or covering the equipment in plastic.

2.6.2 Sampling Equipment

Decontamination of equipment used for soil sampling and collection of groundwater samples was conducted at the temporary decontamination area. Nondedicated equipment was decontaminated after each use. The sampling equipment was washed with potable water and phosphate-free detergent using various types of brushes required to remove particulate matter and surface films, followed by a potable water rinse, American Society for Testing and Materials (ASTM) Type I or equivalent water rinse, isopropyl alcohol rinse, ASTM Type I or equivalent water rinse, allowed to air dry, and 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 come into contact with potentially contaminated 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 Documentation of field activities

All information pertinent to 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, any problems encountered, and all field measurements.

Sufficient information was recorded in the logbooks to permit reconstruction of all sampling activities. For a detailed description of all field documentation, see section 4.5 of Attachment IV of the Work Plan.

3.0 SAMPLE HANDLING AND ANALYSIS

3.1 Analytical Program

Soil samples were screened for the presence of volatile vapors using a MiniRae organic vapor analyzer (PID). The MiniRae was calibrated daily using 100 parts per million (ppm) isobutylene. The headspace of each sample was measured approximately 15 minutes after collection.

For sites where the UST had contained waste oil, soil samples were analyzed for BTEX by method SW846-8020, PAH by method SW846-8270, TPH by method SW846-9073, and lead by method SW846-6010/7000, during the May and June 1998 field effort. Beginning in November 1998, BTEX was analyzed using method SW846-5035/8260B, while the analyses for the other contaminants remained the same. Groundwater samples were analyzed for BTEX by method SW846-8260 and PAH by method SW 846-8270. All samples were sent to General Engineering Laboratories, Charleston, South Carolina.

For sites where the UST had contained gasoline or diesel, soil samples were analyzed for BTEX by method SW846-8020, PAH by method SW846-8270, TPH by method SW846-8015 (modified), and lead by method SW846-6010/7000. Groundwater samples were analyzed for BTEX by method SW846-8260 and PAH by method SW 846-8270. TPH analysis included both gasoline range organics (GRO) and diesel range organics (DRO). Beginning in November 1998, soil samples were analyzed for BTEX using method SW846-5035/8260B. All samples were sent to General Engineering Laboratories, 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 were collected to determine whether the sampling equipment was causing cross-contamination of the samples and represented approximately 5 percent of the total sample population. Duplicates and rinsates were submitted to General Engineering Laboratories, Charleston, South Carolina.

3.2 Sample Containers, Preservation, and Holding Times

The soil sample containers, preservatives, and holding times are summarized in Table A-1. The groundwater sample containers, preservatives, and holding times are summarized in Table A-2.

3.3 Sampling Packaging and Shipment

Each sample container was labeled, 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.

Table A-1. Summary of Sample Containers, Preservation Techniques, and Holding Times for Soil Samples Collected During the Site Investigation

Analyte Group	Container	Minimum Sample Size	Preservative	Holding Time
BTEX/TPH-GRO	1 – 4 oz jar with Teflon®-lined cap (no headspace)	20 g	Cool, 4°C	14 d
BTEX (beginning 11/98)	3 – En Core™ Samplers	15 g	Cool, 0°C	48 hrs
TPH-GRO (beginning 11/98)	1 – 4 oz jar with Teflon®-lined cap (no headspace)	20 g	Cool, 4°C	14 d
PAHs	1 – 8 oz jar with Teflon®-lined cap	90 g	Cool, 4°C	14 d (extraction) 40 d (analysis)
TPH-DRO	use same container as PAHs	90 g	Cool, 4°C	14 d (extraction) 40 d (analysis)
TPH	use same container as PAHs	90 g	Cool, 4°C	14 d (extraction) 40 d (analysis)
Metals (lead)	use same container as PAHs	20 g	Cool, 4°C	180 d

Table A-2. Summary of Sample Containers, Preservation Techniques, and Holding Times for Groundwater Samples Collected During the Site Investigation

Analyte Group	Container	Minimum Sample Size	Preservative	Holding Time
BTEX	2 – 40 mL glass vials with Teflon®-lined septum (no headspace)	40 mL	Cool, 4°C HCl to pH < 2	14 d
PAHs	2 – 1L amber glass bottle with Teflon®-lined lid	1000 mL	Cool, 4°C	7 d (extraction) 40 d (analysis)

ATTACHMENT B

REFERENCES

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