FINAL

CORRECTIVE ACTION PLAN - PART A REPORT
FOR
UNDERGROUND STORAGE TANKS 2 & 3
FACILITY ID #9-089065
BUILDING 1840
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 2 & 3, Building 1840 Street Address: McFarland Avenue and West 18th Street

Facility ID: 9-089065 City: Fort Stewart County: Liberty Zip Code: 31314

Latitude: 32° 15′ 33″ Longitude: 82° 04′ 43″

Submitted by UST Owner/Operator:	Prepared by Consultant/Contractor:
Name: Thomas C. Fry/ Environmental Branch	Name: Patricia A. Stoll
Company: U.S. Army/HQ 3d, Inf. Div (Mech)	Company: SAIC
Address: DPW ENRD ENV. Br. (Fry)	Address: P.O. Box 2502
1557 Frank Cochran Drive	
City: Fort Stewart State: GA	City: Oak Ridge State: TN
Zip Code: 31314-4928	Zip Code: 37831
Telephone: (912) 767-2010	Telephone: (423) 481-8792

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

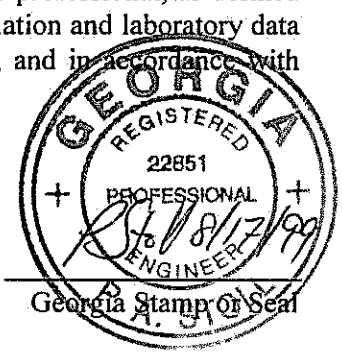
B. Registered Professional Engineer or Professional Geologist Certification

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 2 & 3 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 2 & 3.

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
2	25,000	diesel	8/13/96
3	5,000	gasoline	8/13/96

D. Initial Site Characterization

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

1. Regulated Substance Released (gasoline, diesel, used oil, etc.): gasoline, diesel.
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 August 13, 1996. After removing the tanks, one groundwater sample was collected from each tank pit and two soil samples were collected from the former dispenser island (Figure 7). No BTEX or PAH compounds were detected in soil sample TK2/3-D1-S1, although 37.0 mg/kg of TPH-DRO was present. Toluene, ethylbenzene, xylenes, naphthalene, TPH-DRO, and TPH-GRO were present in soil sample TK2/3-D1-S2, but only toluene slightly exceeded the applicable soil threshold level. Ethylbenzene, xylenes, and phenanthrene were present in groundwater sample TK2-GW, but did not exceed their respective MCLs. BTEX was present in groundwater sample TK3-GW, but only the benzene concentration exceeded its respective MCL.

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 2 & 3 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:*	1700	*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*	1200	*feet*	
ii. *Nearest down-gradient surface water located within*	1200	*feet*	
iii. *Nearest storm or sanitary sewer located within:*	15	*feet*	
iv. *Depth to bottom of sewer at a point nearest the plume*	5.0	*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 seven 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-DRO, TPH-GRO, 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 X NO ____
If yes, indicate highest concentrations in soil along with locations and depths detected.
During the CAP-Part A investigation benzene was detected in boring 77-01 at a depth of 4.0 – 6.0 feet BGS at a concentration of 0.0172J mg/kg. This is the only sample location where benzene was detected in the soil and is located at or below the water table. Toluene was detected in closure sample TK2/3-D1-S2 at a concentration of 6.27 mg/kg. The exact location and depth of this sample in unknown.

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 (77-05), soil samples were collected every 5 feet below the water table until several soil sample intervals indicated a headspace gas measurement of zero. In May 1998, soil samples collected from vertical profile borings were used to determine the extent of vertical contamination in groundwater. 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 X NO ____
If yes, indicate highest concentrations in groundwater along with the locations.

In 1996, the closure sample from the UST 3 tankpit contained benzene at a concentration of 130 µg/L.

In May 1998, benzene was present in borings 77-01 and 77-02 at concentrations of 22.7 µg/L and 5.6 µg/L, respectively. These two borings were located around the perimeter of the former tank pit and the former dispenser island.

In November 1998, the investigation was extended to include additional sampling in an effort to determine extent. Benzene was not detected in the three additional perimeter borings or in the soil samples from the vertical profile boring (77-05). Refer to Attachment C for supplemental information on risk screening and fate and transport modeling.

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):*	2.84 – 5.99	*(Table 4: Groundwater Elevations)*
b.	*Groundwater Flow Direction:*	northeast (Dec 96) west (Nov 98)	*(Figure 6: Potentiometric Surface Map)*
c.	*Hydraulic Gradient*	0.083 ft/ft (Dec 96) 0.021 ft/ft (Nov 98)	
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 2 & 3 on August 13, 1996. The UST piping was drained into the tank, and all gasoline and diesel were 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 and fuel dispensing island associated with the two USTs were removed at the same time as the tanks.

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 because review of the closure analytical data indicated that a CAP-Part A would be 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 USTs 2 & 3 site were submitted to GAEPD USTMP in September 1998 with the UST 207A (Facility ID #9-089039) Closure Report response to comments correspondence (Perez 1998). Approximately 545.34 tons of contaminated soil was excavated from the site.

7. Site Ranking:
Environmental Site Sensitivity Score: 2750
(Appendix X: Site Ranking Form)

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

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

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

Benzene was detected in only one sample during the CAP-Part a investigation in excess of applicable GUST soil threshold levels (i.e., Table A Column 2), however, the sample was located at or below the water table. Toluene was detected in one soil closure sample above the applicable soils threshold level. Benzene was detected in two groundwater samples from two temporary wells with the highest concentration being 22.7 µg/L. Fate and transport modeling results of the CAP-Part A data indicate that maximum predicted benzene concentrations in excess of the 5 µg/L MCL may extend up to 80 feet from the former tank pit, based on a maximum predicted benzene concentration of 44.4 µg/L at the source, due to partitioning of soil contamination to the groundwater. The CAP-Part A sampling results confirm that there is no benzene in the groundwater 50 feet from the site. In addition, benzene will not reach the drainage ditch located 650 feet northwest of the site at detectable concentrations. The horizontal and vertical extent of contamination was determined during the CAP-Part A.

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

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

A. Monitoring points

Six shallow monitoring wells will be installed as part of the long-term monitoring as shown in Figure 8. The shallow wells will be screened across the water table with 3 to 5 feet of screen above the water table in order to detect the presence of free product. All monitoring wells will be completed flush with the ground surface. Boring logs and well construction diagrams will be provided in the first annual monitoring only report. Two soil samples will be collected from the monitoring well located near the former tank pits and former dispenser island and analyzed for BTEX and PAH to confirm that passive bioremediation is taking place. This new soil data will supercede soil data collected during closure activities for the purpose of the site ranking form.

B. Period/Frequency of monitoring and reporting

Groundwater monitoring will be completed on a semiannual basis and the results will be summarized in an annual monitoring only report submitted to GA EPD. Monitoring will continue for a period of up to two years, for a total of up to four sampling events.

C. Monitoring Parameters

One groundwater sample will be collected from each of the four monitoring wells and analyzed for BTEX. Phenanthrene was the only PAH compound detected in groundwater during the CAP-Part A investigation, however, the concentration was below its respective risk screening criteria provided in Attachment C. Thus, PAH analysis will not be performed during the semiannual monitoring.

D. Milestone Schedule

Monitoring well installation will be conducted pending the availability of FY2000 funding. A milestone schedule will be provided to GA EPD upon availability of funds and approval of the monitoring only plan.

E. Scenarios for site closure or CAP-Part B

The monitoring system will be evaluated annually. A recommendation for no further action required will be made if benzene concentrations remain below the predicted two-year maximum concentrations that will be presented in the monitoring only report.

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 2 & 3 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 the USTs 2 & 3, Building 1840, Facility ID #9-089065, 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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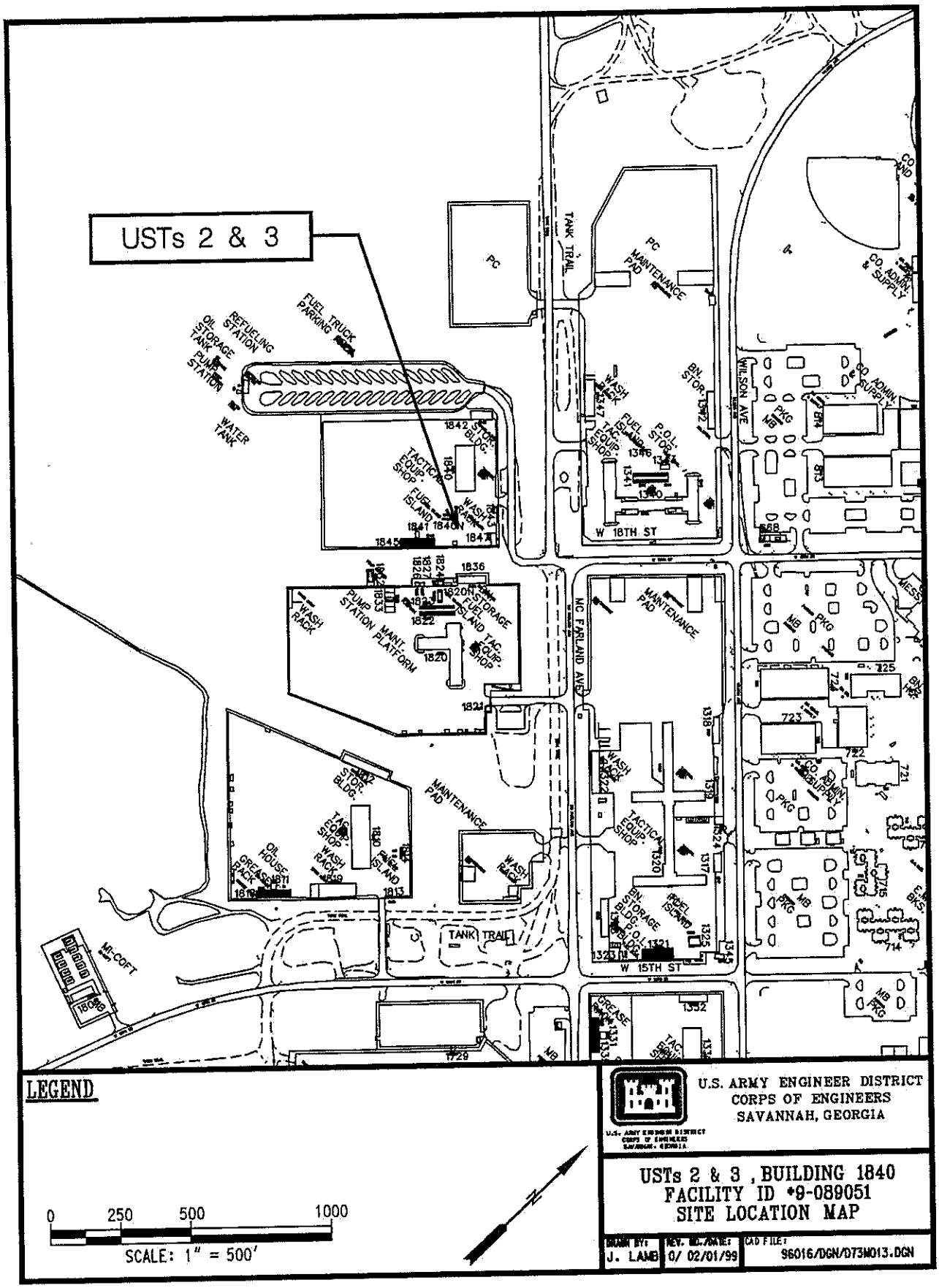

Figure 1. Location Map of USTs 2 & 3, Fort Stewart, Liberty County, Georgia

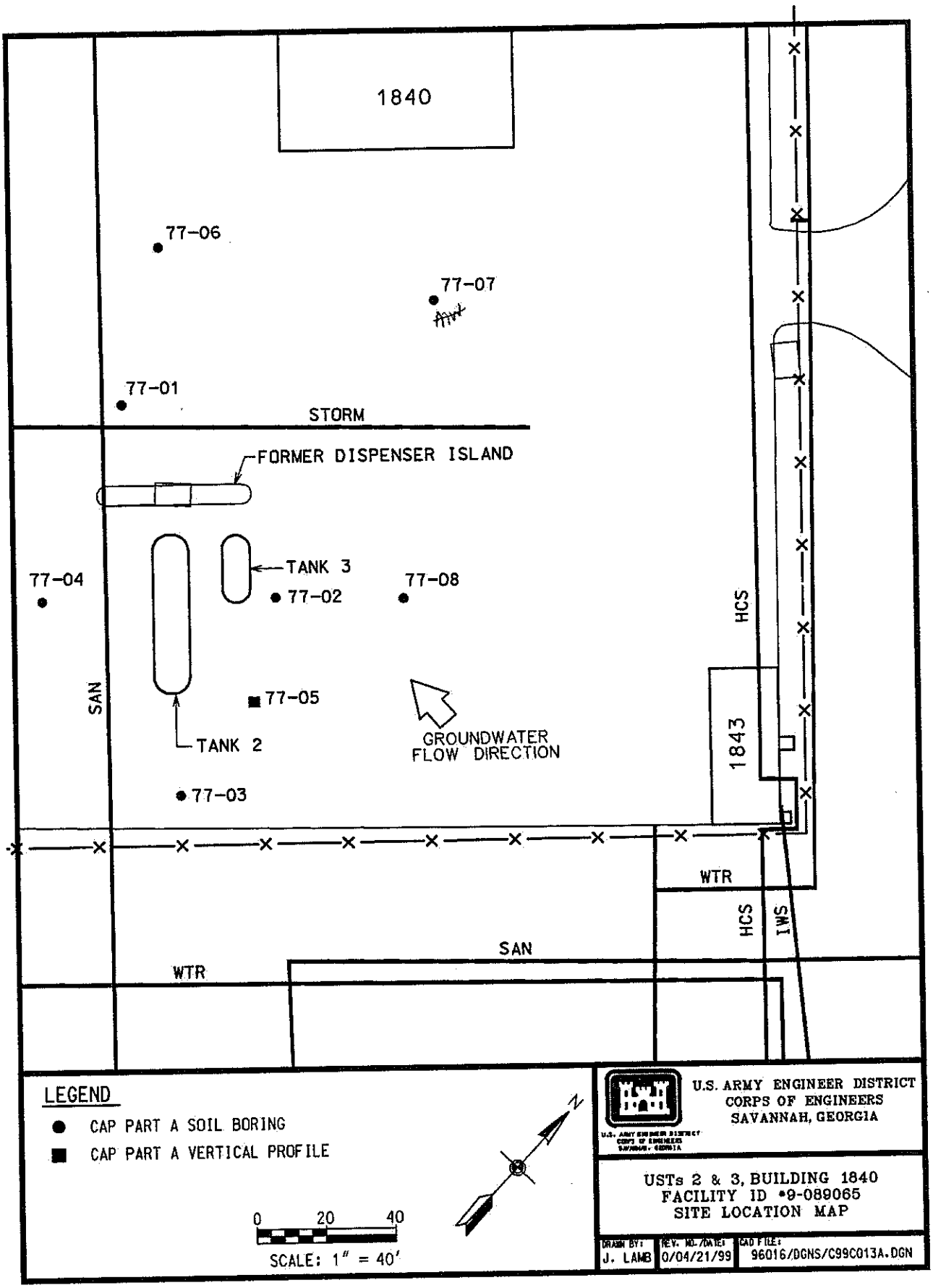

Figure 2. Site Plan for the USTs 2 & 3 Site Investigation

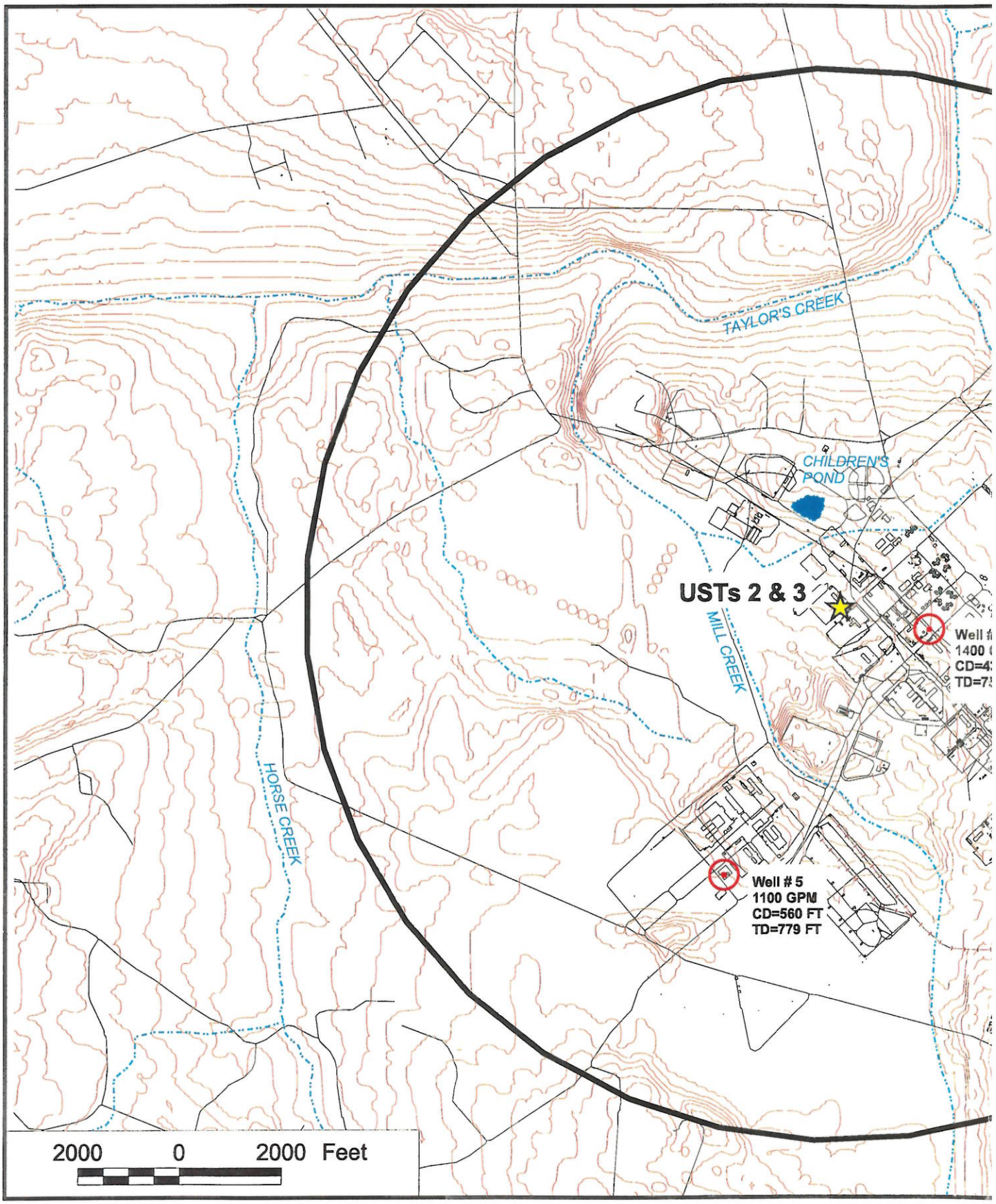

Figure 3. Map Showing Public and Private Drinking Water S
Bodies at Fort Stewart, Liberty County, G

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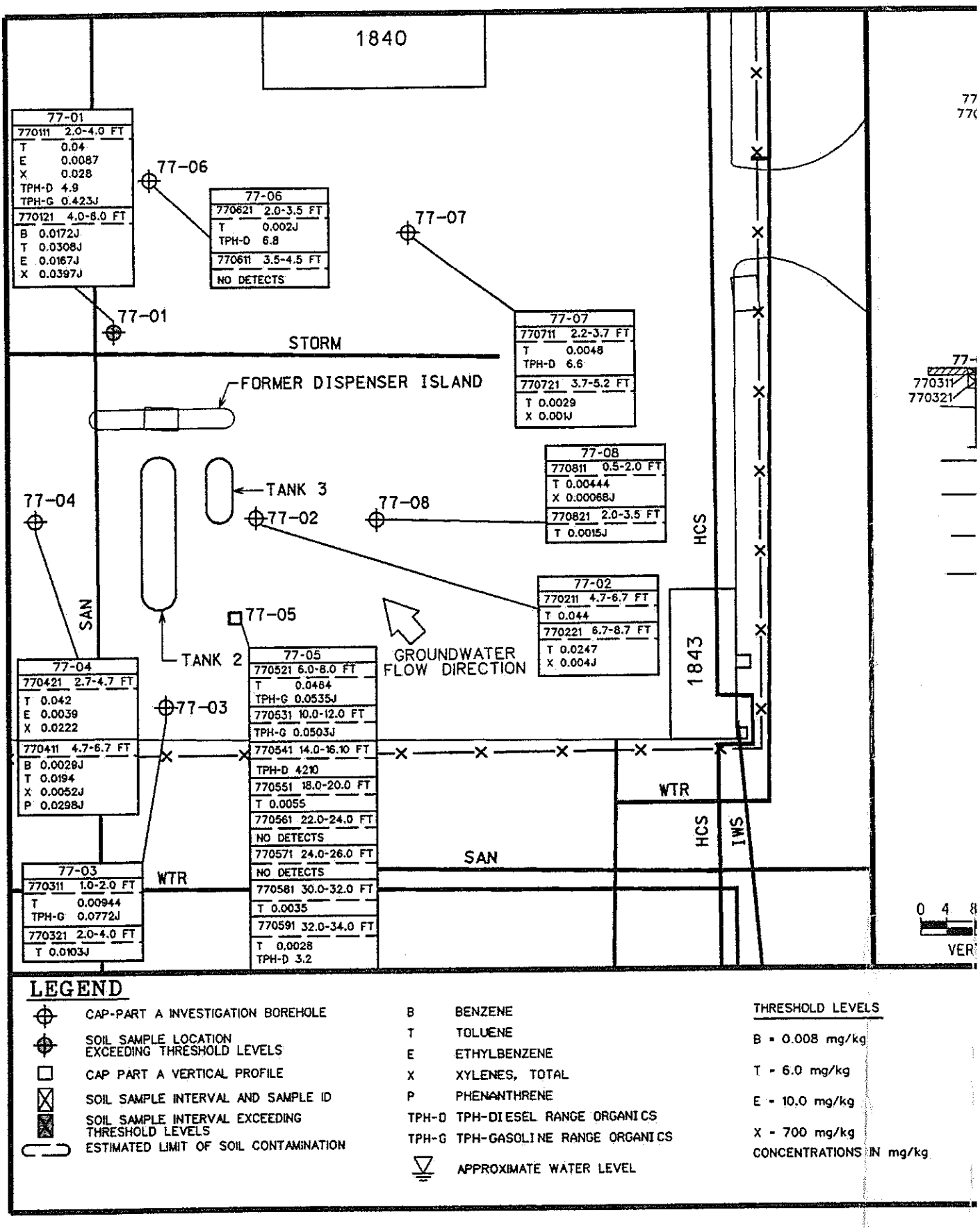

Figure 4. Soil Qualit

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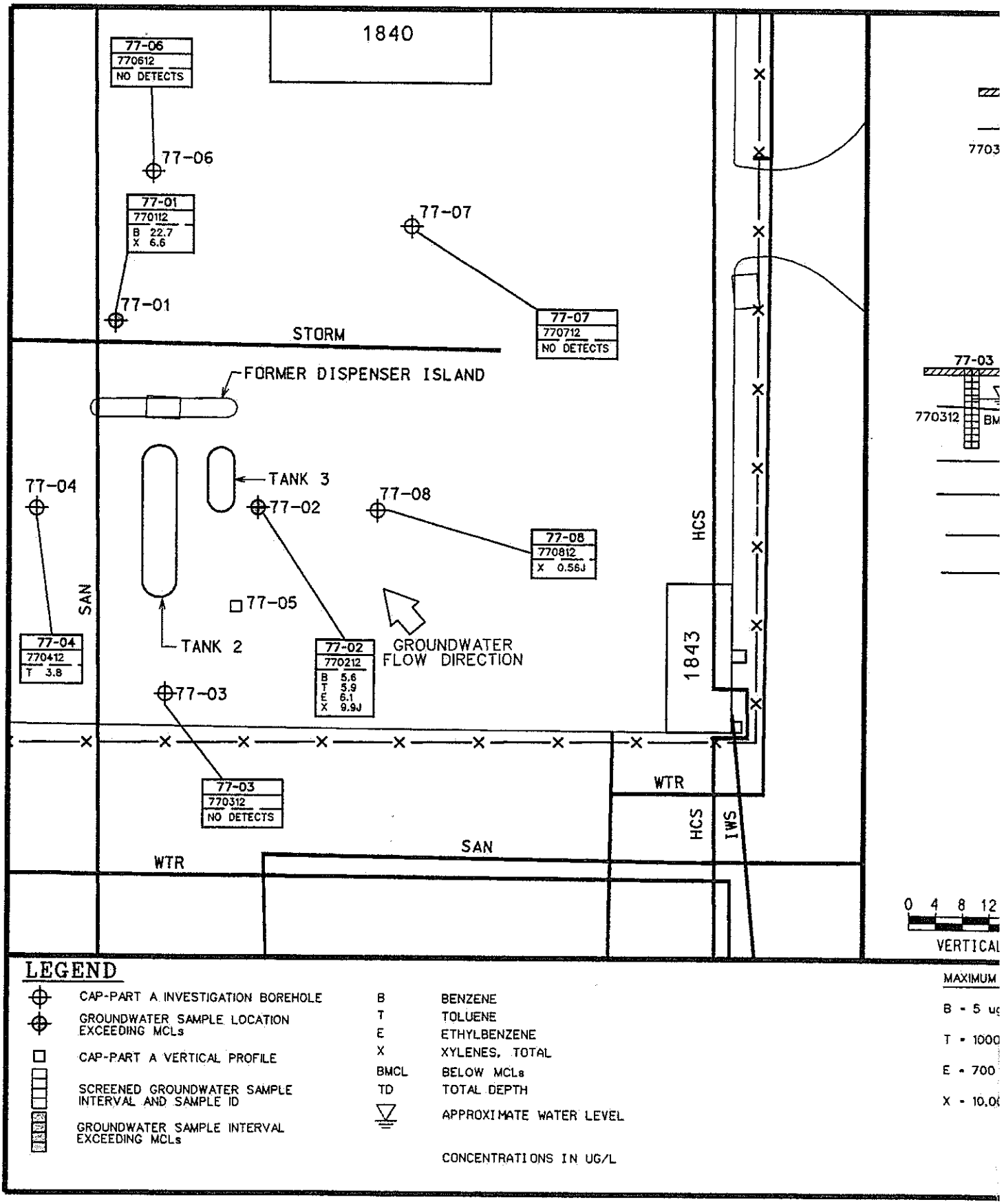

Figure 5. Groundwater Quality

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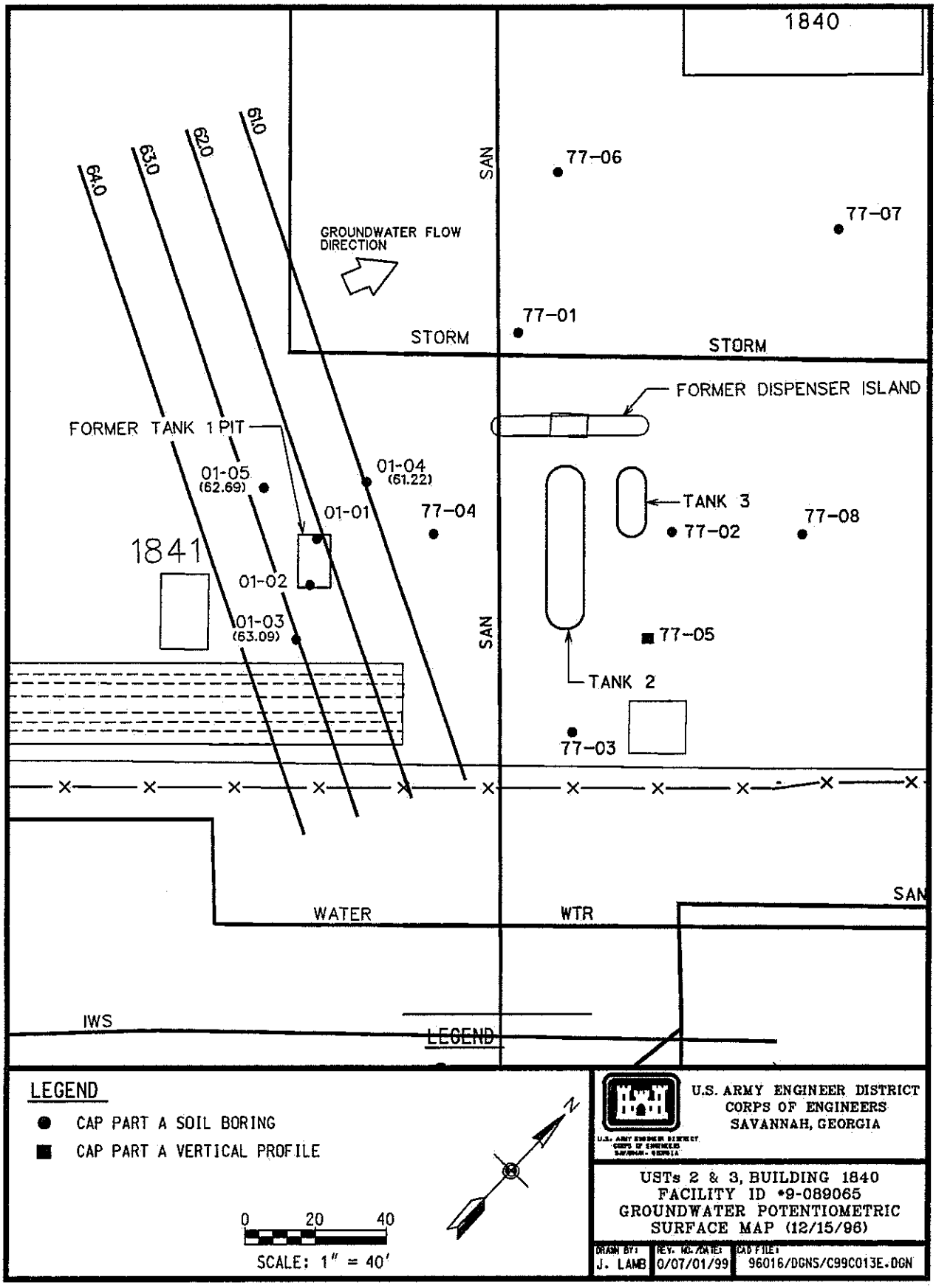

Figure 6a. Potentiometric Surface Map of the USTs 2 & 3 Site (12/15/96)

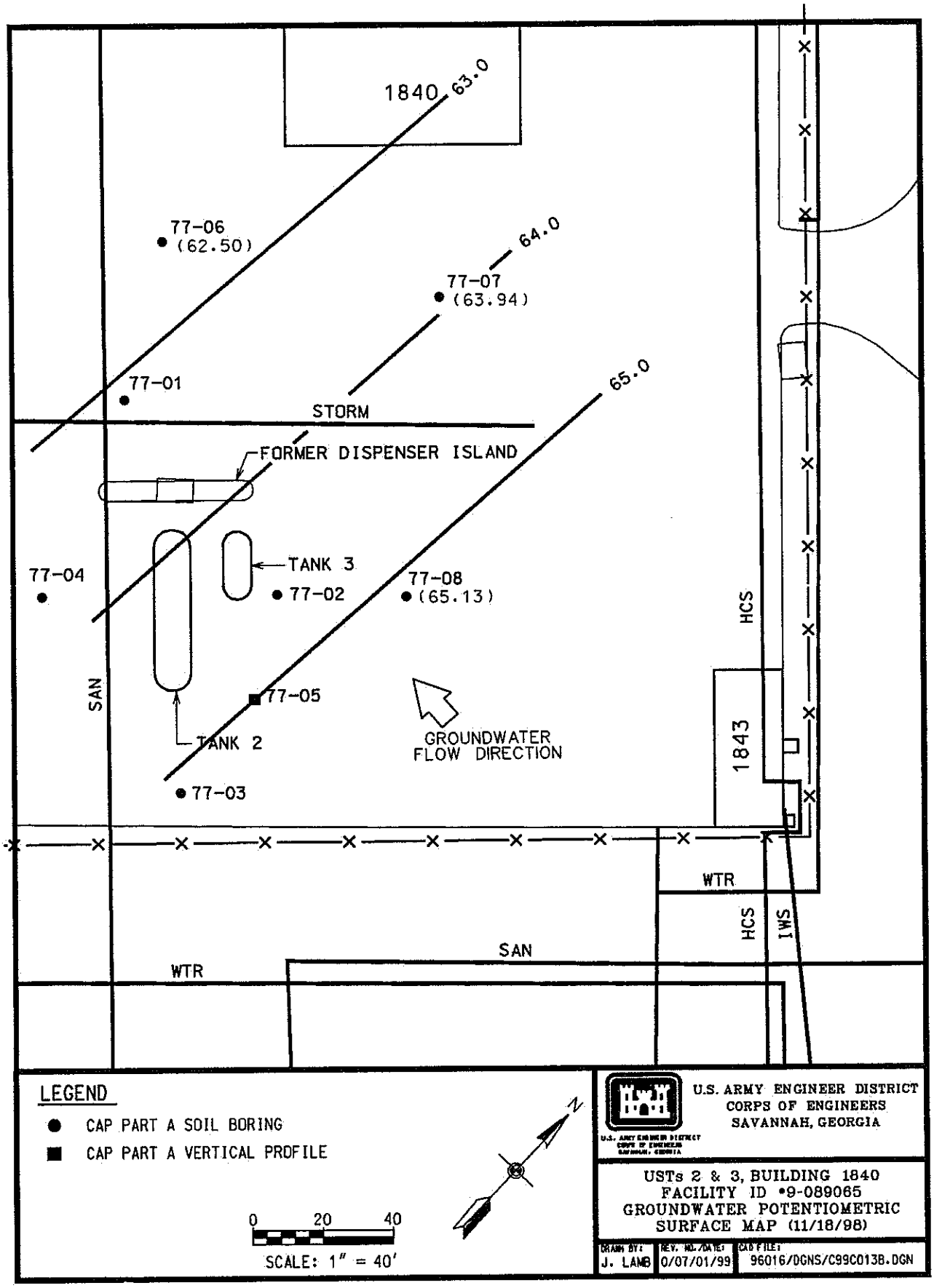

Figure 6b. Potentiometric Surface Map of the USTs 2 & 3 Site (11/18/98)

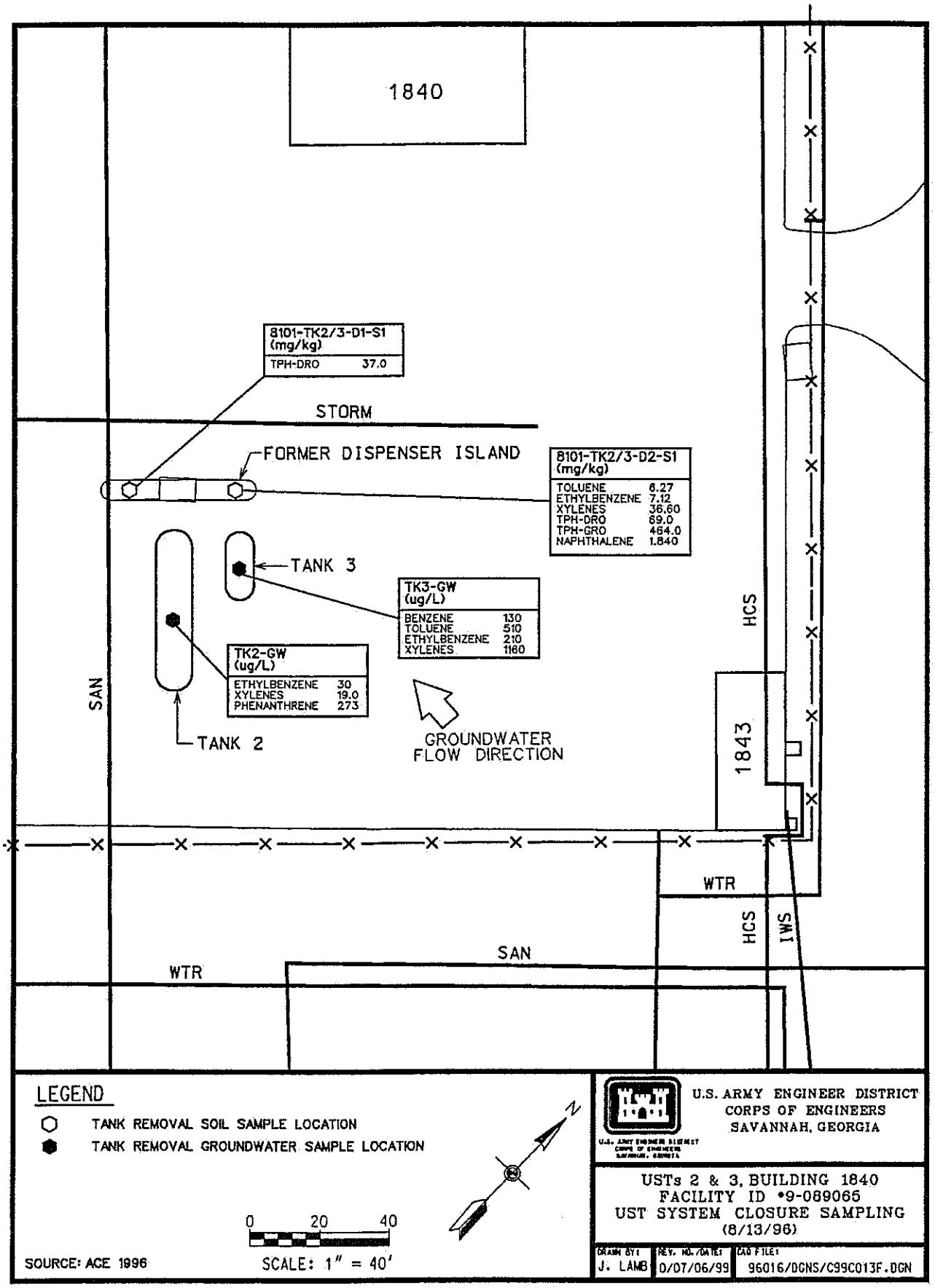

Figure 7. UST System Closure Sampling Locations at the USTs 2 & 3 Site

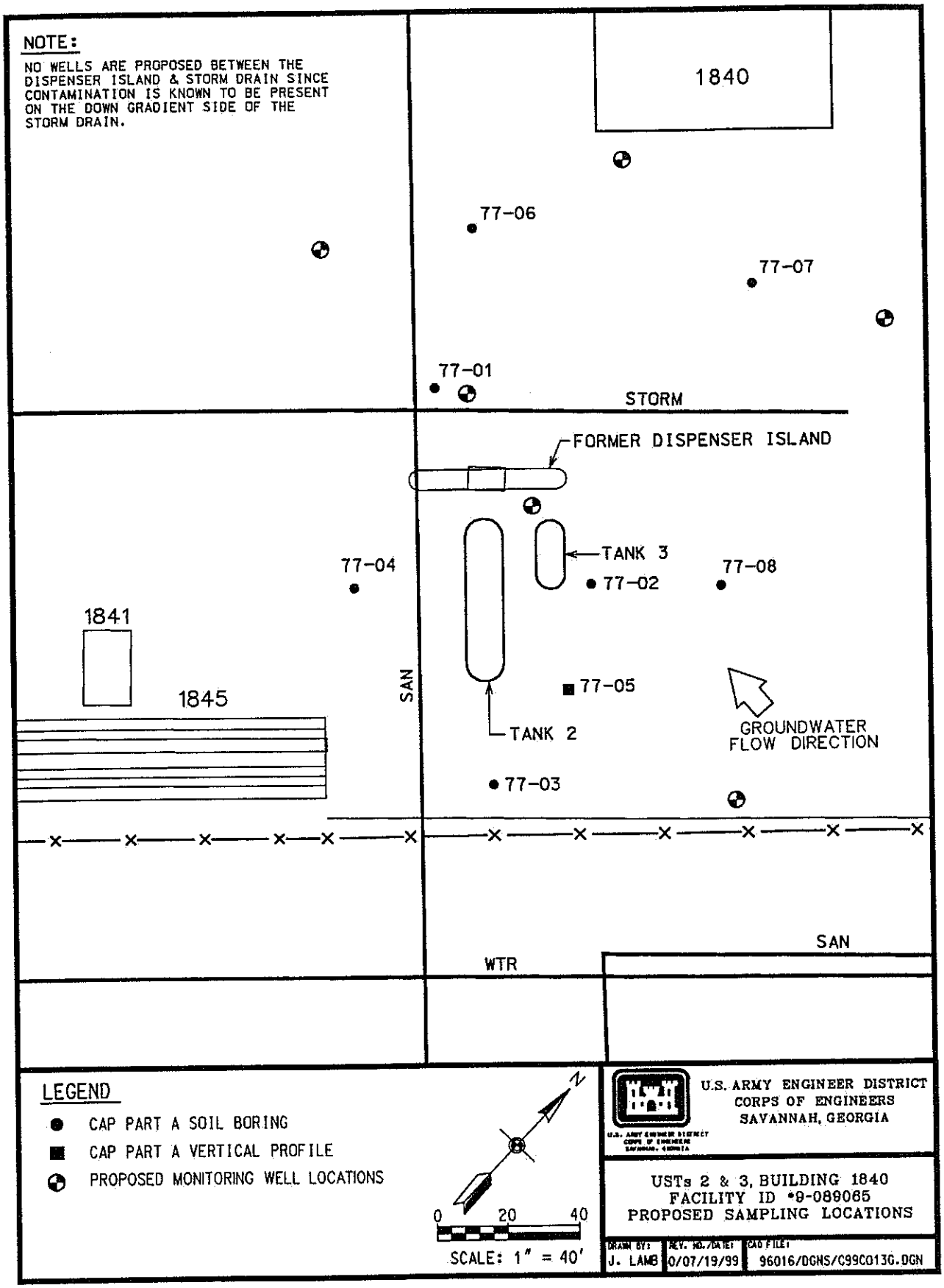

Figure 8. Proposed Additional Boring/Monitoring Well Locations

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

Figure 9. Tax Map

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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-DRO (mg/kg)	TPH-GRO (mg/kg)
77-01	770111	2.0-4.0	05/12/98	0.0022 U	0.04 =	0.0087 =	0.028 =	0.0367	4.9 =	0.423 J
77-01	770121	4.0-6.0	05/12/98	0.0172 J	0.0308 J	0.0167 J	0.0397 J	0.1044	6.1 R	1.16 U
77-02	770211	4.7-6.7	05/08/98	0.0022 U	0.044 =	0.0022 U	0.0065 U	0.044	1.2 UJ	1.09 U
77-02	770221	6.7-8.7	05/08/98	0.0024 U	0.0247 =	0.0024 U	0.004 J	0.0287	1.6 UJ	1.18 U
77-03	770311	1.0-2.0	05/12/98	0.0023 U	0.0094 =	0.0023 U	0.007 U	0.0094	0.12 U	0.0772 J
77-03	770321	2.0-4.0	05/12/98	0.0022 U	0.0103 J	0.0022 U	0.0066 U	0.0103	1.6 UJ	1.1 U
77-04	770411	4.7-6.7	05/08/98	0.0029 J	0.0194 =	0.0022 U	0.0052 J	0.0246	2.5 UJ	1.11 U
77-04	770421	2.7-4.7	05/08/98	0.0022 U	0.042 =	0.0039 =	0.0222 =	0.0681	3.4 UJ	1.1 UJ
77-05	770521	6.0-8.0	05/12/98	0.0024 U	0.0464 =	0.0024 U	0.0072 U	0.0464	0.39 UJ	0.0535 J
77-05	770531	10.0-12.0	05/12/98	0.0024 U	0.0024 U	0.0024 U	0.0073 U	ND	0.6 U	0.0503 J
77-05	770541	14.0-16.0	05/12/98	0.0024 U	0.0024 U	0.0024 U	0.0072 U	ND	4210 =	1.2 U
77-05	770551	18.0-20.0	05/12/98	0.0024 U	0.0055 =	0.0024 U	0.0073 U	0.0055	0.62 U	1.22 U
77-05	770561	22.0-24.0	05/12/98	0.0026 U	0.0026 U	0.0026 U	0.0077 U	ND	0.31 U	1.28 U
77-05	770571	24.0-26.0	05/12/98	0.0026 U	0.0026 U	0.0026 U	0.0077 U	ND	0.65 UJ	1.28 U
77-05	770581	30.0-32.0	05/12/98	0.0025 U	0.0035 =	0.0025 U	0.0074 U	0.0035	0.53 UJ	1.23 U
77-05	770591	32.0-34.0	05/12/98	0.0027 U	0.0028 =	0.0027 U	0.0081 U	0.0028	3.2 =	1.35 U
77-06	770611	3.5-4.5	11/15/98	0.0023 U	0.0023 U	0.0023 U	0.0035 U	ND	1.2 U	0.116 UJ
77-06	770621	2.0-3.5	11/15/98	0.0022 U	0.002 J	0.0022 U	0.0033 U	0.002	6.8 =	0.111 U
77-07	770711	2.2-3.7	11/15/98	0.0022 U	0.0048 =	0.0022 U	0.0033 U	0.0048	6.6 =	0.111 U
77-07	770721	3.7-5.2	11/15/98	0.0023 U	0.0029 =	0.0023 U	0.001 J	0.0039	1.7 U	0.115 U
77-08	770811	0.5-2.0	11/15/98	0.0022 U	0.0044 =	0.0022 U	0.00068 J	0.00508	1.6 U	0.11 U
77-08	770821	2.0-3.5	11/15/98	0.0022 U	0.0015 J	0.0022 U	0.0034 U	0.0015	2.2 U	0.112 U
Applicable Standards[1]				0.008	6	10	700	NRC	NRC	NRC

NOTES:

May 1998 sampling was performed 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.

November 1998 sampling was performed in accordance with the CAP-Part A guidance that was published in May 1998.

[1] Georgia Department of Natural Resources Applicable Soil Threshold Levels (Table A, Column 2)
BGS Below ground surface
BTEX Benzene, toluene, ethylbenzene, and xylene
DRO Diesel range organics
GRO Gasoline range organics
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 (ug/L)
				Phenanthrene							
77-01	770111	2.0-4.0	05/12/98								ND
77-01	770121	4.0-6.0	05/12/98								ND
77-02	770211	4.7-6.7	05/08/98								ND
77-02	770221	6.7-8.7	05/08/98								ND
77-03	770311	1.0-2.0	05/12/98								ND
77-03	770321	2.0-4.0	05/12/98								ND
77-04	770411	4.7-6.7	05/08/98	0.0298 J							0.0298
77-04	770421	2.7-4.7	05/08/98								ND
77-05	770521	6.0-8.0	05/12/98								ND
77-05	770531	10.0-12.0	05/12/98								ND
77-05	770541	14.0-16.0	05/12/98								ND
77-05	770551	18.0-20.0	05/12/98								ND
77-05	770561	22.0-24.0	05/12/98								ND
77-05	770571	24.0-26.0	05/12/98								ND
77-05	770581	30.0-32.0	05/12/98								ND
77-05	770591	32.0-34.0	05/12/98								ND
77-06	770611	3.5-4.5	11/15/98								ND
77-06	770621	2.0-3.5	11/15/98								ND
77-07	770711	2.2-3.7	11/15/98								ND
77-07	770721	3.7-5.2	11/15/98								ND
77-08	770811	0.5-2.0	11/15/98								ND
77-08	770821	2.0-3.5	11/15/98								ND
Applicable Standards[1]				NRC							NRC

NOTES:

May 1998 sampling was performed 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.

November 1998 sampling was performed in accordance with the CAP-Part A guidance that was published in May 1998.

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	Screened Interval (ft BGS)	Date Sampled	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)
77-01	770112	0.0-9.5	05/12/98	22.7 =	2 U	2 U	6.6 =	29.3
77-02	770212	0.0-12.0	05/08/98	5.6 =	5.9 =	6.1 =	9.9 J	27.5
77-03	770312	0.0-12.0	05/12/98	2 U	2 U	2 U	6 U	ND
77-04	770412	0.0-12.0	05/08/98	2 U	3.8 =	2 U	6 U	3.8
77-06	770612	0.0-10.3	11/15/98	2 U	2 U	2 U	3 U	ND
77-07	770712	0.0-9.5	11/15/98	2 U	2 U	2 U	3 U	ND
77-08	770812	0.0-11.5	11/15/98	2 U	2 U	2 U	0.56 J	0.56
Applicable Standards[1]				5	1000	700	10000	NRC

NOTE:

May 1998 sampling was performed 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.

November 1998 sampling was performed in accordance with the CAP-Part A guidance that was published in May 1998.

[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	Screened Interval (ft BGS)	Date Sampled	Detected PAH Compounds (mg/kg)									Total PAHs (ug/L)
77-01	770112	0.0-9.5	05/12/98										ND
77-02	770212	0.0-12.0	05/08/98										ND
77-03	770312	0.0-12.0	05/12/98										ND
77-04	770412	0.0-12.0	05/08/98										ND
77-06	770612	0.0-10.3	11/15/98										ND
77-07	770712	0.0-9.5	11/15/98										ND
77-08	770812	0.0-11.5	11/15/98										ND
Applicable Standards[1]				NRC	NRC	NRC	NRC	NRC	NRC	NRC			NRC

NOTE:

May 1998 sampling was performed 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.

November 1998 sampling was performed in accordance with the CAP-Part A guidance that was published in May 1998.

[1] U.S. Environmental Protection Agency maximum contaminant level

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 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)
77-01	5/10/98	67.68	67.49	0.0-9.5	N/A	2.84	N/A	N/A	64.65
77-02	5/10/98	67.76	67.71	0.0-12.0	N/A	3.31	N/A	N/A	64.40
77-03	5/10/98	67.85	67.74	0.0-12.0	N/A	3.10	N/A	N/A	64.64
77-04	5/10/98	67.77	67.57	0.0-12.0	N/A	3.04	N/A	N/A	64.53
77-06	11/18/98	67.70	67.77	0.0-10.3	N/A	5.27	N/A	N/A	62.50
77-07	11/18/98	67.64	69.92	0.0-9.5	N/A	5.98	N/A	N/A	63.94
77-08	11/18/98	67.71	70.40	0.0-11.5	N/A	5.27	N/A	N/A	65.13

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-DRO (mg/kg)	TPH-GRO (mg/kg)
TK2/3-D1-S1	unknown	8/15/96	0.001 U	0.001 U	0.001 U	0.001 U	ND	37.0 =	0.10 U
TK2/3-D1-S2	unknown	8/15/96	0.005 U	6.27 =	7.12 =	36.60 =	49.99	69.0 =	464 =
Applicable Standards[1]			0.008	6	10	700	NRC	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)
			Naphthalene				
TK2/3-D1-S1	unknown	8/15/96					ND
TK2/3-D1-S2	unknown	8/15/96	1.84 =				1.84
Applicable Standards[2]			NRC				NRC

NOTE:
[1] Underground storage tank system closure performed by Anderson Columbia Environmental, Inc. (1996)
[2] Georgia Department of Natural Resources Applicable Soil Threshold Levels (Table A, Column 2)
BGS Below ground surface
BTEX Benzene, toluene, ethylbenzene, and xylene
DRO Diesel range organics
GRO Gasoline range organics
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)
TK2-GW	unknown	8/13/96	1.0 U	1.0 U	3.0 =	19.0 =	22.0
TK-3-GW	unknown	8/13/96	130 =	510 =	210 =	1160 =	2010
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 (ug/L)
			Phenanthrene							
TK2-GW	unknown	8/13/96	273 =							273
TK-3-GW	unknown	8/13/96								ND
Applicable Standards[1]			NRC		NRC	NRC	NRC	NRC	NRC	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 Floridan) 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 2 & 3 SITE

A field potential receptor survey was conducted for the USTs 2 & 3 site in May 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 2 & 3 Site

The USTs 2 & 3 site is located approximately 1700 feet west (downgradient) of Well #3. Therefore, the USTs 2 & 3 site is classified as being located greater than 500 feet to a withdrawal point. There are no public or non-public supply wells that are located downgradient of the site within a 2-mile radius.

2.2 Surface Water Bodies Near the USTs 2 & 3 Site

At the closest point to the site and in the direction of groundwater flow, a tributary to Mill Creek is located approximately 1200 feet northwest of the site. Also in the direction of groundwater flow, a storm water drainage ditch is located approximately 650 feet northwest 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 2 & 3 Site

A storm drain is located about 15 feet northwest of the former dispenser island. The invert elevation of this line is estimated to be approximately 63.08 feet AMSL or 3.8 feet bgs, which is at or below the water table. The storm drain is located within the boundary of the groundwater plume. However, the groundwater plume has migrated downgradient of this storm drain, indicating that the storm drain is not acting as 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 77-01

PROJECT: Fort Stewart USTs | INSPECTOR H. Brown | SHEET 1 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	0–1	CONCRETE				
	1–2	SAND with some silt (SP-SM) fine to medium grained, soft, moist, very dark (10YR 3/1)	40.6 ppm			
	2–4	SAND (SW-SC), trace of clay, coarse to very coarse grained, soft, moist, brown (10YR 5/3)	51.9 ppm		Soil Sample 770111	
	4–6		48.9 ppm		Soil Sample 770121	▽ = wet below 6.0 ft BGS
	6–10	Sandy CLAY (CH), coarse grained, poorly sorted, stiff, wet, gray (7.5Y 4/1)				

HTRW DRILLING LOG

HOLE NUMBER 77-01

PROJECT: Fort Stewart USTs | INSPECTOR H. Brown | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	11	SAND with silt (SP-SM), coarse grained, poorly graded, moist, pale brown (10YR 6/3) to very dark gray (10YR3/1)				
	12					
	13					
	14					END OF DRILLING AT 14.0 FT BGS AND SET TEMPORARY PIEZOMETER AT 9.5 FT BGS DUE TO CAVE-IN
	15					
	16					COLLECTED GROUNDWATER SAMPLE 770112 FROM TEMPORARY PIEZOMETER SCREENED FROM 0.0 TO 9.5 FT BGS.
	17					
	18					
	19					
	20					

HTRW DRILLING LOG

HOLE NUMBER 77.02

PROJECT: Fort Stewart USTs | INSPECTOR H. Brown | 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)
		Concrete				
	1–2	SAND with some silt, fine to medium grained, soft, moist, very dark gray (10YR3/1)	8.4ppm			
	3–4	SAND with traces of clay, coarse to very coarse grained, soft, moist, brown (10YR5/3)	8.5ppm			
	5				Soil Sample 770211	
	6	CLAY with sand, soft, moist, dark grayish brown (2.5Y4/2)	9.5ppm			
	7–8		8.1ppm		Soil Sample 770221	Collected groundwater sample 770212 from temporary piezometer screened from 0.0 to 12.7 FT BGS
	9	CLAY, with sand, soft, wet, very dark grayish brown (10YR3/2)				▼ Wet below 8.7 FT BGS
	10					Pushed to 12.7 FT Set piezometer

HTRW DRILLING LOG

HOLE NUMBER 77.03

PROJECT: Fort Stewart USTs | INSPECTOR H. Brown | SHEET 1 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	1	Concrete				
	2	SAND, with some silt, fine to medium grained, soft, moist, very dark gray (10YR3/1)	46.4ppm		Soil Sample 770311	
	3		42.1ppm		Soil Sample 770321	
	4	SAND, with traces of clay, coarse to very coarse grained, soft, moist, brown (10YR5/3)				▼ Wet below 4.5 FT BGS
	5	silty SAND, with gravel, fine to medium grained, soft, wet, very dark brown (10YR2/2)	Oppm			
	6	CLAY with sand, soft, wet, dark grayish brown (2.5Y4/2)				
	7		Oppm			
	8					
	9		Oppm			
	10	CLAY with sand, soft, wet, very dark grayish brown (10YR3/2)				

HTRW DRILLING LOG

HOLE NUMBER 77-03

PROJECT: Fort Stewart USTs | INSPECTOR H. Brown | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	11	Shelby Tube 10-12 FT		Soil Sample 770331		
	12					End of drilling at 12.0FT BGS Set piezometer
	13					Collected groundwater sample 770312 from temporary piezometer screened from 0.0 to 12.0FT BGS
	14					
	15					
	16					
	17					
	18					
	19					
	20					

HTRW DRILLING LOG

HOLE NUMBER 77-04

PROJECT: Fort Stewart USTs | INSPECTOR H. Brown | SHEET 1 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		Concrete				
	1–2	SAND, with silt, fine to medium grained, soft, moist, very dark gray (10YR3/1)	3.5ppm			
	2–3	CLAY with sand, firm, moist, very dark gray (10YR3/1)				
	3–4	SAND with traces of clay, coarse to very coarse grained, soft, moist, brown (10YR5/3)	5.1ppm		Soil Sample 77041	
	4–5	CLAY with sand, soft, moist, dark grayish brown (2.5Y6/2)				
	5–6	No Recovery	6.7ppm		Soil Sample 77041	▼ Wet below 6.7 FT BGS
	6–8	CLAY with sand, soft, wet, very dark grayish brown (10YR3/2)	N/A			
	8–9	SAND with clay firm, wet, black (5YR2.5/1)				
	9–10					

HTRW DRILLING LOG

HOLE NUMBER 77-04

PROJECT: Fort Stewart USTs | INSPECTOR H. Brown | SHEET 2 OF 2

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	11	SAND with clay, firm, wet, very dark gray (10YR3/1)	N/A			
	12	SAND with clay, firm, wet, dark olive brown (2.5Y3/3)				
	13	SAND with clay firm, wet, dark brown (7.5YR3/2)				End of drilling 12.7 FT BGS Set piezometer
	14					Collected groundwater sample 77041Z from a temporary piezometer screened from 0.0 to 12.7 FT BGS
	15					
	16					
	17					
	18					
	19					
	20					

HTRW DRILLING LOG

HOLE NUMBER 77-05

PROJECT: Fort Stewart USTs

INSPECTOR B. Moeller

SHEET 1 OF 4

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		CONCRETE				
	1	SAND (SP), fine grained, light gray (2.5Y 7/2)	0.0 ppm			
	2					
	3	sandy CLAY (CL), olive yellow (2.5 Y 6/6) mottled with orange	0.0 ppm			
	4					▽ = wet below 4.0 FT BGS
	5	sandy SILT (ML), some wood debris, saturated, black (5 YR 2.5/1)	0.0 ppm			
	6					
	7	CLAY (CL), dark grayish brown (10 YR 4/2)	0.0 ppm		Soil Sample 770521	
	8					
	9		0.0 ppm			
	10					

HTRW DRILLING LOG

HOLE NUMBER 77-05

PROJECT: Fort Stewart USTs | INSPECTOR B. Moeller | SHEET 2 OF 4

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	11	Sandy CLAY (CL), dark grayish brown (10YR4/2)	0.0ppm		Soil Sample 770531	
	12					
	13	SAND (SW), fine to medium grained, dark grayish brown (10YR4/2)	0.9ppm			
	14	CLAY (CL) dark grayish brown (10YR4/2)				
	15	SAND (SP), medium grained, light brownish gray (10YR6/2)	3.3ppm		Soil Sample 770541	
	16					
	17	SAND (SW), fine to medium grained, gray (10YR5/1)	0.0ppm			
	18					
	19		0.0ppm		Soil Sample 770551	
	20					

HTRW DRILLING LOG

HOLE NUMBER 77-05

PROJECT: Fort Stewart USTs | INSPECTOR B. Moeller | SHEET 3 OF 4

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	21	clayey SAND (SC), greenish gray (Gley 1 5/1)	0.0ppm			
	22					
	23		0.0ppm		Soil Sample 770561	
	24					
	25	CLAY (CL), some fine grained sand, high plasticity, greenish gray (Gley 1 5/1)	2.0ppm		Soil Sample 770571	
	26					
	27	SAND (SW), fine to medium grained, greenish gray (Gley 1 5/1)	0.4ppm			
	28					
	29		0.0ppm			
	30					

HTRW DRILLING LOG

HOLE NUMBER 77-05

PROJECT: Fort Stewart USTs | INSPECTOR B. Moeller | SHEET 4 OF 4

ELEV. (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
		SAND (SW); same as above				
	31	Sandy CLAY (CL), dark greenish gray (Gley 1 3/1)	0.0ppm		Soil Sample 770581	
	32					
		SILT (ML), with shells, light greenish gray (Gley1 8/1)				
	33		0.0 ppm		Soil Sample 770591	
	34					END OF DRILLING AT 34.0 FT BGS
	35					
	36					
	37					
	38					
	39					
	40					

HTRW DRILLING LOG

HOLE NUMBER 7706

PROJECT: Fort Stewart USTs | INSPECTOR J. Shiflet | 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)
		CONCRETE				
	1	clayey SAND(SC), fine to medium grained, orange to tan SAND(SP), fine to medium grained, some silt, moist subrounded to subangular, gray to light tan	6.3 ppm			
	2					
	3	clayey SAND(SC), fine to medium grained, firm, orange to tan silty SAND(SW), fine to coarse grained, gravel, dark brown to black SAND(SP), fine to medium grained, some silt, moist to saturated, gray to black to dark brown	7.1 ppm		Soil sample 770621	
	4		1.9 ppm		Soil sample 770611	
	5					▽ = wet below 5.3 ft bgs
	6					
	7					COLLECTED GROUNDWATER SAMPLE 770612 FROM TEMPORARY PIEZOMETER SCREENED FROM 0.0 TO 10.3 FT BGS.
	8					
	9					
	10					END OF DRILLING AT 10.3 FT BGS AND SET TEMPORARY PIEZOMETER

HTRW DRILLING LOG

HOLE NUMBER 77-07

PROJECT: Fort Stewart USTs | INSPECTOR J. Shiflet | 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)
		CONCRETE				
	1	Clayey SAND(SC), fine to medium grained, firm, light orange to tan, mottled				
	2	SAND(SP), fine to medium grained, some silt, subrounded to subangular, slightly moist, dark gray to light gray	0.0 ppm			
	3	Silty SAND(SW), fine to coarse grained, gravel, some silt, moist, dark brown to black	4.7 ppm		Soil Sample 770711	
	4	SAND(SP), fine to coarse grained, some silt, saturated, gray to tan-gray	4.9 ppm		Soil Sample 770721	
	5		18.6 ppm			
	6					▽ wet below 6.0 ft bgs
	7	Clayey SAND(SC), fine to medium grained, firm, gray to light tan				
	8					COLLECTED GROUNDWATER SAMPLE 770712 FROM TEMPORARY PIEZOMETER SCREENED FROM 0.0 TO 9.5 FT BGS
	9					END OF DRILLING AT 9.5 FT BGS AND SET TEMPORARY PIEZOMETER
	10					

HTRW DRILLING LOG

HOLE NUMBER 77-08

PROJECT: Fort Stewart USTs | INSPECTOR J. Shiflet | 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)
		CONCRETE				
	1	SAND (SP), fine to medium grained, some clay, tan to gray	0.0ppm		Soil Sample 770811	
	2					
	3	clayey SAND (SC), fine grained, firm, moist, orange and tan	0.0ppm		Soil Sample 770821	
		SAND (SP), fine to medium grained, some silt, moist dark brown to brown				▽ wet below 3.5 ft BGS
	4	silty SAND (SM), fine grained, wet, tan to brown				
	5	SAND (SP), fine to medium grained, black to dark brown				
	6					
	7					
	8					COLLECTED GROUNDWATER SAMPLE 770812 FROM TEMPORARY PIEZOMETER SCREENED AT 0.0 TO 11.5 FT BGS
	9					END OF DRILLING AT 11.5 FT BGS AND SET TEMPORARY PIEZOMETER
	10					

APPENDIX V

SOIL LABORATORY REPORTS

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TABLE V-A. Summary of Soil Analytical Results

Station:	GA UST	77-01	77-01	77-02	77-02	77-03	77-03
Sample ID:	Soil	770111	770121	770211	770221	770311	770321
Sample Interval (ft BGS):	Threshold	2.0-4.0	4.0-6.0	4.7-6.7	6.7-8.7	1.0-2.0	2.0-4.0
Collection Date:	Levels[1]	12-May-98	12-May-98	08-May-98	08-May-98	12-May-98	12-May-98
Units:	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Volatile Organic Compounds							
Benzene	0.008	0.0022 U	**0.0172 J**	0.0022 U	0.0024 U	0.0023 U	0.0022 U
Toluene	6	0.04 =	0.0308 J	0.044 =	0.0247 =	0.0094 =	0.0103 J
Ethylbenzene	10	0.0087 =	0.0167 J	0.0022 U	0.0024 U	0.0023 U	0.0022 U
Xylenes, Total	700	0.028 =	0.0397 J	0.0065 U	0.004 J	0.007 U	0.0066 U
Polynuclear Aromatic Hydrocarbons							
2-Chloronaphthalene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Acenaphthene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Acenaphthylene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Anthracene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Benzo(a)anthracene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Benzo(a)pyrene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Benzo(b)fluoranthene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Benzo(g,h,i)perylene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Benzo(k)fluoranthene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Chrysene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Dibenzo(a,h)anthracene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Fluoranthene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Fluorene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Indeno(1,2,3-cd)pyrene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Naphthalene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Phenanthrene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Pyrene	NRC	3.62 U	0.388 U	0.362 U	0.392 U	0.386 U	7.23 U
Other Analytes							
Lead	NRC		11.1 =		5.2 U		4.4 =
Total Organic Carbon	NRC						4780 =
TPH-Diesel Range Organics	NRC	4.9 =	6.1 R	1.2 UJ	1.6 UJ	0.12 U	1.6 UJ
TPH-Gasoline Range Organics	NRC	0.423 J	1.16 U	1.09 U	1.18 U	0.0772 J	1.1 U

NOTE:

May 1998 sampling was performed 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.

November 1998 sampling was performed in accordance with the CAP-Part A guidance that was published in May 1998.

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

Analytical data for QA/QC sample 770125 (equipment rinsate) 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] 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	77-04	77-04	77-05	77-05	77-05	77-05
Sample ID:	Soil	770411	770421	770521	770531	770541	770551
Sample Interval (ft BGS):	Threshold	4.7-6.7	2.7-4.7	6.0-8.0	10.0-12.0	14.0-16.0	18.0-20.0
Collection Date:	Levels[1]	08-May-98	08-May-98	12-May-98	12-May-98	12-May-98	12-May-98
Units:	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Volatile Organic Compounds							
Benzene	0.008	0.0029 J	0.0022 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U
Toluene	6	0.0194 =	0.042 =	0.0464 =	0.0024 U	0.0024 U	0.0055 =
Ethylbenzene	10	0.0022 U	0.0039 =	0.0024 U	0.0024 U	0.0024 U	0.0024 U
Xylenes, Total	700	0.0052 J	0.0222 =	0.0072 U	0.0073 U	0.0072 U	0.0073 U
Polynuclear Aromatic Hydrocarbons							
2-Chloronaphthalene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Acenaphthene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Acenaphthylene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Anthracene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Benzo(a)anthracene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Benzo(a)pyrene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Benzo(b)fluoranthene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Benzo(g,h,i)perylene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Benzo(k)fluoranthene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Chrysene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Dibenzo(a,h)anthracene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Fluoranthene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Fluorene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Indeno(1,2,3-cd)pyrene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Naphthalene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Phenanthrene	NRC	0.0298 J	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Pyrene	NRC	0.370 U	0.366 U	0.402 U	0.395 U	0.399 U	0.401 U
Other Analytes							
Lead	NRC		15.6 =	4.7 =			
Total Organic Carbon	NRC						
TPH-Diesel Range Organics	NRC	2.5 UJ	3.4 UJ	0.39 UJ	0.6 U	4210 =	0.62 U
TPH-Gasoline Range Organics	NRC	1.11 U	1.1 UJ	0.0535 J	0.0503 J	1.2 U	1.22 U

NOTE:

May 1998 sampling was performed 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.

November 1998 sampling was performed in accordance with the CAP-Part A guidance that was published in May 1998.

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

Analytical data for QA/QC sample 770125 (equipment rinsate) 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] 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	77-05	77-05	77-05	77-05	77-06
Sample ID:	Soil	770561	770571	770581	770591	770611
Sample Interval (ft BGS):	Threshold	22.0-24.0	24.0-26.0	30.0-32.0	32.0-34.0	3.5-4.5
Collection Date:	Levels[1]	12-May-98	12-May-98	12-May-98	12-May-98	15-Nov-98
Units:	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Volatile Organic Compounds						
Benzene	0.008	0.0026 U	0.0026 U	0.0025 U	0.0027 U	0.0023 U
Toluene	6	0.0026 U	0.0026 U	0.0035 =	0.0028 =	0.0023 U
Ethylbenzene	10	0.0026 U	0.0026 U	0.0025 U	0.0027 U	0.0023 U
Xylenes, Total	700	0.0077 U	0.0077 U	0.0074 U	0.0081 U	0.0035 U
Polynuclear Aromatic Hydrocarbons						
2-Chloronaphthalene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Acenaphthene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Acenaphthylene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Anthracene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Benzo(a)anthracene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Benzo(a)pyrene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Benzo(b)fluoranthene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Benzo(g,h,i)perylene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Benzo(k)fluoranthene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Chrysene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Dibenzo(a,h)anthracene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Fluoranthene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Fluorene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Indeno(1,2,3-cd)pyrene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Naphthalene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Phenanthrene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Pyrene	NRC	0.418 U	0.424 U	0.410 U	0.449 U	0.388 U
Other Analytes						
Lead	NRC					
Total Organic Carbon	NRC					
TPH-Diesel Range Organics	NRC	0.31 U	0.65 UJ	0.53 UJ	3.2 =	1.2 U
TPH-Gasoline Range Organics	NRC	1.28 U	1.28 U	1.23 U	1.35 U	0.116 UJ

NOTE:

May 1998 sampling was performed 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.

November 1998 sampling was performed in accordance with the CAP-Part A guidance that was published in May 1998.

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

Analytical data for QA/QC sample 770125 (equipment rinsate) 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] 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	77-06	77-07	77-07	77-08	77-08
Sample ID:	Soil	770621	770711	770721	770811	770821
Sample Interval (ft BGS):	Threshold	2.0-3.5	2.2-3.7	3.7-5.2	0.5-2.0	2.0-3.5
Collection Date:	Levels[1]	15-Nov-98	15-Nov-98	15-Nov-98	15-Nov-98	15-Nov-98
Units:	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Volatile Organic Compounds						
Benzene	0.008	0.0022 U	0.0022 U	0.0023 U	0.0022 U	0.0022 U
Toluene	6	0.002 J	0.0048 =	0.0029 =	0.0044 =	0.0015 J
Ethylbenzene	10	0.0022 U	0.0022 U	0.0023 U	0.0022 U	0.0022 U
Xylenes, Total	700	0.0033 U	0.0033 U	0.001 J	0.00068 J	0.0034 U
Polynuclear Aromatic Hydrocarbons						
2-Chloronaphthalene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Acenaphthene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Acenaphthylene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Anthracene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Benzo(a)anthracene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Benzo(a)pyrene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Benzo(b)fluoranthene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Benzo(g,h,i)perylene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Benzo(k)fluoranthene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Chrysene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Dibenzo(a,h)anthracene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Fluoranthene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Fluorene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Indeno(1,2,3-cd)pyrene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Naphthalene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Phenanthrene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Pyrene	NRC	0.741 U	1.48 U	0.383 U	0.366 U	0.374 U
Other Analytes						
Lead	NRC	3.8 =		1.2 =		0.91 =
Total Organic Carbon	NRC					
TPH-Diesel Range Organics	NRC	6.8 =	6.6 =	1.7 U	1.6 U	2.2 U
TPH-Gasoline Range Organics	NRC	0.111 U	0.111 U	0.115 U	0.11 U	0.112 U

NOTE:

May 1998 sampling was performed 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.

November 1998 sampling was performed in accordance with the CAP-Part A guidance that was published in May 1998.

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

Analytical data for QA/QC sample 770125 (equipment rinsate) 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] 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.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770111

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4024S

Matrix: (soil/water) SOIL Lab Sample ID: 9805400-19

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2J6026

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 8 Date Analyzed: 05/24/98

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/KG	Q
71-43-2	Benzene	2.2	U
108-88-3	Toluene	40.0	
100-41-4	Ethylbenzene	8.7	
1330-20-7	Xylenes (total)	28.0	

u

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770111

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4024S

Matrix: (soil/water) SOIL Lab Sample ID: 9805400-19

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 7V404

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 8 decanted: (Y/N) N Date Extracted: 05/22/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/28/98

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	3620	U
91-58-7	2-chloronaphthalene	3620	U
208-96-8	acenaphthylene	3620	U
83-32-9	acenaphthene	3620	U
86-73-7	fluorene	3620	U
85-01-8	phenanthrene	3620	U
120-12-7	anthracene	3620	U
206-44-0	fluoranthene	3620	U
129-00-0	pyrene	3620	U
56-55-3	benzo(a)anthracene	3620	U
218-01-9	chrysene	3620	U
205-99-2	benzo(b)fluoranthene	3620	U
207-08-9	benzo(k)fluoranthene	3620	U
50-32-8	benzo(a)pyrene	3620	U
193-39-5	indeno(1,2,3-cd)pyrene	3620	U
53-70-3	dibenz(a,h)anthracene	3620	U
191-24-2	benzo(g,h,i)perylene	3620	U

u

FORM 1 Science Applications13-MAY-1998 SAMPLE NO.
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770111

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4024S

Matrix: (soil/water) SOIL Lab Sample ID: 9805400-19

Sample wt/vol: 30.8 (g/mL) G Lab File ID: 5C50061

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 8 decanted: (Y/N) N Date Extracted: 05/18/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 05/26/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
	----------Diesel Range Organics	4.9	B

DATA VALIDATION COPY

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770111

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4024S

Matrix: (soil/water) SOIL Lab Sample ID: 9805400-19

Sample wt/vol: 5.0 (g/mL) G Lab File ID: AK1011

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 8 Date Analyzed: 05/25/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	----------Gasoline Range Organics	423	J

J

FORM I VOA

199

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770121

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4020S

Matrix: (soil/water) SOIL Lab Sample ID: 9805395-01

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 2J409

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 14 Date Analyzed: 05/21/98

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	Qual
71-43-2	Benzene	17.2		J-GΦ2
108-88-3	Toluene	30.8		J-GΦ2
100-41-4	Ethylbenzene	16.7	P	J-GΦ2,m¢
1330-20-7	Xylenes (total)	39.7		J-GΦ2

Rum 7/6/98

DATA VALIDATION COPY

FORM I VOA

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 1B

EPA SAMPLE NO.

770121

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4020S

Matrix: (soil/water) SOIL Lab Sample ID: 9805395-01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 4V207

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 14 decanted: (Y/N) N Date Extracted: 05/15/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 05/26/98

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	388	U
91-58-7	2-chloronaphthalene	388	U
208-96-8	acenaphthylene	388	U
83-32-9	acenaphthene	388	U
86-73-7	fluorene	388	U
85-01-8	phenanthrene	388	U
120-12-7	anthracene	388	U
206-44-0	fluoranthene	388	U
129-00-0	pyrene	388	U
56-55-3	benzo(a)anthracene	388	U
218-01-9	chrysene	388	U
205-99-2	benzo(b)fluoranthene	388	U
207-08-9	benzo(k)fluoranthene	388	U
50-32-8	benzo(a)pyrene	388	U
193-39-5	indeno(1,2,3-cd)pyrene	388	U
53-70-3	dibenz(a,h)anthracene	388	U
191-24-2	benzo(g,h,i)perylene	388	U

Qual - U

RLM 7/7/98

FORM I SV-1

OLM03.0

FORM I Science Applications13-MAY-1998 SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770121

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4020S

Matrix: (soil/water) SOIL Lab Sample ID: 9805395-01

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 5C60040

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 14 decanted: (Y/N) N Date Extracted:05/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/24/98

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) MG/KG	Q
	Diesel Range Organics	6.1	B

Qual-
R-FØ1, FØ7, PØ3

RLW
7/7/98

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770121

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4020S

Matrix: (soil/water) SOIL Lab Sample ID: 9805395-01

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3J3022

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 14 Date Analyzed: 05/21/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	Qual
	Gasoline Range Organics	1160	U	U

RLM 7/16/98

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FORM I VOA

Form 1: Inorganic Analyses Data Sheet

SDG No.: FS4020S

Method Type: Total Metals

Sample ID: 9805395-01

Client ID: 770121

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

Matrix: SOIL Date Received: 5/13/98 Level: LOW

% Solids: 86.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	11.1	mg/kg	=		P	0.11	TJA61 Trace ICPAES	980519-1

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

DATA VALIDATION
COPY

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770211

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-09

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2I4030

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

% Moisture: not dec. 8 Date Analyzed: 05/15/98

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	44.0		
100-41-4	Ethylbenzene	2.2	U	U
1330-20-7	Xylenes (total)	6.5	U	U

DATA VALIDATION COPY

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770211

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-09

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2T328

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

% Moisture: 8 decanted: (Y/N) 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

DATA VALIDATION COPY

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

U

FORM 1 Science Applications11-MAY-1998 SAMPLE NO.
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770211

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-09

Sample wt/vol: 30.0 (g/mL) G Lab File ID: SB50018

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

% Moisture: 8 decanted: (Y/N) N Date Extracted:05/13/98

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
	Diesel Range Organics	1.2	J

UJ F01, F06

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VOLATILE ORGANICS ANALYSIS DATA SHEET

770211

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-09

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3I7010

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

% Moisture: not dec. 8 Date Analyzed: 05/17/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	----------Gasoline Range Organics_____	1090	U

U

DATA VALIDATION COPY

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770221

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-13

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2I4034

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

% Moisture: not dec. 15 Date Analyzed: 05/15/98

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	2.4	U	U
108-88-3	Toluene	24.7		=
100-41-4	Ethylbenzene	2.4	U	U
1330-20-7	Xylenes (total)	4.0	J	J

DATA VALIDATION COPY

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770221

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-13

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2T332

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

% Moisture: 15 decanted: (Y/N) 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

DATA VALIDATION COPY

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	naphthalene	392	U
91-58-7	2-chloronaphthalene	392	U
209-96-8	acenaphthylene	392	U
83-32-9	acenaphthene	392	U
86-73-7	fluorene	392	U
85-01-8	phenanthrene	392	U
120-12-7	anthracene	392	U
206-44-0	fluoranthene	392	U
129-00-0	pyrene	392	U
56-55-3	benzo(a)anthracene	392	U
218-01-9	chrysene	392	U
205-99-2	benzo(b)fluoranthene	392	U
207-08-9	benzo(k)fluoranthene	392	U
50-32-8	benzo(a)pyrene	392	U
193-39-5	indeno(1,2,3-cd)pyrene	392	U
53-70-3	dibenz(a,h)anthracene	392	U
191-24-2	benzo(g,h,i)perylene	392	U

U

FORM 1 Science Applications11-MAY-1998 SAMPLE NO.
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770221

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-13

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 5B50022

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

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

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) MG/KG	Q
	Diesel Range Organics	1.6	J

UJ F01, F06

DATA VALIDATION COPY

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: 770221

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-13

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3I7015

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

% Moisture: not dec. 15 Date Analyzed: 05/17/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	----------Gasoline Range Organics	1180	U	U

DATA VALIDATION
COPY

FORM I VOA

SDG No.: FS4005S

Method Type: Total Metals

DATA VALIDATION COPY

Sample ID: 9805294-13

Client ID: 770221

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

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

% Solids: 85.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	5.2	mg/kg		U F01, F07	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

RINSATE

EPA SAMPLE NO.

770125

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4019W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805392-19

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2J406

Level: (low/med) LOW Date Received: 05/13/98

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

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

DATA VALIDATION COPY

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

RINSATE
EPA SAMPLE NO.

770125

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4017W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805388-03

Sample wt/vol: 910.0 (g/mL) ML Lab File ID: 2U317

Level: (low/med) LOW Date Received: 05/13/98

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

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/20/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	11.0	U
91-58-7	2-chloronaphthalene	11.0	U
209-96-8	acenaphthylene	11.0	U
83-32-9	acenaphthene	11.0	U
86-73-7	fluorene	11.0	U
85-01-8	phenanthrene	11.0	U
120-12-7	anthracene	11.0	U
206-44-0	fluoranthene	11.0	U
129-00-0	pyrene	11.0	U
56-55-3	benzo(a)anthracene	11.0	U
218-01-9	chrysene	11.0	U
205-99-2	benzo(b)fluoranthene	11.0	U
207-08-9	benzo(k)fluoranthene	11.0	U
50-32-8	benzo(a)pyrene	11.0	U
193-39-5	indeno(1,2,3-cd)pyrene	11.0	U
53-70-3	dibenz(a,h)anthracene	11.0	U
191-24-2	benzo(g,h,i)perylene	11.0	U

U

RINSATE

DATA VALIDATION COPY

FORM 1 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Science Applications13-MAY-1998 SAMPLE NO.

770125

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4017W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805388-03

Sample wt/vol: 950.0 (g/mL) ML Lab File ID: 5B40021

Level: (low/med) LOW Date Received: 05/13/98

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

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) MG/L	Q	
	----------Diesel Range Organics_____	0.048	JB	UJ F01, F06

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

RINSATE

EPA SAMPLE NO.

770125

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4019W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805392-19

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 3J1073

Level: (low/med) LOW Date Received: 05/13/98

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

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
	----------Gasoline Range Organics	500	U	UJ COS

DATA VALIDATION COPY

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770311

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-19

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2J4052

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 14 Date Analyzed: 05/22/98

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/KG	Q	Qual
71-43-2	Benzene	2.3	U	U
108-88-3	Toluene	9.4		=
100-41-4	Ethylbenzene	2.3	U	U
1330-20-7	Xylenes (total)	7.0	U	

DATA VALIDATION COPY

KLM 7/22/98

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770311

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-19

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 4U408

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 14 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: [illegible]

DATA VALIDATION COPY

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	naphthalene	386	U
91-58-7	2-chloronaphthalene	386	U
208-96-8	acenaphthylene	386	U
83-32-9	acenaphthene	386	U
86-73-7	fluorene	386	U
85-01-8	phenanthrene	386	U
120-12-7	anthracene	386	U
206-44-0	fluoranthene	386	U
129-00-0	pyrene	386	U
56-55-3	benzo(a)anthracene	386	U
218-01-9	chrysene	386	U
205-99-2	benzo(b)fluoranthene	386	U
207-08-9	benzo(k)fluoranthene	386	U
50-32-8	benzo(a)pyrene	386	U
193-39-5	indeno(1,2,3-cd)pyrene	386	U
53-70-3	dibenz(a,h)anthracene	386	U
191-24-2	benzo(g,h,i)perylene	386	U

Qual.
U

KM
7/22/98

FORM I SV-1 OLM03.0

FORM 1 Science Applications 13-MAY-1998 SAMPLE NO.
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770311

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-19

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 5D40034

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 14 decanted: (Y/N) N Date Extracted: 05/19/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 05/29/98

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) MG/KG	Q
	----------Diesel Range Organics	0.12	JB

Qual - U-F01, F06

DATA VALIDATION COPY

Rm 7/22/98

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770311

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-19

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3J4030

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 14 Date Analyzed: 05/22/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	Gasoline Range Organics	77.2	J

Qual. J

DATA VALIDATION COPY

RLM 7/22/98

FORM I VOA

DATA VALIDATION COPY

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770321

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4025S

Matrix: (soil/water) SOIL Lab Sample ID: 9805401-02

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2J707

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 9 Date Analyzed: 05/24/98

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/KG	Q	
71-43-2	Benzene	2.2	U	UJ
108-88-3	Toluene	10.3	P	
100-41-4	Ethylbenzene	2.2	U	UJ
1330-20-7	Xylenes (total)	6.6	U	UJ

MØ8

FORM I VOA

DATA VALIDATION COPY

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770321

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4025S

Matrix: (soil/water) SOIL Lab Sample ID: 9805401-02

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 7U515

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 9 decanted: (Y/N) N Date Extracted: 05/15/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 05/22/98

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

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	7230	U
91-58-7	2-chloronaphthalene	7230	U
208-96-8	acenaphthylene	7230	U
83-32-9	acenaphthene	7230	U
86-73-7	fluorene	7230	U
85-01-8	phenanthrene	7230	U
120-12-7	anthracene	7230	U
206-44-0	fluoranthene	7230	U
129-00-0	pyrene	7230	U
56-55-3	benzo(a)anthracene	7230	U
218-01-9	chrysene	7230	U
205-99-2	benzo(b)fluoranthene	7230	U
207-08-9	benzo(k)fluoranthene	7230	U
50-32-8	benzo(a)pyrene	7230	U
193-39-5	indeno(1,2,3-cd)pyrene	7230	U
53-70-3	dibenz(a,h)anthracene	7230	U
191-24-2	benzo(g,h,i)perylene	7230	U

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DATA VALIDATION COPY

FORM 1 Science Applications13-MAY-1998 SAMPLE NO.
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770321

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4025S

Matrix: (soil/water) SOIL Lab Sample ID: 9805401-02

Sample wt/vol: 30.8 (g/mL) G Lab File ID: 5C60027

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 9 decanted: (Y/N) N Date Extracted:05/19/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/23/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
	----------Diesel Range Organics	1.6	JB

UJ F01, F06

DATA VALIDATION COPY

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770321

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4025S

Matrix: (soil/water) SOIL Lab Sample ID: 9805401-02

Sample wt/vol: 5.0 (g/mL) G Lab File ID: AK1014

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 9 Date Analyzed: 05/25/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	Gasoline Range Organics	1100	U

U

FORM I VOA

159

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 08, 1998

Sample ID	: 770321
Lab ID	: 9805401-02
Matrix	: Soil
Date Collected	: 05/12/98
Date Received	: 05/13/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry												
TOTAL ORGANIC CARBON (TOC)		4780	= F01, F08	24.1	100	mg/kg	1.0	LS	06/04/98	1459	123277	1

M = Method	Method-Description
M 1	SW846 9060 modified

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

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

Reviewed By

259

SDG No.: FS4025S

Form 1: Inorganic Analyses Data Sheet

Method Type: Total Metals

Sample ID: 9805401-02

Client ID: 770321

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

Matrix: SOIL Date Received: 5/13/98 Level: LOW

% Solids: 91.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	4.4	mg/kg			P	0.16	TJA61 Trace ICPAES	980526-1

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

DATA VALIDATION COPY

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770411

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-10

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2I4031

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

% Moisture: not dec. 10 Date Analyzed: 05/15/98

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	2.9	P	J M08
108-88-3	Toluene	19.4		
100-41-4	Ethylbenzene	2.2	U	J
1330-20-7	Xylenes (total)	5.2	J	

DATA VALIDATION
COPY

FORM I VOA

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770411RE

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2T714

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

% Moisture: 10 decanted: (Y/N) N Date Extracted: 05/12/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/17/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	naphthalene	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	29.8	J
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 J U

FORM 1 Science Applications11-MAY-1998 SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770411

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-10

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 5B50019

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

% Moisture: 10 decanted: (Y/N) N Date Extracted:05/13/98

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) MG/KG	Q
	----------Diesel Range Organics	2.5	

UJ F01, F07

DATA VALIDATION COPY

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770411

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-10

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3I7011

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

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

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	Gasoline Range Organics	1110	U

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FORM I VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770421

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-12

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2I4033

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

% Moisture: not dec. 9 Date Analyzed: 05/15/98

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	42.0		
100-41-4	Ethylbenzene	3.9		
1330-20-7	Xylenes (total)	22.2		

DATA VALIDATION COPY

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770421

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-12

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 2T331

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

% Moisture: 9 decanted: (Y/N) 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/KG	Q
91-20-3	naphthalene	366	U
91-58-7	2-chloronaphthalene	366	U
209-96-8	acenaphthylene	366	U
83-32-9	acenaphthene	366	U
86-73-7	fluorene	366	U
85-01-8	phenanthrene	366	U
120-12-7	anthracene	366	U
206-44-0	fluoranthene	366	U
129-00-0	pyrene	366	U
56-55-3	benzo(a)anthracene	366	U
218-01-9	chrysene	366	U
205-99-2	benzo(b)fluoranthene	366	U
207-08-9	benzo(k)fluoranthene	366	U
50-32-8	benzo(a)pyrene	366	U
193-39-5	indeno(1,2,3-cd)pyrene	366	U
53-70-3	dibenz(a,h)anthracene	366	U
191-24-2	benzo(g,h,i)perylene	366	U

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FORM 1 Science Applications11-MAY-1998 SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770421

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL Lab Sample ID: 9805294-12

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 5B50036

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

% Moisture: 9 decanted: (Y/N) N Date Extracted:05/13/98

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) MG/KG	Q
	Diesel Range Organics	3.4	

UJ F01, F07

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770421RE

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4005S

Matrix: (soil/water) SOIL

Lab Sample ID: 9805294-12

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: 3I7014

Level: (low/med) LOW

Date Received: 05/11/98

% Moisture: not dec. 9

Date Analyzed: 05/17/98

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

Dilution Factor: 1.0

Soil Extract Volume:_____(uL)

Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	Gasoline Range Organics	1100	U	UJ G02

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G02

FORM I VOA

Form I: Inorganic Analyses Data Sheet

DATA VALIDATION COPY

SDG No.: FS4005S

Method Type: Total Metals

Sample ID: 9805294-12

Client ID: 770421

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

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

% Solids: 91.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	15.6	mg/kg		~~P~~	P	0.10	TJA61 Trace ICPAES	980517-1

Color Before: Clarity Before: SRR Texture:

Color After: Clarity After: 6/24/98 Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770521

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-11

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2J5018

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 17 Date Analyzed: 05/23/98

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/KG	Q	
71-43-2	Benzene	2.4	U	U
108-88-3	Toluene	46.4		
100-41-4	Ethylbenzene	2.4	U	U
1330-20-7	Xylenes (total)	7.2	U	U

FORM I VOA

DATA VALIDATION COPY

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770521

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-11

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 1V405

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 17 decanted: (Y/N) N Date Extracted: 05/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/28/98

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	402	U
91-58-7	2-chloronaphthalene	402	U
208-96-8	acenaphthylene	402	U
83-32-9	acenaphthene	402	U
86-73-7	fluorene	402	U
85-01-8	phenanthrene	402	U
120-12-7	anthracene	402	U
206-44-0	fluoranthene	402	U
129-00-0	pyrene	402	U
56-55-3	benzo(a)anthracene	402	U
218-01-9	chrysene	402	U
205-99-2	benzo(b)fluoranthene	402	U
207-08-9	benzo(k)fluoranthene	402	U
50-32-8	benzo(a)pyrene	402	U
193-39-5	indeno(1,2,3-cd)pyrene	402	U
53-70-3	dibenz(a,h)anthracene	402	U
191-24-2	benzo(g,h,i)perylene	402	U

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FORM I SV-1

OLM03.0

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770521

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-11

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 5D20011

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 17 decanted: (Y/N) N Date Extracted: 05/19/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 05/27/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	Diesel Range Organics	0.39	JB	UJ FQ1, FQ6

255

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770521

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-11

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3K1011

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 17 Date Analyzed: 05/25/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	----------Gasoline Range Organics	53.5	J

J

Form 1: Inorganic Analyses Data Sheet

SDG No.: FS4022S

Method Type: Total Metals

Sample ID: 9805398-11

Client ID: 770521

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

Matrix: SOIL Date Received: 5/13/98 Level: LOW

% Solids: 83.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	4.7	mg/kg		=	P	0.11	TJA61 Trace ICPAES	980520-1

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770531

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-15

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2J4062

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 18 Date Analyzed: 05/22/98

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/KG	Q
71-43-2	Benzene	2.4	U
108-88-3	Toluene	2.4	U
100-41-4	Ethylbenzene	2.4	U
1330-20-7	Xylenes (total)	7.3	U

Qual.

U

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Rm 5/22/98

DATA VALIDATION COPY

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770531

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-15

Sample wt/vol: 30.9 (g/mL) G Lab File ID: 4U404

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 18 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	395	U
91-58-7	2-chloronaphthalene	395	U
208-96-8	acenaphthylene	395	U
83-32-9	acenaphthene	395	U
86-73-7	fluorene	395	U
85-01-8	phenanthrene	395	U
120-12-7	anthracene	395	U
206-44-0	fluoranthene	395	U
129-00-0	pyrene	395	U
56-55-3	benzo(a)anthracene	395	U
218-01-9	chrysene	395	U
205-99-2	benzo(b)fluoranthene	395	U
207-08-9	benzo(k)fluoranthene	395	U
50-32-8	benzo(a)pyrene	395	U
193-39-5	indeno(1,2,3-cd)pyrene	395	U
53-70-3	dibenz(a,h)anthracene	395	U
191-24-2	benzo(g,h,i)perylene	395	U

Qual.

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Rev 7/22/98

FORM I SV-1 OLM03.0

FORM 1 Science Applications13-MAY-1998 SAMPLE NO.
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770531

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-15

Sample wt/vol: 30.6 (g/mL) G Lab File ID: 5D40029

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 18 decanted: (Y/N) N Date Extracted:05/19/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/29/98

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) MG/KG	Q
	----------Diesel Range Organics	0.60	JB

Qual - U-F01, F06

DATA VALIDATION COPY

Rev 7/22/98

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770531

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-15

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3J4026

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 18 Date Analyzed: 05/22/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	Qual.
	----------Gasoline Range Organics_____	50.3	J	J

DATA VALIDATION COPY

RLW 7/22/98

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770541

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-18

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2J4051

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 17 Date Analyzed: 05/22/98

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/KG	Q
71-43-2	Benzene	2.4	U
108-88-3	Toluene	2.4	U
100-41-4	Ethylbenzene	2.4	U
1330-20-7	Xylenes (total)	7.2	U

Qual- U ↓

Run 7/22/98

DATA VALIDATION COPY

FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770541

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-18

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 4U407

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 17 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

DATA VALIDATION COPY

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
91-20-3	naphthalene	399	U
91-58-7	2-chloronaphthalene	399	U
208-96-8	acenaphthylene	399	U
83-32-9	acenaphthene	399	U
86-73-7	fluorene	399	U
85-01-8	phenanthrene	399	U
120-12-7	anthracene	399	U
206-44-0	fluoranthene	399	U
129-00-0	pyrene	399	U
56-55-3	benzo(a)anthracene	399	U
218-01-9	chrysene	399	U
205-99-2	benzo(b)fluoranthene	399	U
207-08-9	benzo(k)fluoranthene	399	U
50-32-8	benzo(a)pyrene	399	U
193-39-5	indeno(1,2,3-cd)pyrene	399	U
53-70-3	dibenz(a,h)anthracene	399	U
191-24-2	benzo(g,h,i)perylene	399	U

Qual.
U

RCM
7/22/98

FORM I SV-1

OLM03.0

FORM 1 Science Applications13-MAY-1998 SAMPLE NO.
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770541

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-18

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5D40044

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 17 decanted: (Y/N) N Date Extracted:05/19/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/29/98

Injection Volume: 1.0(uL) Dilution Factor: 1000.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
	----------Diesel Range Organics	4210	B

Qual. = F08

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Kim 7/22/98

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770541

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-18

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3J4029

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 17 Date Analyzed: 05/22/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	Gasoline Range Organics	1200	U

Qual
U

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7/22/98

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FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770551

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-17

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2J4064

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 18 Date Analyzed: 05/22/98

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/KG	Q	Qual.
71-43-2	Benzene	2.4	U	U
108-88-3	Toluene	5.5		=
100-41-4	Ethylbenzene	2.4	U	U
1330-20-7	Xylenes (total)	7.3	U	U

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FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770551

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-17

Sample wt/vol: 30.4 (g/mL) G Lab File ID: 4U406

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 18 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	401	U
91-58-7	2-chloronaphthalene	401	U
208-96-8	acenaphthylene	401	U
83-32-9	acenaphthene	401	U
86-73-7	fluorene	401	U
85-01-8	phenanthrene	401	U
120-12-7	anthracene	401	U
206-44-0	fluoranthene	401	U
129-00-0	pyrene	401	U
56-55-3	benzo(a)anthracene	401	U
218-01-9	chrysene	401	U
205-99-2	benzo(b)fluoranthene	401	U
207-08-9	benzo(k)fluoranthene	401	U
50-32-8	benzo(a)pyrene	401	U
193-39-5	indeno(1,2,3-cd)pyrene	401	U
53-70-3	dibenz(a,h)anthracene	401	U
191-24-2	benzo(g,h,i)perylene	401	U

Qual.

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Rev 7/22/98

FORM I SV-1

OLM03.0

FORM 1 Science Applications13-MAY-1998 SAMPLE NO.
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770551

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-17

Sample wt/vol: 30.3 (g/mL) G Lab File ID: 5D40031

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 18 decanted: (Y/N) N Date Extracted:05/19/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/29/98

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) MG/KG	Q
	----------Diesel Range Organics	0.62	JB

Qual-
U-F01, F06

DATA VALIDATION COPY

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770551

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-17

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3J4028

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 18 Date Analyzed: 05/22/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	----------Gasoline Range Organics_____	1220	U

Qual.

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7/22/98

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FORM I VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770561

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-16

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2J4063

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 22 Date Analyzed: 05/22/98

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/KG	Q
71-43-2	Benzene	2.6	U
108-88-3	Toluene	2.6	U
100-41-4	Ethylbenzene	2.6	U
1330-20-7	Xylenes (total)	7.7	U

Qual.

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FORM I VOA

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770561

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-16

Sample wt/vol: 30.7 (g/mL) G Lab File ID: 4U405

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 22 decanted: (Y/N) N Date Extracted: 05/15/98

Concentrated Extract Volume: 1.0 (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	418	U
91-58-7	2-chloronaphthalene	418	U
208-96-8	acenaphthylene	418	U
83-32-9	acenaphthene	418	U
86-73-7	fluorene	418	U
85-01-8	phenanthrene	418	U
120-12-7	anthracene	418	U
206-44-0	fluoranthene	418	U
129-00-0	pyrene	418	U
56-55-3	benzo(a)anthracene	418	U
218-01-9	chrysene	418	U
205-99-2	benzo(b)fluoranthene	418	U
207-08-9	benzo(k)fluoranthene	418	U
50-32-8	benzo(a)pyrene	418	U
193-39-5	indeno(1,2,3-cd)pyrene	418	U
53-70-3	dibenz(a,h)anthracene	418	U
191-24-2	benzo(g,h,i)perylene	418	U

Qual.

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RLM 7/22/98

FORM I SV-1

OLM03.0

FORM 1 Science Applications13-MAY-1998 SAMPLE NO.
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770561

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-16

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 5D40030

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 22 decanted: (Y/N) N Date Extracted:05/19/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/29/98

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) MG/KG	Q
	----------Diesel Range Organics	0.31	JB

Qual
U-F01,F06

DATA VALIDATION COPY

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7/22/98

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770561

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4021S

Matrix: (soil/water) SOIL Lab Sample ID: 9805396-16

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3J4027

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 22 Date Analyzed: 05/22/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	Qual.
	----------Gasoline Range Organics	1280	U	U

RLM 7/22/98

DATA VALIDATION COPY

FORM I VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770571

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-06

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2J5013

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 22 Date Analyzed: 05/23/98

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/KG	Q
71-43-2	Benzene	2.6	U
108-88-3	Toluene	2.6	U
100-41-4	Ethylbenzene	2.6	U
1330-20-7	Xylenes (total)	7.7	U

U

DATA VALIDATION COPY

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770571

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-06

Sample wt/vol: 30.2 (g/mL) G Lab File ID: 1V218

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 22 decanted: (Y/N) N Date Extracted: 05/18/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 05/27/98

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	424	U
91-58-7	2-chloronaphthalene	424	U
208-96-8	acenaphthylene	424	U
83-32-9	acenaphthene	424	U
86-73-7	fluorene	424	U
85-01-8	phenanthrene	424	U
120-12-7	anthracene	424	U
206-44-0	fluoranthene	424	U
129-00-0	pyrene	424	U
56-55-3	benzo(a)anthracene	424	U
218-01-9	chrysene	424	U
205-99-2	benzo(b)fluoranthene	424	U
207-08-9	benzo(k)fluoranthene	424	U
50-32-8	benzo(a)pyrene	424	U
193-39-5	indeno(1,2,3-cd)pyrene	424	U
53-70-3	dibenz(a,h)anthracene	424	U
191-24-2	benzo(g,h,i)perylene	424	U

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FORM I SV-1

OLM03.0

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
770571

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5D2006

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 22 decanted: (Y/N) N Date Extracted:05/19/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/27/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	0.65	JB	UJ F01, F06

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770571

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-06

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3J6018

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 22 Date Analyzed: 05/23/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	Gasoline Range Organics	1280	U	U

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770581

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-08

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2J5027

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 19 Date Analyzed: 05/23/98

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/KG	Q	
71-43-2	Benzene	2.5	U	U
108-88-3	Toluene	3.5		
100-41-4	Ethylbenzene	2.5	U	U
1330-20-7	Xylenes (total)	7.4	U	U

FORM I VOA

DATA VALIDATION

SEMIVOLATILE ORGANICS 1B ANALYSIS DATA SHEET

EPA SAMPLE NO.

770581

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-08

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 1V220

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 19 decanted: (Y/N) N Date Extracted: 05/18/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 05/27/98

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	410	U
91-58-7	2-chloronaphthalene	410	U
208-96-8	acenaphthylene	410	U
83-32-9	acenaphthene	410	U
86-73-7	fluorene	410	U
85-01-8	phenanthrene	410	U
120-12-7	anthracene	410	U
206-44-0	fluoranthene	410	U
129-00-0	pyrene	410	U
56-55-3	benzo(a)anthracene	410	U
218-01-9	chrysene	410	U
205-99-2	benzo(b)fluoranthene	410	U
207-08-9	benzo(k)fluoranthene	410	U
50-32-8	benzo(a)pyrene	410	U
193-39-5	indeno(1,2,3-cd)pyrene	410	U
53-70-3	dibenz(a,h)anthracene	410	U
191-24-2	benzo(g,h,i)perylene	410	U

U

FORM I SV-1

OLM03.0

FORM 1 Science Applications13-MAY-1998 SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

(COM)

770581

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5D2008

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 19 decanted: (Y/N) N Date Extracted:05/19/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/27/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	0.53	JB	UJ F01, F06

257

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770581

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-08

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3J707

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 19 Date Analyzed: 05/24/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	Gasoline Range Organics	1230	U	U

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770591

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-02

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 2J5024

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 26 Date Analyzed: 05/23/98

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/KG	Q	
71-43-2	Benzene	2.7	U	U
108-88-3	Toluene	2.8		=
100-41-4	Ethylbenzene	2.7	U	U
1330-20-7	Xylenes (total)	8.1	U	U

FORM I VOA

DATA VALIDATION COPY

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770591

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-02

Sample wt/vol: 30.1 (g/mL) G Lab File ID: 1V214

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 26 decanted: (Y/N) N Date Extracted: 05/18/98

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 05/27/98

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	449	U
91-58-7	2-chloronaphthalene	449	U
208-96-8	acenaphthylene	449	U
83-32-9	acenaphthene	449	U
86-73-7	fluorene	449	U
85-01-8	phenanthrene	449	U
120-12-7	anthracene	449	U
206-44-0	fluoranthene	449	U
129-00-0	pyrene	449	U
56-55-3	benzo(a)anthracene	449	U
218-01-9	chrysene	449	U
205-99-2	benzo(b)fluoranthene	449	U
207-08-9	benzo(k)fluoranthene	449	U
50-32-8	benzo(a)pyrene	449	U
193-39-5	indeno(1,2,3-cd)pyrene	449	U
53-70-3	dibenz(a,h)anthracene	449	U
191-24-2	benzo(g,h,i)perylene	449	U

U

FORM 1 Science Applications13-MAY-1998 SAMPLE NO.
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770591

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-02

Sample wt/vol: 30.8 (g/mL) G Lab File ID: 5C50042

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: 26 decanted: (Y/N) N Date Extracted:05/19/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 05/24/98

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) MG/KG	Q
	----------Diesel Range Organics	3.2	B

= F01, F08

COPY

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770591

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4022S

Matrix: (soil/water) SOIL Lab Sample ID: 9805398-02

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 3J6014

Level: (low/med) LOW Date Received: 05/13/98

% Moisture: not dec. 26 Date Analyzed: 05/23/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
	Gasoline Range Organics	1350	U

U

FORM I VOA

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1 of 2

CHAIN OF CUSTODY RECORD

COC NO.: GAB014

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

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
760811	5/9/96	1455	Soil				1	1					2	
750211	5/6/96	1900					1	1					2	
750411	5/6/96	1650					1	1					2	
770211	5/8/96	1725					1	1					2	
770411	5/8/96	1555					1	1					2	
750221	5/6/96	1905					1		1				2	
770421	5/8/96	1615					1		1				2	
770221	5/8/96	1735					1		1				2	
690111	5/9/96	1540		1						1			2	
640221	5/9/96	1500		1							1		2	
730521	5/9/96	915		1						1			2	
730531	5/9/96	935		1						1			2	
690411	5/10/96	910		1						1			2	

RELINQUISHED BY: Laura Lumley	Date/Time 5/11/96 1130	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS:	Cooler Temperature: 4°C
COMPANY NAME: SAIC		COMPANY NAME:		Cooler ID: #131	FEDEX NUMBER:
RECEIVED BY: Brad Thomas	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:			

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2012

CHAIN OF CUSTODY RECORD

COC NO.: GAB7926

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation 9405

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
151691	5/11/96	1703	So. 1				1	1					2	
151661	5/11/96	1324					1	1					2	
151661	5/11/96	1625					1	1					2	
151641	5/11/96	1306					1	1					2	
151621	5/11/96	950					1	1					2	
160313	5/12/96	1015					1	1					2	
160411	5/12/96	1635					1	1					2	
710311	5/11/96	1550					1	1					2	
770531	5/12/96	1444					1	1					2	
770561	5/12/96	1510					1	1					2	
770551	5/12/96	1502					1	1					2	
770541	5/12/96	1455					1	1					2	
770311	5/12/96	1640	↓				1	1					2	

REQUESTED PARAMETERS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 52	Cooler Temperature: 4°C
Laura Lumley	5/13/96				
COMPANY NAME: SAIC	1140	COMPANY NAME:		Cooler ID: # 202	FEDEX NUMBER:
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL	5-13-96 1140	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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1 of 2 3

CHAIN OF CUSTODY RECORD

COC NO.: GAB027

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation 9905

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
710211	5/11/96	1420	Soil				1	1					2	
670211	5/11/96	1025					1	1					2	
770591	5/12/96	1554					1	1					2	
720111	5/11/96	1130					1	1					2	
160311	5/12/96	1615					1	1					2	
720221	5/11/96	955					1	1					2	
770571	5/12/96	1515					1	1					2	
670111	5/11/96	915					1	1					2	
770581	5/12/96	1552					1	1					2	
670113	5/11/96	915					1	1					2	
670191	5/11/96	915					1		1				2	
770521	5/12/96	1435					1		1				2	
720211	5/11/96	930					1		1				2	

REQUESTED PARAMETERS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS:	Cooler Temperature: 4°C
Laura Lumley	5/13/96 1140			Cooler ID: #133	
COMPANY NAME: SAIC		COMPANY NAME:			FEDEX NUMBER:
RECEIVED BY: Pat Hochuli	Date/Time 5-13-96 1140	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEC		COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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1 of 2

CHAIN OF CUSTODY RECORD

COC NO.: G4E0[illegible]-1

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

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

PROJECT MANAGER: Patty Stoll

Sampler (Signature) Anna Lumley (Printed Name) Anna Lumley

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS

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	DRO, TOC	No. of Bottles/ Vials:
740121	5/11/96	1650	Soil	1							1			2
090511	5/11/96	1535		1		1					1			2
610221	5/12/96	1450		1							1			2
740921	5/11/96	1740		1							1			2
610121	5/12/96	1750		1							1			2
740511	5/12/96	1450		1							1			2
740421	5/11/96	1900		1							1			2
700221	5/11/96	1050		1							1			2
700121	5/11/96	955		1							1			2
740321	5/11/96	1425		1							1			2
770111	5/12/96	1240					1	1						2
160321	5/12/96	1615					1		1					2
770321	5/12/96	1645					1					1		2

RELINQUISHED BY: Anna Lumley	Date/Time 5/13/96	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS:	Cooler Temperature: 4/0°C
COMPANY NAME: SAIC	1140	COMPANY NAME:		Cooler ID: #30	FEDEX NUMBER:
RECEIVED BY:	Date/Time 5-13-96	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL	1140	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770611

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-08

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8K119

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. 14 Date Analyzed: 11/23/98

GC Column: DB-624 ID: 0.25 (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
108-88-3	toluene	2.3	U
100-41-4	ethylbenzene	2.3	U
1330-20-7	xylenes (total)	3.5	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770611

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5V221

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: 14 decanted: (Y/N) N Date Extracted:11/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/24/98

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	388	U
91-58-7	2-chloronaphthalene	388	U
208-96-8	acenaphthylene	388	U
83-32-9	acenaphthene	388	U
86-73-7	fluorene	388	U
85-01-8	phenanthrene	388	U
120-12-7	anthracene	388	U
206-44-0	fluoranthene	388	U
129-00-0	pyrene	388	U
56-55-3	benzo(a)anthracene	388	U
218-01-9	chrysene	388	U
205-99-2	benzo(b)fluoranthene	388	U
207-08-9	benzo(k)fluoranthene	388	U
50-32-8	benzo(a)pyrene	388	U
193-39-5	indeno(1,2,3-cd)pyrene	388	U
53-70-3	dibenz(a,h)anthracene	388	U
191-24-2	benzo(g,h,i)perylene	388	U

U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770611

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21C4016

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: 14 decanted: (Y/N) N Date Extracted:11/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/19/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics_____	1.2	JB	U F01, F06

FORM I SV

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770611

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-08

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1K3018

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. 14 Date Analyzed: 11/25/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	----------Gasoline Range Organics	116	U	UJ GD2

USE

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770621

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-18

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8K208

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. 10 Date Analyzed: 11/24/98

GC Column: DB-624 ID: 0.25 (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	2.0	J	J
100-41-4	ethylbenzene	2.2	U	U
1330-20-7	xylenes (total)	3.3	U	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770621

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-18

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5V307

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: 10 decanted: (Y/N) N Date Extracted:11/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/25/98

Injection Volume: 1.0(uL) Dilution Factor: 2.0

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	741	U
91-58-7	2-chloronaphthalene	741	U
208-96-8	acenaphthylene	741	U
83-32-9	acenaphthene	741	U
86-73-7	fluorene	741	U
85-01-8	phenanthrene	741	U
120-12-7	anthracene	741	U
206-44-0	fluoranthene	741	U
129-00-0	pyrene	741	U
56-55-3	benzo(a)anthracene	741	U
218-01-9	chrysene	741	U
205-99-2	benzo(b)fluoranthene	741	U
207-08-9	benzo(k)fluoranthene	741	U
50-32-8	benzo(a)pyrene	741	U
193-39-5	indeno(1,2,3-cd)pyrene	741	U
53-70-3	dibenz(a,h)anthracene	741	U
191-24-2	benzo(g,h,i)perylene	741	U

U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770621

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-18

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21C4029

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: 10 decanted: (Y/N) N Date Extracted:11/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/20/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q
	----------Diesel Range Organics	6.8	B

= FD8

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

770621

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-18

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1K5042

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. 10 Date Analyzed: 11/28/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	----------Gasoline Range Organics_____	111	U	U

FORM I VOA

Form 1: Inorganic Analyses Data Sheet

SDG No.: FS6013S ALLENTION Method Type: Total Metals

Sample ID: 9811523-18 Client ID: 770621

Contract: SAIC01498 Lab Code: GEL Case No.: SAS No.:

Matrix: SOIL Date Received: 11/16/98 Level: LOW

% Solids: 90.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	3.8	mg/kg			P	0.16	TJA61 Trace2 ICPAES	981201-2

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770711

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-11

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8K122

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. 10 Date Analyzed: 11/23/98

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
71-43-2	benzene	2.2	U	U
108-88-3	toluene	4.8		
100-41-4	ethylbenzene	2.2	U	U
1330-20-7	xylenes (total)	3.3	U	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770711

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-11

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5V224

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: 10 decanted: (Y/N) N Date Extracted:11/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/24/98

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	1480	U
91-58-7	2-chloronaphthalene	1480	U
208-96-8	acenaphthylene	1480	U
83-32-9	acenaphthene	1480	U
86-73-7	fluorene	1480	U
85-01-8	phenanthrene	1480	U
120-12-7	anthracene	1480	U
206-44-0	fluoranthene	1480	U
129-00-0	pyrene	1480	U
56-55-3	benzo(a)anthracene	1480	U
218-01-9	chrysene	1480	U
205-99-2	benzo(b)fluoranthene	1480	U
207-08-9	benzo(k)fluoranthene	1480	U
50-32-8	benzo(a)pyrene	1480	U
193-39-5	indeno(1,2,3-cd)pyrene	1480	U
53-70-3	dibenz(a,h)anthracene	1480	U
191-24-2	benzo(g,h,i)perylene	1480	U

U

FORM 1 Science Applications16-NOV-1998 SA
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770711

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-11

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21C4019

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: 10 decanted: (Y/N) N Date Extracted:11/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/19/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	6.6	B	= F08

FORM I SV

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770711

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-11

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1K3021

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. 10 Date Analyzed: 11/25/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	----------Gasoline Range Organics	111	U	U

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770721

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-15

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8K132

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. 13 Date Analyzed: 11/24/98

GC Column: DB-624 ID: 0.25 (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 = U J
108-88-3	toluene	2.9		
100-41-4	ethylbenzene	2.3	U	
1330-20-7	xylenes (total)	1.0	J	

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770721

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-15

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5V304

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: 13 decanted: (Y/N) N Date Extracted:11/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/25/98

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/KG	Q
91-20-3	naphthalene	383	U
91-58-7	2-chloronaphthalene	383	U
208-96-8	acenaphthylene	383	U
83-32-9	acenaphthene	383	U
86-73-7	fluorene	383	U
85-01-8	phenanthrene	383	U
120-12-7	anthracene	383	U
206-44-0	fluoranthene	383	U
129-00-0	pyrene	383	U
56-55-3	benzo(a)anthracene	383	U
218-01-9	chrysene	383	U
205-99-2	benzo(b)fluoranthene	383	U
207-08-9	benzo(k)fluoranthene	383	U
50-32-8	benzo(a)pyrene	383	U
193-39-5	indeno(1,2,3-cd)pyrene	383	U
53-70-3	dibenz(a,h)anthracene	383	U
191-24-2	benzo(g,h,i)perylene	383	U

U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770721

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-15

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21C4058

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: 13 decanted: (Y/N) N Date Extracted:11/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/20/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	1.7	B	U F01, F07

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770721

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-15

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1K5020

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. 13 Date Analyzed: 11/28/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	----------Gasoline Range Organics_____	115	U	U

FORM I VOA

Form 1: Inorganic Analyses Data Sheet

DATA VALIDATION COPY

SDG No.: FS6013S

Method Type: Total Metals

Sample ID: 9811523-15

Client ID: 770721

Contract: SAIC01498 Lab Code: GEL Case No.: SAS No.:

Matrix: SOIL Date Received: 11/16/98 Level: LOW

% Solids: 87.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	1.2	mg/kg			P	0.17	TJA61 Trace2 ICPAES	981201-2

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770811

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-10

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8K121

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. 9 Date Analyzed: 11/23/98

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
71-43-2	benzene	2.2	U	U
108-88-3	toluene	4.4		=
100-41-4	ethylbenzene	2.2	U	U
1330-20-7	xylenes (total)	0.68	J	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770811

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5V223

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: 9 decanted: (Y/N) N Date Extracted:11/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/24/98

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	366	U
91-58-7	2-chloronaphthalene	366	U
208-96-8	acenaphthylene	366	U
83-32-9	acenaphthene	366	U
86-73-7	fluorene	366	U
85-01-8	phenanthrene	366	U
120-12-7	anthracene	366	U
206-44-0	fluoranthene	366	U
129-00-0	pyrene	366	U
56-55-3	benzo(a)anthracene	366	U
218-01-9	chrysene	366	U
205-99-2	benzo(b)fluoranthene	366	U
207-08-9	benzo(k)fluoranthene	366	U
50-32-8	benzo(a)pyrene	366	U
193-39-5	indeno(1,2,3-cd)pyrene	366	U
53-70-3	dibenz(a,h)anthracene	366	U
191-24-2	benzo(g,h,i)perylene	366	U

U

FORM 1 Science Applications16-NOV-1998 SA
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770811

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21C4018

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: 9 decanted: (Y/N) N Date Extracted:11/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/19/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics_____	1.6	B	U F01, F07

FORM I SV

325

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770811

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-10

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1K3020

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. 9 Date Analyzed: 11/25/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	----------Gasoline Range Organics_____	110	U	U

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770821

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-17

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8K207

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. 11 Date Analyzed: 11/24/98

GC Column: DB-624 ID: 0.25 (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	1.5	J	
100-41-4	ethylbenzene	2.2	U	U
1330-20-7	xylenes (total)	3.4	U	

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770821

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-17

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 5V306

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: 11 decanted: (Y/N) N Date Extracted:11/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/25/98

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/KG	Q
91-20-3	naphthalene	374	U
91-58-7	2-chloronaphthalene	374	U
208-96-8	acenaphthylene	374	U
83-32-9	acenaphthene	374	U
86-73-7	fluorene	374	U
85-01-8	phenanthrene	374	U
120-12-7	anthracene	374	U
206-44-0	fluoranthene	374	U
129-00-0	pyrene	374	U
56-55-3	benzo(a)anthracene	374	U
218-01-9	chrysene	374	U
205-99-2	benzo(b)fluoranthene	374	U
207-08-9	benzo(k)fluoranthene	374	U
50-32-8	benzo(a)pyrene	374	U
193-39-5	indeno(1,2,3-cd)pyrene	374	U
53-70-3	dibenz(a,h)anthracene	374	U
191-24-2	benzo(g,h,i)perylene	374	U

U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

770821

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-17

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 21C4028

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: 11 decanted: (Y/N) N Date Extracted:11/18/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/20/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/KG	Q	
	----------Diesel Range Organics	2.2	B	U F01, F07

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770821

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6013S

Matrix: (soil/water) SOIL Lab Sample ID: 9811523-17

Sample wt/vol: 10.0 (g/mL) G Lab File ID: 1K5022

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. 11 Date Analyzed: 11/28/98

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
	----------Gasoline Range Organics_____	112	U	U

FORM I VOA

DATA VALIDATION COPY

Form 1: Inorganic Analyses Data Sheet

SDG No.: FS6013S

Method Type: Total Metals

Sample ID: 9811523-17		Client ID: 770821	
Contract: SAIC01498	Lab Code: GEL	Case No.:	SAS No.:
Matrix: SOIL	Date Received: 11/16/98	Level: LOW	
% Solids: 89.00			

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run	
7439-92-1	Lead	0.91	mg/kg			P	0.17	TJA61 Trace2 ICPAES	981201-2	—

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

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

Comments:

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

1 of 2

CHAIN OF CUSTODY RECORD 9811523

COC NO.: GA015

PROJECT NAME: Fort Stewart CAP Part A UST Investigations

PROJECT NUMBER: 01-0331-04-9805-220

PROJECT MANAGER: Patty Stoll

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

	Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	BTEX, GRO	PAH, DRO	PAH, TPH	PAH, DRO, Lead	PAH, TPH, Lead	PAH, DRO, Lead, TOC	PAH, TPH, Lead, TOC	No. of Bottles/ Vials:
01	670511	11/15/96	1530	Soi			1	1						2
02	670411	11/15/96	1730				1	1						2
03	660511	11/14/96	1030				1	1						2
04	160711	11/14/96	1615				1	1						2
05	660313	11/14/96	1745				1	1						2
06	660411	11/14/96	915				1	1						2
07	660311	11/14/96	1745				1	1						2
08	770611	11/15/96	1015				1	1						2
09	160713	11/14/96	1615				1	1						2
10	770811	11/15/96	1100				1	1						2
11	770711	11/15/96	915				1	1						2
12	670611	11/15/96	1430				1	1						2
13	670313	11/15/96	1630				1	1						2

REQUESTED PARAMETERS

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS

36.71'

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	11/16/96		11-16-96
COMPANY NAME: SAIC	1230	COMPANY NAME: OEL	1600
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
COMPANY NAME: OEL	11-16-96 1230	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME: OEL	11-16-96 1600	COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS:

Cooler ID: #713

Cooler Temperature: 4 °

FEDEX NUMBER:

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

2 of 2 9811523.

CHAIN OF CUSTODY RECORD 981152S

COC NO.: GA015

PROJECT NAME: Fort Stewart CAP Part A UST Investigations

PROJECT NUMBER: 01-0331-04-9805-220

PROJECT MANAGER: Patty Stoll

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

REQUESTED PARAMETERS

	Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	BTEX, GRO	PAH, DRO	PAH, TPH	PAH, DRO, Lead	PAH, TPH, Lead	PAH, DRO, Lead, TOC	PAH, TPH, Lead, TOC	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
14	670311	11/15/98	1630	Soil			1	1						2	
15	770721	11/15/98	915				1			1				2	
16	680521	11/14/98	1030				1			1				2	
17	770821	11/15/98	1100				1			1				2	
18	770621	11/15/98	1015				1			1				2	
19	670521	11/15/98	1530				1			1				2	
20	680421	11/14/98	915				1			1				2	
13#	670621	11/15/98	1430	↓			1			1				2	

36.715 .2 36.9

11/16/98

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	11/16/98		
COMPANY NAME: SAIC	1230	COMPANY NAME: H+ G.E.L	11-16-98 1600
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL	11-16-98 1230	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME: GEL	11-16-98 1600	COMPANY NAME:	

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod Charleston, SC 29417

PHONE NO: (803) 556-8171

TOTAL NUMBER OF CONTAINERS: 42

Cooler Temperature: 4°

Cooler ID: #713

FEDEX NUMBER:

PERMEABILITY TEST ANALYSIS (ASTM D5084)

Project : Fort Stewart

Location of Project : CAP Part A

Description of Soil : Light Gray-brown Sand

Job # : 98066
Date of Testing: 6/15-19/98
Tested by: CA
Boring # :
Sample # : 770331
Sample Depth : -

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

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

Sample Permeation:

De-Aired Water
% Saturation: 100 %
Cell Pressure: 85 psi
Lower Pressure: 81 psi
Upper Pressure: 80 psi
Gradient: 10.05

Sample Dimensions		
	Before	After
Length (cm)	7.00	6.45
Diameter (cm)	4.70	4.90
Water Content (%)	18	19.7
Weight (g)	234.0	236.6

Constant Head Calculation:

$$K = [V(t_1,t_2)\, LR_T]/[P_B A t] \text{ (cm/sec)}$$

$V(t_1,t_2)$ = Volume of flow from t_1 to t_2 (cm^3)
L = Length of Sample = 7.00 cm
A = Area of Sample = 17.35 cm^2
t = $t_2 - t_1$ (sec)
P_B = Bias Pressure = 1 psi x 70.37 cm/psi $_{(cm - H2O)}$ 70.37 cm
R_T = Temperature correction = 0.931

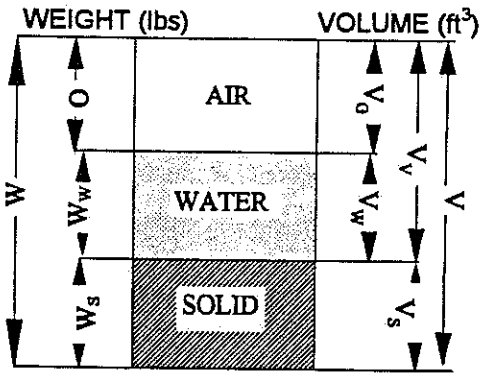
t_2 (min)	t_1 (min)	$(t_2 - t_1)*60$ (sec)	V (cm^3)	$[LR_T]/[P_B A]$ (cm^3)	K (cm/sec)
3	1	120	1.4	5.34E-03	6.23E-05
4	3	60	0.8	5.34E-03	7.12E-05
5	4	60	0.5	5.34E-03	4.45E-05
6	5	60	0.7	5.34E-03	6.23E-05

K_{avg} = 6.01E-05 cm/sec

SPECIFIC GRAVITY AND POROSITY

PROJECT: Fort Stewart
LOCATION OF PROJECT: CAP Part A
DESCRIPTION OF SOIL: Light Gray-brown Sand
TESTED BY: B.J. Vance

JOB NO.: 98066
SAMPLE NO: 770331
DEPTH OF SAMPLE: 8-10ft.
DATE OF TESTING: 7/6/98



W = 1.20723
W_W = W - W_S = 0.19982
W_S = Y_d*V = 1.0074

V = 0.00974
V_W = W_W/Y_W = 0.0032
V_S = W_S/G_S*Y_W = 0.0062
V_G = V - (V_S + V_W) = 0.00036
V_V = V_G + V_W 0.0036

MEASUREMENTS OF TUBE/CAN

HEIGHT= 15.9 cm
DIAMETER= 4.7 cm

CALCULATED VOLUME OF TUBE/CAN

V= 275.86 cm^3
0.00974 ft^3

WT. OF TUBE/CAN + WET SOIL= 860.10 g
WEIGHT OF TUBE/CAN= 312.5 g
WEIGHT OF WET SOIL= 547.60 g
W = 1.20723 lb

MOISTURE CONTENT

M_{CWS} = 29.50 g
M_{CDS} = 27.10 g
M_W = 2.40 g
M_C = 15.00 g
M_S = 12.10 g
w = 19.8 %

Wet Density, Y_m = W / V

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

double check	Y_d = Y_m / (1+ w)
Y_d = W_s / V	Y_m= 123.90 lbs/ft^3
Y_d= 103.40 lbs/ft^3	Y_d= 103.40 lbs/ft^3

Void Ratio, e = V_V/V_S
e = 0.5759

Porosity, n = V_V /V
n = 0.37

Specific Gravity = 2.61

Degree of Saturation, S = V_W/V_V
S = 0.8989

CATLIN Engineers and Scientists
Geotechnical Laboratories

GRAIN SIZE ANALYSIS-SIEVE (ASTM D422)

Project SAIC

Job No. _____

Location of Project Cape Point M.

Sample No. # 770 331

Description of Soil Gray Sand w clay

Depth of Sample _____ Boring No. _____

Tested By BV

Date of Testing 7/7/98

Sample preparation procedures outlined in ASTM D421 and D2217.

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

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Weight of sample used, M_{ss} = 447.60 g

M_{cws}	M_{cds}	M_c ____	M_w	M_s	w %	M_{ws}	M_s
	567.40	119.80					

Sieve analysis and grain shape

Sieve no.	Diam. (mm)	Wt. retained	% retained	Σ % retained	% passing
3"					
2"					
1 1/2 "					
3/4"					
3/8"					
#4					
#10		20.32	4.55	4.55	95.45
#20		39.42	8.82	13.37	86.63
#40		21.48	4.81	18.18	81.82
#60		80.60	18.03	36.21	63.79
#140		263.40	58.95	95.16	4.84
#200		7.10	1.59	96.75	3.25
pan		14.10	3.25	1000	0
		446.82			

% retained = (Wt. retained/W_s) · 100

% passing = 100 - Σ % retained.

SOIL ANALYTICAL DATA OBTAINED USTs 2 & 3 CLOSURE ACTIVITIES (August 1996)

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ECOSYS
LABORATORY SERVICES

ANALYTICAL REPORT

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

Client Code	19111880
Ledger Number	108113
P.O. Number	*
Date Received	08/16/96
Time Received	12:10
Reporting Date	08/30/96

Anderson Columbia Env
Mr. David Black
2 Guerdon Road
Lake City, FL 32055
P: 1-904-755-1196 F: 1-904-758-9050

Ledger Comment * PO Number is COE DO0101. Soil results are reported on a wet weight basis.

Lab Sample ID	AB37486	**Client Site #**	SAMPLES BENEATH DISPENSER
Project #	8101	**Client Sample #**	8101-TK2/3-D1-S1
Project Name	FT STEWART		
Sampling Date/Time	08/15/96 12:45		

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
SEMI (GC/MS) SOIL					Prep Date 08/21/96		Batch 0821960007		
8270B	N-NITROSODIMETHYLAMINE	S06018	*Below MDL*	330	ug/Kg	1.0	62-75-9	GC	08/23/61
8270B	ANILINE	S06018	*Below MDL*	330	ug/Kg	1.0	62-53-3	GC	08/23/61
8270B	PHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	108-95-2	GC	08/23/61
	BIS(2-CHLOROETHYL) ETHER	S06018	*Below MDL*	330	ug/Kg	1.0	111-44-4	GC	08/23/61
	2-CHLOROPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	95-57-8	GC	08/23/61
8270B	1,3-DICHLOROBENZENE	S06018	*Below MDL*	330	ug/Kg	1.0	541-73-1	GC	08/23/61
8270B	1,4-DICHLOROBENZENE	S06018	*Below MDL*	330	ug/Kg	1.0	106-46-7	GC	08/23/61
8270B	BENZYL ALCOHOL	S06018	*Below MDL*	330	ug/Kg	1.0	100-51-6	GC	08/23/61
8270B	1,2-DICHLOROBENZENE	S06018	*Below MDL*	330	ug/Kg	1.0	95-50-1	GC	08/23/61
8270B	BIS(2-CHLOROISOPROPYL) ETHER	S06018	*Below MDL*	330	ug/Kg	1.0	108-60-1	GC	08/23/61
8270B	2-METHYLPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	95-48-7	GC	08/23/61
8270B	4-METHYLPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	106-44-5	GC	08/23/61
8270B	N-NITROSODI-N-PROPYLAMINE	S06018	*Below MDL*	330	ug/Kg	1.0	621-64-7	GC	08/23/61
8270B	HEXACHLOROETHANE	S06018	*Below MDL*	330	ug/Kg	1.0	67-72-1	GC	08/23/61
8270B	NITROBENZENE	S06018	*Below MDL*	330	ug/Kg	1.0	98-95-3	GC	08/23/61
8270B	ISOPHORONE	S06018	*Below MDL*	330	ug/Kg	1.0	78-59-1	GC	08/23/61
8270B	2-NITROPHENOL	S06018	*Below MDL*	660	ug/Kg	1.0	88-75-5	GC	08/23/61
8270B	2,4-DIMETHYLPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	105-67-9	GC	08/23/61
8270B	BIS(2-CHLOROETHOXY)METHANE	S06018	*Below MDL*	330	ug/Kg	1.0	111-91-1	GC	08/23/61
8270B	2,4-DICHLOROPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	120-83-2	GC	08/23/61
8270B	1,2,4-TRICHLOROBENZENE	S06018	*Below MDL*	330	ug/Kg	1.0	120-82-1	GC	08/23/61
8270B	BENZOIC ACID	S06018	*Below MDL*	1650	ug/Kg	1.0	65-85-0	GC	08/23/61
8270B	NAPHTHALENE	S06018	*Below MDL*	330	ug/Kg	1.0	91-20-3	GC	08/23/61
8270B	4-CHLOROANILINE	S06018	*Below MDL*	330	ug/Kg	1.0	106-47-8	GC	08/23/61
8270B	HEXACHLOROBUTADIENE	S06018	*Below MDL*	330	ug/Kg	1.0	87-68-3	GC	08/23/61
8270B	4-CHLORO-3-METHYLPHENOL	S06018	*Below MDL*	660	ug/Kg	1.0	59-50-7	GC	08/23/61
	2-METHYLNAPHTHALENE	S06018	*Below MDL*	330	ug/Kg	1.0	91-57-6	GC	08/23/61
8270B	HEXACHLOROCYCLOPENTADIENE	S06018	*Below MDL*	330	ug/Kg	1.0	77-47-4	GC	08/23/61
8270B	2,4,6-TRICHLOROPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	88-06-2	GC	08/23/61

AUG 30 1996

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Lab Sample ID	AB37486	**Client Site #**	SAMPLES BENEATH DISPENSER		
Project #	8101	**Client Sample #**	8101-TK2/3-D1-S1		
Project Name	FT STEWART				
Sampling Date/Time	08/15/96 12:45				

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
SEMI (GC/MS) SOIL				Prep Date 08/21/96			Batch 0821960007		
8270B	2,4,5-TRICHLOROPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	95-95-4	GC	08/23/61
8270B	2-CHLORONAPHTHALENE	S06018	*Below MDL*	330	ug/Kg	1.0	91-58-7	GC	08/23/61
8270B	2-NITROANILINE	S06018	*Below MDL*	330	ug/Kg	1.0	88-74-4	GC	08/23/61
8270B	DIMETHYL PHTHALATE	S06018	*Below MDL*	330	ug/Kg	1.0	131-11-3	GC	08/23/61
8270B	ACENAPHTHYLENE	S06018	*Below MDL*	330	ug/Kg	1.0	208-96-8	GC	08/23/61
8270B	2,6-DINITROTOLUENE	S06018	*Below MDL*	330	ug/Kg	1.0	606-20-2	GC	08/23/61
8270B	3-NITROANILINE	S06018	*Below MDL*	330	ug/Kg	1.0	99-09-2	GC	08/23/61
8270B	ACENAPHTHENE	S06018	*Below MDL*	330	ug/Kg	1.0	83-32-9	GC	08/23/61
8270B	2,4-DINITROPHENOL	S06018	*Below MDL*	1650	ug/Kg	1.0	51-28-5	GC	08/23/61
8270B	4-NITROPHENOL	S06018	*Below MDL*	1650	ug/Kg	1.0	100-02-7	GC	08/23/61
8270B	DIBENZOFURAN	S06018	*Below MDL*	330	ug/Kg	1.0	132-64-9	GC	08/23/61
8270B	2,4-DINITROTOLUENE	S06018	*Below MDL*	330	ug/Kg	1.0	121-14-2	GC	08/23/61
8270B	DIETHYL PHTHALATE	S06018	*Below MDL*	330	ug/Kg	1.0	84-66-2	GC	08/23/61
8270B	4-CHLOROPHENYL PHENYL ETHER	S06018	*Below MDL*	330	ug/Kg	1.0	7005-72-3	GC	08/23/61
8270B	FLUORENE	S06018	*Below MDL*	330	ug/Kg	1.0	86-73-7	GC	08/23/61
8270B	4-NITROANILINE	S06018	*Below MDL*	330	ug/Kg	1.0	100-01-6	GC	08/23/61
8270B	4,6-DINITRO-2-METHYLPHENOL	S06018	*Below MDL*	1650	ug/Kg	1.0	534-52-1	GC	08/23
8270B	N-NITROSODIPHENYLAMINE	S06018	*Below MDL*	330	ug/Kg	1.0	86-30-6	GC	08/23/6
8270B	4-BROMOPHENYL PHENYL ETHER	S06018	*Below MDL*	330	ug/Kg	1.0	101-55-3	GC	08/23/61
8270B	HEXACHLOROBENZENE	S06018	*Below MDL*	330	ug/Kg	1.0	118-74-1	GC	08/23/61
8270B	PENTACHLOROPHENOL	S06018	*Below MDL*	1650	ug/Kg	1.0	87-86-5	GC	08/23/61
8270B	PHENANTHRENE	S06018	*Below MDL*	330	ug/Kg	1.0	85-01-8	GC	08/23/61
8270B	ANTHRACENE	S06018	*Below MDL*	330	ug/Kg	1.0	120-12-7	GC	08/23/61
8270B	DI-N-BUTYL PHTHALATE	S06018	*Below MDL*	330	ug/Kg	1.0	84-74-2	GC	08/23/61
8270B	FLUORANTHENE	S06018	*Below MDL*	330	ug/Kg	1.0	206-44-0	GC	08/23/61
8270B	BENZIDINE	S06018	*Below MDL*	2640	ug/Kg	1.0	92-87-5	GC	08/23/61
8270B	PYRENE	S06018	*Below MDL*	330	ug/Kg	1.0	129-00-0	GC	08/23/61
8270B	BUTYL BENZYL PHTHALATE	S06018	*Below MDL*	330	ug/Kg	1.0	85-68-7	GC	08/23/61
8270B	3,3'-DICHLOROBENZIDINE	S06018	*Below MDL*	660	ug/Kg	1.0	91-94-1	GC	08/23/61
8270B	BENZ(A)ANTHRACENE	S06018	*Below MDL*	330	ug/Kg	1.0	56-55-3	GC	08/23/61
8270B	BIS(2-ETHYLHEXYL) PHTHALATE	S06018	*Below MDL*	330	ug/Kg	1.0	117-81-7	GC	08/23/61
8270B	CHRYSENE	S06018	*Below MDL*	330	ug/Kg	1.0	218-01-9	GC	08/23/61
8270B	DI-N-OCTYL PHTHALATE	S06018	*Below MDL*	330	ug/Kg	1.0	117-84-0	GC	08/23/61
8270B	BENZO(B)FLUORANTHENE	S06018	*Below MDL*	330	ug/Kg	1.0	205-99-2	GC	08/23/61
8270B	BENZO(K)FLUORANTHENE	S06018	*Below MDL*	330	ug/Kg	1.0	207-08-9	GC	08/23/61
8270B	BENZO(A)PYRENE	S06018	*Below MDL*	330	ug/Kg	1.0	50-32-8	GC	08/23/61
8270B	INDENO(1,2,3-CD)PYRENE	S06018	*Below MDL*	330	ug/Kg	1.0	193-39-5	GC	08/23/61
8270B	DIBENZ(A,H)ANTHRACENE	S06018	*Below MDL*	330	ug/Kg	1.0	53-70-3	GC	08/23/61
8270B	BENZO(G,H,I)PERYLENE	S06018	*Below MDL*	330	ug/Kg	1.0	191-24-2	GC	08/23/61
BTEX (GC) SOIL				Prep Date 08/28/96			Batch 082896BS		
8020A	BENZENE	S08006	*Below MDL*	1.0	ug/Kg	1.0	71-43-2	DTA	08/28/96
8020A	TOLUENE	S08006	*Below MDL*	1.0	ug/Kg	1.0	108-88-3	DTA	08/28/
	ETHYLBENZENE	S08006	*Below MDL*	1.0	ug/Kg	1.0	100-41-4	DTA	08/28/96
&	XYLENES (TOTAL)	S08006	*Below MDL*	1.0	ug/Kg	1.0	1330-20-7	DTA	08/28/96
8020A	CHLOROBENZENE	S08006	*Below MDL*	1.0	ug/Kg	1.0	108-90-7	DTA	08/28/96

Lab Sample ID AB37486
Project # 8101
Project Name FT STEWART
Sampling Date/Time 08/15/96 12:45

Client Site # SAMPLES BENEATH DISPENSER
Client Sample # 8101-TK2/3-D1-S1

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
BTEX (GC) SOIL					Prep Date 08/28/96		Batch 082896BS		
8020A	1,2-DICHLOROBENZENE	S08006	Below MDL	1.0	ug/Kg	1.0	95-50-1	DTA	08/28/96
8020A	1,3-DICHLOROBENZENE	S08006	Below MDL	1.0	ug/Kg	1.0	541-73-1	DTA	08/28/96
8020A	1,4-DICHLOROBENZENE	S08006	Below MDL	1.0	ug/Kg	1.0	106-46-7	DTA	08/28/96
8020A	TERT-METHYLBUTYL ETHER	S08006	Below MDL	1.0	ug/Kg	1.0	1634-04-4	DTA	08/28/96
TPH DRO (FID) SOIL					Prep Date 08/22/96		Batch 0822960001		
8015A	DIESEL RANGE ORGANICS (DRO)	S08009	[redacted]	15.0	mg/Kg	1.5		DTA	08/23/96
TPH 8015 GRO (FID) SOIL					Prep Date 08/29/96		Batch 082896GS		
8015A	GASOLINE RANGE ORGANICS (GRO)	S08046	Below MDL	0.10	mg/Kg	1.0		DTA	08/28/96
							Batch 081996		
160.3	% TOTAL SOLIDS SOIL (N/C)	09099	89.0	0.1	%	1.0		MN	08/19/96

Lab Sample ID AB37487
Project # 8101
Project Name FT STEWART
Sampling Date/Time 08/15/96 13:00

Client Site # SAMPLES BENEATH DISPENSER
Client Sample # 8101-TK2/3-D2-S1

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
SEMIVOLATILE (GC/MS) SOIL					Prep Date 08/21/96		Batch 0821960007		
8270B	N-NITROSODIMETHYLAMINE	S06018	Below MDL	990	ug/Kg	3.0	62-75-9	GC	08/23/61
8270B	ANILINE	S06018	Below MDL	990	ug/Kg	3.0	62-53-3	GC	08/23/61
8270B	PHENOL	S06018	Below MDL	990	ug/Kg	3.0	108-95-2	GC	08/23/61
8270B	BIS(2-CHLOROETHYL) ETHER	S06018	Below MDL	990	ug/Kg	3.0	111-44-4	GC	08/23/61
8270B	2-CHLOROPHENOL	S06018	Below MDL	990	ug/Kg	3.0	95-57-8	GC	08/23/61
8270B	1,3-DICHLOROBENZENE	S06018	Below MDL	990	ug/Kg	3.0	541-73-1	GC	08/23/61
8270B	1,4-DICHLOROBENZENE	S06018	Below MDL	990	ug/Kg	3.0	106-46-7	GC	08/23/61
8270B	BENZYL ALCOHOL	S06018	Below MDL	990	ug/Kg	3.0	100-51-6	GC	08/23/61
8270B	1,2-DICHLOROBENZENE	S06018	Below MDL	990	ug/Kg	3.0	95-50-1	GC	08/23/61
8270B	BIS(2-CHLOROISOPROPYL) ETHER	S06018	Below MDL	990	ug/Kg	3.0	108-60-1	GC	08/23/61
8270B	2-METHYLPHENOL	S06018	Below MDL	990	ug/Kg	3.0	95-48-7	GC	08/23/61
8270B	4-METHYLPHENOL	S06018	Below MDL	990	ug/Kg	3.0	106-44-5	GC	08/23/61
8270B	N-NITROSODI-N-PROPYLAMINE	S06018	Below MDL	990	ug/Kg	3.0	621-64-7	GC	08/23/61
8270B	HEXACHLOROETHANE	S06018	Below MDL	990	ug/Kg	3.0	67-72-1	GC	08/23/61
8270B	NITROBENZENE	S06018	Below MDL	990	ug/Kg	3.0	98-95-3	GC	08/23/61
8270B	ISOPHORONE	S06018	Below MDL	990	ug/Kg	3.0	78-59-1	GC	08/23/61
8270B	2-NITROPHENOL	S06018	Below MDL	1980	ug/Kg	3.0	88-75-5	GC	08/23/61
8270B	2,4-DIMETHYLPHENOL	S06018	Below MDL	990	ug/Kg	3.0	105-67-9	GC	08/23/61
8270B	BIS(2-CHLOROETHOXY)METHANE	S06018	Below MDL	990	ug/Kg	3.0	111-91-1	GC	08/23/61
8270B	2,4-DICHLOROPHENOL	S06018	Below MDL	990	ug/Kg	3.0	120-83-2	GC	08/23/61
	1,2,4-TRICHLOROBENZENE	S06018	Below MDL	990	ug/Kg	3.0	120-82-1	GC	08/23/61
	BENZOIC ACID	S06018	Below MDL	4950	ug/Kg	3.0	65-85-0	GC	08/23/61
8270B	NAPHTHALENE	S06018	1840	990	ug/Kg	3.0	91-20-3	GC	08/23/61

ATT. 2, 11 of 46

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Lab Sample ID	AB37487	**Client Site #**	SAMPLES BENEATH DISPENSER
Project #	8101	**Client Sample #**	8101-TK2/3-D2-S1
Project Name	FT STEWART		
Sampling Date/Time	08/15/96 13:00		

THOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYS
ɔcMI (GC/MS) SOIL									
				Prep Date 08/21/96			Batch 0821960007		
8270B	4-CHLOROANILINE	S06018	Below MDL	990	ug/Kg	3.0	106-47-8	GC	08/23/61
8270B	HEXACHLOROBUTADIENE	S06018	Below MDL	990	ug/Kg	3.0	87-68-3	GC	08/23/61
8270B	4-CHLORO-3-METHYLPHENOL	S06018	Below MDL	1980	ug/Kg	3.0	59-50-7	GC	08/23/61
8270B	2-METHYLNAPHTHALENE	S06018	[illegible]	990	ug/Kg	3.0	91-57-6	GC	08/23/61
8270B	HEXACHLOROCYCLOPENTADIENE	S06018	Below MDL	990	ug/Kg	3.0	77-47-4	GC	08/23/61
8270B	2,4,6-TRICHLOROPHENOL	S06018	Below MDL	990	ug/Kg	3.0	88-06-2	GC	08/23/61
8270B	2,4,5-TRICHLOROPHENOL	S06018	Below MDL	990	ug/Kg	3.0	95-95-4	GC	08/23/61
8270B	2-CHLORONAPHTHALENE	S06018	Below MDL	990	ug/Kg	3.0	91-58-7	GC	08/23/61
8270B	2-NITROANILINE	S06018	Below MDL	990	ug/Kg	3.0	88-74-4	GC	08/23/61
8270B	DIMETHYL PHTHALATE	S06018	Below MDL	990	ug/Kg	3.0	131-11-3	GC	08/23/61
8270B	ACENAPHTHYLENE	S06018	Below MDL	990	ug/Kg	3.0	208-96-8	GC	08/23/61
8270B	2,6-DINITROTOLUENE	S06018	Below MDL	990	ug/Kg	3.0	606-20-2	GC	08/23/61
8270B	3-NITROANILINE	S06018	Below MDL	990	ug/Kg	3.0	99-09-2	GC	08/23/61
8270B	ACENAPHTHENE	S06018	Below MDL	990	ug/Kg	3.0	83-32-9	GC	08/23/61
8270B	2,4-DINITROPHENOL	S06018	Below MDL	4950	ug/Kg	3.0	51-28-5	GC	08/23/61
8270B	4-NITROPHENOL	S06018	Below MDL	4950	ug/Kg	3.0	100-02-7	GC	08/23/61
8270B	DIBENZOFURAN	S06018	Below MDL	990	ug/Kg	3.0	132-64-9	GC	08/23/61
8270B	2,4-DINITROTOLUENE	S06018	Below MDL	990	ug/Kg	3.0	121-14-2	GC	08/23/61
8270B	DIETHYL PHTHALATE	S06018	Below MDL	990	ug/Kg	3.0	84-66-2	GC	08/23/61
8270B	4-CHLOROPHENYL PHENYL ETHER	S06018	Below MDL	990	ug/Kg	3.0	7005-72-3	GC	08/23/61
8270B	FLUORENE	S06018	Below MDL	990	ug/Kg	3.0	86-73-7	GC	08/23/61
8270B	4-NITROANILINE	S06018	Below MDL	990	ug/Kg	3.0	100-01-6	GC	08/23/61
8270B	4,6-DINITRO-2-METHYLPHENOL	S06018	Below MDL	4950	ug/Kg	3.0	534-52-1	GC	08/23/61
8270B	N-NITROSODIPHENYLAMINE	S06018	Below MDL	990	ug/Kg	3.0	86-30-6	GC	08/23/61
8270B	4-BROMOPHENYL PHENYL ETHER	S06018	Below MDL	990	ug/Kg	3.0	101-55-3	GC	08/23/61
8270B	HEXACHLOROBENZENE	S06018	Below MDL	990	ug/Kg	3.0	118-74-1	GC	08/23/61
8270B	PENTACHLOROPHENOL	S06018	Below MDL	4950	ug/Kg	3.0	87-86-5	GC	08/23/61
8270B	PHENANTHRENE	S06018	Below MDL	990	ug/Kg	3.0	85-01-8	GC	08/23/61
8270B	ANTHRACENE	S06018	Below MDL	990	ug/Kg	3.0	120-12-7	GC	08/23/61
8270B	DI-N-BUTYL PHTHALATE	S06018	Below MDL	990	ug/Kg	3.0	84-74-2	GC	08/23/61
8270B	FLUORANTHENE	S06018	Below MDL	990	ug/Kg	3.0	206-44-0	GC	08/23/61
8270B	BENZIDINE	S06018	Below MDL	7920	ug/Kg	3.0	92-87-5	GC	08/23/61
8270B	PYRENE	S06018	Below MDL	990	ug/Kg	3.0	129-00-0	GC	08/23/61
8270B	BUTYL BENZYL PHTHALATE	S06018	Below MDL	990	ug/Kg	3.0	85-68-7	GC	08/23/61
8270B	3,3'-DICHLOROBENZIDINE	S06018	Below MDL	1980	ug/Kg	3.0	91-94-1	GC	08/23/61
8270B	BENZ(A)ANTHRACENE	S06018	Below MDL	990	ug/Kg	3.0	56-55-3	GC	08/23/61
8270B	BIS(2-ETHYLHEXYL) PHTHALATE	S06018	Below MDL	990	ug/Kg	3.0	117-81-7	GC	08/23/61
8270B	CHRYSENE	S06018	Below MDL	990	ug/Kg	3.0	218-01-9	GC	08/23/61
8270B	DI-N-OCTYL PHTHALATE	S06018	Below MDL	990	ug/Kg	3.0	117-84-0	GC	08/23/61
8270B	BENZO(B)FLUORANTHENE	S06018	Below MDL	990	ug/Kg	3.0	205-99-2	GC	08/23/61
8270B	BENZO(K)FLUORANTHENE	S06018	Below MDL	990	ug/Kg	3.0	207-08-9	GC	08/23/61
8270B	BENZO(A)PYRENE	S06018	Below MDL	990	ug/Kg	3.0	50-32-8	GC	08/23/61
8270B	INDENO(1,2,3-CD)PYRENE	S06018	Below MDL	990	ug/Kg	3.0	193-39-5	GC	08/23/61
8270B	DIBENZ(A,H)ANTHRACENE	S06018	Below MDL	990	ug/Kg	3.0	53-70-3	GC	08/23/61
8270B	BENZO(G,H,I)PERYLENE	S06018	Below MDL	990	ug/Kg	3.0	191-24-2	GC	08/23/61

BTEX (GC) SOIL				Prep Date 08/28/96			Batch 082896ES	
8020A	BENZENE	S08006	*Below MDL*	500 ug/Kg	500.0	71-43-2	DTA	08/28/96
8020A	TOLUENE	S08006	*6270*	500 ug/Kg	500.0	108-88-3	DTA	08/28/96
8020A	ETHYLBENZENE	S08006	*7120*	500 ug/Kg	500.0	100-41-4	DTA	08/28/96
8020A	XYLENES (TOTAL)	S08006	*36600*	500 ug/Kg	500.0	1330-20-7	DTA	08/28/96
8020A	CHLOROBENZENE	S08006	*Below MDL*	500 ug/Kg	500.0	108-90-7	DTA	08/28/96
8020A	1,2-DICHLOROBENZENE	S08006	*Below MDL*	500 ug/Kg	500.0	95-50-1	DTA	08/28/96
8020A	1,3-DICHLOROBENZENE	S08006	*Below MDL*	500 ug/Kg	500.0	541-73-1	DTA	08/28/96
8020A	1,4-DICHLOROBENZENE	S08006	*Below MDL*	500 ug/Kg	500.0	106-46-7	DTA	08/28/96
8020A	TERT-METHYLBUTYL ETHER	S08006	*Below MDL*	500 ug/Kg	500.0	1634-04-4	DTA	08/28/96
TPH DRO (FID) SOIL				Prep Date 08/22/96			Batch 0822960001	
8015A	DIESEL RANGE ORGANICS (DRO)	S08009	*69*	30.0 mg/Kg	3.0		DTA	08/23/96
TPH 8015 GRO (FID) SOIL				Prep Date 08/29/96			Batch 082896GS	
8015A	GASOLINE RANGE ORGANICS (GRO)	S08046	[redacted]	50 mg/Kg	500.0		DTA	08/28/96
							Batch 081996	
160.3	% TOTAL SOLIDS SOIL (N/C)	09099	*88.5*	0.1 %	1.0		MN	08/19/96

Lab Sample ID AB37488
Project # 8101
Project Name FT STEWART
Sampling Date/Time / / :

Client Site #
Client Sample # TEMP VIAL

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
				Prep Date 08/16/96			Batch 081696		
	Temperature at receiving time:	TEMP	*4*	NONE	oC	1.0		OA	08/16/96

Certifying Scientist

Organics and Inorganics in Wastewater, Solids, and Wastes

NC-DEHNR 441, SC-DHEC 98013, GA, TN-DOH 02826, UT-DOH E-228, FL-DEP 940134 HRS E87511 (Water) HRS 87485 (Drinking Water), NY-DEH ELAP 11551, WI-DNR 998014380

Radioactive Materials License	ISO 9000	EPA ID	EPA Reg Waste	GA APHIS	Fed Lab ID	US Army Corps of Engineers Validation
GA-DNR 1283-1	A2LA 0594-01	GA-00058	GA-0001011006	S-3966	58-188334	

CHAIN OF CUSTODY

Anderson Columbia Env
2 Guerdon Road
Lake City, FL 32055
Mr. David Black Client ID 19111880

Ft Stewart
COE DO 0101

Kevin P. Hoyle

8101

8/23

Lab code	Date sampled	Time		Sample ID			8020	8270	8015 (GRO, DRO)	Temperature at Receipt 9.1°C	
AB37486	8-15-96	1245	✓	8101-TK2/3-D1-S1	X	3	✓	✓	✓		Samples beneath Dispenser
AB37487	8-15-96	1300	✓	8101-TK2/3-D2-S1	X	3	✓	✓	✓		Samples beneath Dispenser
AB37488				Temp Vial						X	

V-124

Kevin P. Hoyle
8/15/96 1530

Received by: Oscar Auclair

RECEIVED
AUG 30 1996
Pages

8/16/96 12:10

DIESEL AWARE ☐ LEWISVILLE ☐ OTHER ☐
CUSTODY SEAL Y N
SAMPLE CONDITION OK
Preservative Type or Percent

TEMP 4°C
PH N/A

X SMP SMP (66) 24 f4

108113

APPENDIX VI

ALTERNATE THRESHOLD LEVEL (ATL) CALCULATIONS

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The maximum benzene concentration in soil was 0.0172J mg/kg, but the sample location was at or below the water table, thus, equilibrium contaminant partitioning between sorbed and aqueous phases were utilized to determine the maximum concentration of the contaminants in the groundwater at the source. As a result, no alternate threshold levels were calculated.

The maximum benzene concentration in groundwater during the closure activities was 130 µg/L in the UST 3 tank pit. The maximum benzene concentration in groundwater during the CAP-Part A investigation was 22.7 µg/L in May 1998, but fate and transport modeling predicted the maximum benzene concentration to be 44.4 µg/L based on contaminant partitioning between sorbed and aqueous phases. The modeling of benzene estimated dilution attenuation factors (DAFs) of 1.0 for the storm drain, which results in an alternate concentration limit that is equal to the MCL of 5 µg/L. The results of fate and transport modeling are presented in Attachment C.

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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 2 & 3 site for the determination of free product. Refer to Figures 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	77-01	77-02	77-03	77-04
Sample ID:	Federal	Water	770112	770212	770312	770412
Screened Interval (ft BGS)	SDWA	Quality	0.0-9.5	0.0-12.0	0.0-12.0	0.0-12.0
Collection Date:	MCLs	Standards	12-May-98	08-May-98	12-May-98	08-May-98
Units:	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
VOLATILE ORGANIC COMPOUNDS						
Benzene	5	71.28	**22.7** =	**5.6** =	2 U	2 U
Toluene	1000	200000	2 U	5.9 =	2 U	3.8 =
Ethylbenzene	700	28718	2 U	6.1 =	2 U	2 U
Xylenes, Total	10000	NRC	6.6 =	9.9 J	6 U	6 U
POLYNUCLEAR AROMATIC HYDROCARBONS						
2-Chloronaphthalene	NRC	NRC	20 U	101 U	20 U	13.5 U
Acenaphthene	NRC	NRC	20 U	101 U	20 U	13.5 U
Acenaphthylene	NRC	NRC	20 U	101 U	20 U	13.5 U
Anthracene	NRC	110000	20 U	101 U	20 U	13.5 U
Benzo(a)anthracene	NRC	0.0311	20 U	101 U	20 U	13.5 U
Benzo(a)pyrene	0.2	0.0311	20 U	101 U	20 U	13.5 U
Benzo(b)fluoranthene	NRC	NRC	20 U	101 U	20 U	13.5 U
Benzo(g,h,i)perylene	NRC	NRC	20 U	101 U	20 U	13.5 U
Benzo(k)fluoranthene	NRC	0.0311	20 U	101 U	20 U	13.5 U
Chrysene	NRC	0.0311	20 U	101 U	20 U	13.5 U
Dibenzo(a,h)anthracene	NRC	0.0311	20 U	101 U	20 U	13.5 U
Fluoranthene	NRC	370	20 U	101 U	20 U	13.5 U
Fluorene	NRC	14000	20 U	101 U	20 U	13.5 U
Indeno(1,2,3-cd)pyrene	NRC	0.0311	20 U	101 U	20 U	13.5 U
Naphthalene	NRC	NRC	20 U	101 U	20 U	13.5 U
Phenanthrene	NRC	NRC	20 U	101 U	20 U	13.5 U
Pyrene	NRC	11000	20 U	101 U	20 U	13.5 U

NOTES:

May 1998 sampling was performed 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.

November 1998 sampling was performed in accordance with the CAP-Part A guidance that was published in May 1998.

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	77-06	77-07	77-08
Sample ID:	Federal	Water	770612	770712	770812
Screened Interval (ft BGS)	SDWA	Quality	0.0-10.3	0.0-9.5	0.0-11.5
Collection Date:	MCLs	Standards	15-Nov-98	15-Nov-98	15-Nov-98
Units:	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
VOLATILE ORGANIC COMPOUNDS					
Benzene	5	71.28	2 U	2 U	2 U
Toluene	1000	200000	2 U	2 U	2 U
Ethylbenzene	700	28718	2 U	2 U	2 U
Xylenes, Total	10000	NRC	3 U	3 U	0.56 J
POLYNUCLEAR AROMATIC HYDROCARBONS					
2-Chloronaphthalene	NRC	NRC	10.5 U	10.8 U	470 U
Acenaphthene	NRC	NRC	10.5 U	10.8 U	470 U
Acenaphthylene	NRC	NRC	10.5 U	10.8 U	470 U
Anthracene	NRC	110000	10.5 U	10.8 U	470 U
Benzo(a)anthracene	NRC	0.0311	10.5 U	10.8 U	470 U
Benzo(a)pyrene	0.2	0.0311	10.5 U	10.8 U	470 U
Benzo(b)fluoranthene	NRC	NRC	10.5 U	10.8 U	470 U
Benzo(g,h,i)perylene	NRC	NRC	10.5 U	10.8 U	470 U
Benzo(k)fluoranthene	NRC	0.0311	10.5 U	10.8 U	470 U
Chrysene	NRC	0.0311	10.5 U	10.8 U	470 U
Dibenzo(a,h)anthracene	NRC	0.0311	10.5 U	10.8 U	470 U
Fluoranthene	NRC	370	10.5 U	10.8 U	470 U
Fluorene	NRC	14000	10.5 U	10.8 U	470 U
Indeno(1,2,3-cd)pyrene	NRC	0.0311	10.5 U	10.8 U	470 U
Naphthalene	NRC	NRC	10.5 U	10.8 U	470 U
Phenanthrene	NRC	NRC	10.5 U	10.8 U	470 U
Pyrene	NRC	11000	10.5 U	10.8 U	470 U

NOTES:

May 1998 sampling was performed 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.

November 1998 sampling was performed in accordance with the CAP-Part A guidance that was published in May 1998.

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.

770112

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4019W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805392-06

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2J4013

Level: (low/med) LOW Date Received: 05/13/98

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

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

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
71-43-2	Benzene	22.7	
108-88-3	Toluene	2.0	U
100-41-4	Ethylbenzene	2.0	U
1330-20-7	Xylenes (total)	6.6	

DATA VALIDATION
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770112

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4016W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805387-12

Sample wt/vol: 250.0 (g/mL) ML Lab File ID: 1U210

Level: (low/med) LOW Date Received: 05/13/98

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

Concentrated Extract Volume: 0.50(mL) Date Analyzed: 05/19/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	20.0	U
91-58-7	2-chloronaphthalene	20.0	U
208-96-8	acenaphthylene	20.0	U
83-32-9	acenaphthene	20.0	U
86-73-7	fluorene	20.0	U
85-01-8	phenanthrene	20.0	U
120-12-7	anthracene	20.0	U
206-44-0	fluoranthene	20.0	U
129-00-0	pyrene	20.0	U
56-55-3	benzo(a)anthracene	20.0	U
218-01-9	chrysene	20.0	U
205-99-2	benzo(b)fluoranthene	20.0	U
207-08-9	benzo(k)fluoranthene	20.0	U
50-32-8	benzo(a)pyrene	20.0	U
193-39-5	indeno(1,2,3-cd)pyrene	20.0	U
53-70-3	dibenz(a,h)anthracene	20.0	U
191-24-2	benzo(g,h,i)perylene	20.0	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770212

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4014W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805308-01

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2J204

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
71-43-2	Benzene	5.6		=
108-88-3	Toluene	5.9		=
100-41-4	Ethylbenzene	6.1		=
1330-20-7	Xylenes (total)	9.9	P	J M08

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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770212

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4010W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805302-15

Sample wt/vol: 990.0 (g/mL) ML Lab File ID: 2T422

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: 10.0

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

DATA VALIDATION COPY

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	101	U
91-58-7	2-chloronaphthalene	101	U
209-96-8	acenaphthylene	101	U
83-32-9	acenaphthene	101	U
86-73-7	fluorene	101	U
85-01-8	phenanthrene	101	U
120-12-7	anthracene	101	U
206-44-0	fluoranthene	101	U
129-00-0	pyrene	101	U
56-55-3	benzo(a)anthracene	101	U
218-01-9	chrysene	101	U
205-99-2	benzo(b)fluoranthene	101	U
207-08-9	benzo(k)fluoranthene	101	U
50-32-8	benzo(a)pyrene	101	U
193-39-5	indeno(1,2,3-cd)pyrene	101	U
53-70-3	dibenz(a,h)anthracene	101	U
191-24-2	benzo(g,h,i)perylene	101	U

u

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770312

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4027W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805554-02

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2J703

Level: (low/med) LOW Date Received: 05/19/98

% Moisture: not dec. _____ Date Analyzed: 05/24/98

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

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770312

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4017W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805388-06

Sample wt/vol: 250.0 (g/mL) ML Lab File ID: 2U320

Level: (low/med) LOW Date Received: 05/13/98

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

Concentrated Extract Volume: 0.50(mL) Date Analyzed: 05/20/98

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	20.0	U
91-58-7	2-chloronaphthalene	20.0	U
209-96-8	acenaphthylene	20.0	U
83-32-9	acenaphthene	20.0	U
86-73-7	fluorene	20.0	U
85-01-8	phenanthrene	20.0	U
120-12-7	anthracene	20.0	U
206-44-0	fluoranthene	20.0	U
129-00-0	pyrene	20.0	U
56-55-3	benzo(a)anthracene	20.0	U
218-01-9	chrysene	20.0	U
205-99-2	benzo(b)fluoranthene	20.0	U
207-08-9	benzo(k)fluoranthene	20.0	U
50-32-8	benzo(a)pyrene	20.0	U
193-39-5	indeno(1,2,3-cd)pyrene	20.0	U
53-70-3	dibenz(a,h)anthracene	20.0	U
191-24-2	benzo(g,h,i)perylene	20.0	U

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770412

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4014W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805308-02

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 2J205

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:_____(uL) 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	3.8		=
100-41-4	Ethylbenzene	2.0	U	U
1330-20-7	Xylenes (total)	6.0	U	U

DATA VALIDATION COPY

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770412

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS4010W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9805302-19

Sample wt/vol: 740.0 (g/mL) ML Lab File ID: 2T510

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

DATA VALIDATION COPY

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	13.5	U
91-58-7	2-chloronaphthalene	13.5	U
209-96-8	acenaphthylene	13.5	U
83-32-9	acenaphthene	13.5	U
86-73-7	fluorene	13.5	U
85-01-8	phenanthrene	13.5	U
120-12-7	anthracene	13.5	U
206-44-0	fluoranthene	13.5	U
129-00-0	pyrene	13.5	U
56-55-3	benzo(a)anthracene	13.5	U
218-01-9	chrysene	13.5	U
205-99-2	benzo(b)fluoranthene	13.5	U
207-08-9	benzo(k)fluoranthene	13.5	U
50-32-8	benzo(a)pyrene	13.5	U
193-39-5	indeno(1,2,3-cd)pyrene	13.5	U
53-70-3	dibenz(a,h)anthracene	13.5	U
191-24-2	benzo(g,h,i)perylene	13.5	U

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CHAIN OF CUSTODY RECORD

COC NO.: GAB 007

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
750225	5/8/98	1400	water					3					3	
630112	5/9/98	1025			2								2	
770212	5/6/98	1740			2								2	
750212	5/6/98	1915			2								2	
760514	5/6/98	1745			2								2	
630212	5/9/98	1250			2								2	

5/11/98

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 13	Cooler Temperature: 4°C
Laura Lumley	5/11/98				
COMPANY NAME: SAIC	1130	COMPANY NAME:		Cooler ID: # 462	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.: GAB 00E

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation 9405

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
770412	5/6/98	1730	water		2								2	
640212	5/9/98	1530			2								2	
760532	5/8/98	1645			2								2	
760522	5/6/98	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

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 13	Cooler Temperature: 4°C
Laura Lumley	5/11/98				
COMPANY NAME: SAIC	1130	COMPANY NAME:		Cooler ID: ~~16~~ 469	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.: GAB0079

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

PROJECT NUMBER: 01-0331-04-~~9805~~-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		1								1
640112	5/9/98	1445			1								1
690212	5/9/98	1700			2								2
760612	5/9/98	1750			2								2
760812	5/9/98	1930			2								2
690412	5/10/98	945			2								2
730212	5/10/98	1325			2								2
760912	5/10/98	1345	↓		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: 549

FEDEX NUMBER:

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2065

CHAIN OF CUSTODY RECORD

COC NO.: GA1301/8

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation 9405

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	No. of Bottles/ Vials	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
730112	5/10/98	1135	water	2	
[illegible]0112	5/10/98	1035		2	
760212	5/10/98	1130		2	
730412	5/10/98	1420		2	Unpreserved
760712	5/9/98	1840		2	
760612	5/9/98	1750		2	Unpreserved
630212	5/9/98	1250		2	Unpreserved
760212	5/6/98	1045		2	
770212	5/6/98	1740		2	
770412	5/6/98	1730		2	
750112	5/6/98	1400		2	
750212	5/6/98	1915		2	
750412	5/6/98	1640		2	

REQUESTED PARAMETERS: BTEX; PAH; TOC; BTEX, GRO; PAH, DRO; PAH, DRO, Lead; PAH, TPH; PAH, TPH, Lead; PAH, TPH, Lead, TOC

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME: SAIC	5/11/98 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:	

TOTAL NUMBER OF CONTAINERS:

Cooler ID: ~~4~~ 388

Cooler Temperature: 4°C

FEDEX NUMBER:

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CHAIN OF CUSTODY RECORD

COC NO.: GAB002

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation 9405

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:
160616	5/12/98	1520	water		X								2
610912	5/12/98	1525			X								2
160414	5/12/98	1910			X								2
160412	5/12/98	1910			X								2
770312	5/12/98	1730			X								2
160612	5/12/98	1600			X								2
160512	5/12/98	1435	↓		X								2

5/13/98

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	TOTAL NUMBER OF CONTAINERS: 13	Cooler Temperature: 4° C
COMPANY NAME: SAIC	5/13/98 1140	COMPANY NAME:		Cooler ID: #477	FEDEX NUMBER:
RECEIVED BY:	Date/Time 5-13-98	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL	1140	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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CHAIN OF CUSTODY RECORD

COC NO.: [illegible]

PROJECT NAME: Fort Stewart New CAP Part A UST Investigation 9405

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
770112	5/12/98	1330	Water	2									2	
760312	5/11/98	1745		2			2						2	
770125	5/12/98	1300											2	
710112	5/11/98	1325		2									2	
710212	5/11/98	1450		2									2	
720212	5/11/98	1030		2									2	
~~720412~~														
720112	5/11/98	1150		2									2	
710214	5/11/98	1450		2									2	
760212	5/11/98	1615		2									2	
760416	5/12/98	950		2									2	
160414	5/12/98	1910		2									2	
700212	5/11/98	1130	↓	2									2	

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS:	Cooler Temperature: 4°C
Laura Lumley	5/13/98				
COMPANY NAME: SAIC	1140	COMPANY NAME:		Cooler ID: 136	FEDEX NUMBER:
RECEIVED BY: [illegible]	Date/Time 5-13-98	RELINQUISHED BY:	Date/Time		
COMPANY NAME: [illegible]	1140	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770612

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6012W

Matrix: (soil/water) WATER Lab Sample ID: 9811524-02

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 1K134

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. _____ Date Analyzed: 11/24/98

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
71-43-2	benzene	2.0	U
108-88-3	toluene	2.0	U
100-41-4	ethylbenzene	2.0	U
78-93-3	xylenes (total)	3.0	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770612

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6010W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9811519-18

Sample wt/vol: 950.0 (g/mL) ML Lab File ID: 7V224

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:11/17/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/24/98

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/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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770712

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6012W

Matrix: (soil/water) WATER Lab Sample ID: 9811524-03

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 1K135

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. _____ Date Analyzed: 11/24/98

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
71-43-2	benzene	2.0	U
108-88-3	toluene	2.0	U
100-41-4	ethylbenzene	2.0	U
78-93-3	xylenes (total)	3.0	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770712

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6010W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9811519-19

Sample wt/vol: 930.0 (g/mL) ML Lab File ID: 7V225

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:11/17/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/24/98

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/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.

770812

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6012W

Matrix: (soil/water) WATER Lab Sample ID: 9811524-05

Sample wt/vol: 10.00 (g/ml) ML Lab File ID: 1K211

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: not dec. _____ Date Analyzed: 11/24/98

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
71-43-2	benzene	2.0	U	U
108-88-3	toluene	2.0	U	↓
100-41-4	ethylbenzene	2.0	U	U
78-93-3	xylenes (total)	0.56	J	J

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

770812

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS6010W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9811519-17

Sample wt/vol: 850.0 (g/mL) ML Lab File ID: 7V223

Level: (low/med) LOW Date Received: 11/16/98

% Moisture: _____ decanted: (Y/N)___ Date Extracted:11/17/98

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 11/24/98

Injection Volume: 1.0(uL) Dilution Factor: 40.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	470	U
91-58-7	2-chloronaphthalene	470	U
208-96-8	acenaphthylene	470	U
83-32-9	acenaphthene	470	U
86-73-7	fluorene	470	U
85-01-8	phenanthrene	470	U
120-12-7	anthracene	470	U
206-44-0	fluoranthene	470	U
129-00-0	pyrene	470	U
56-55-3	benzo(a)anthracene	470	U
218-01-9	chrysene	470	U
205-99-2	benzo(b)fluoranthene	470	U
207-08-9	benzo(k)fluoranthene	470	U
50-32-8	benzo(a)pyrene	470	U
193-39-5	indeno(1,2,3-cd)pyrene	470	U
53-70-3	dibenz(a,h)anthracene	470	U
191-24-2	benzo(g,h,i)perylene	470	U

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1522
9911519

CHAIN OF CUSTODY RECORD

COC NO.: GA014

PROJECT NAME: Fort Stewart CAP Part A UST Investigations

PROJECT NUMBER: 01-0331-04-9805-220

PROJECT MANAGER: Patty Stoll

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

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	BTEX, GRO	PAH, DRO	PAH, TPH	PAH, DRO, Lead	PAH, TPH, Lead	PAH, DRO, Lead, TOC	PAH, TPH, Lead, TOC	Ethylene Glycol	No. of Bottles/ Vials:
770812	11/15/96	1100	water		2									2
770612	11/15/96	1015			2									2
770712	11/15/96	915			2									2
670612	11/15/96	1430			2									2
670414	11/15/96	1730			2									2
200312	11/14/96	1215											2	2

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	11/16/96 1230		
COMPANY NAME: SAIC		COMPANY NAME: GEL	11-16-96 1600
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
	11-16-96 1230		
COMPANY NAME: GEL		COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
	11-16-96 1600		
COMPANY NAME: GEL		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 12

Cooler Temperature: 4°

Cooler ID: #726

FEDEX NUMBER:

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

2 of 3

CHAIN OF CUSTODY RECORD

COC NO.: GA016

PROJECT NAME: Fort Stewart CAP Part A UST Investigations

PROJECT NUMBER: 01-0331-04-9805-220

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	REQUESTED PARAMETERS: BTEX	PAH	BTEX, GRO	PAH, DRO	PAH, TPH	PAH, DRO, Lead	PAH, TPH, Lead	PAH, DRO, Lead, TOC	PAH, TPH, Lead, TOC	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
02	770612	11/15/96	1015	water	2									2	
03	770712	11/15/96	915		2									2	
04	670722	11/14/96	1710		2									2	
05	770812	11/15/96	1100		2									2	
06	6707 34	11/14/96	1740		2									2	
07	690412	11/14/96	915		2									2	
08	690512	11/14/96	1030		2									2	
09	7109 62	11/14/96	1445		2									2	
10	71094 2	11/14/96	1040		2									2	
11	710924	11/14/96	925		2									2	
12	710922	11/14/96	925		2									2	
13	690312	11/14/96	1745		2									2	
14	710952	11/14/96	1115	✓	2									2	

32714

RELINQUISHED BY: Laura Lumley	Date/Time 11/16/98 1230	RECEIVED BY:	Date/Time 11-16-98 1600
COMPANY NAME: SAIC		COMPANY NAME: G.E.L	
RECEIVED BY:	Date/Time 11-16-98 1230	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL		COMPANY NAME:	
RELINQUISHED BY:	Date/Time 11-16-98 1600	RECEIVED BY:	Date/Time
COMPANY NAME: GEL		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS:

Cooler Temperature: 5°

Cooler ID: #268

FEDEX NUMBER:

GROUNDWATER ANALYTICAL DATA OBTAINED DURING USTs 2 & 3 CLOSURE ACTIVITIES (August 1996)

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ECOSYS
LABORATORY SERVICES

ANALYTICAL REPORT

1412 Oakbrook Drive
Suite 105
'rcross, Georgia 30093
'one (770) 368-0636
Fax (770) 368-0806

Client Code	19111880
Ledger Number	108114
P.O. Number	COE
Date Received	08/16/96
Time Received	12:10
Reporting Date	08/30/96

Anderson Columbia Env
Mr. David Black
2 Guerdon Road
Lake City, FL 32055
P: 1-904-755-1196 F: 1-904-758-9050

Lab Sample ID	AB37489	**Client Site #**	DIESEL
Project #	DO0101	**Client Sample #**	8101-TK2-GW
Project Name	FT STEWART		
Sampling Date/Time	08/13/96 15:00		

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
SEMI (GC/MS) WATER				Prep Date 08/20/96			Batch 0821960002		
8270B	N-NITROSODIMETHYLAMINE	S06118	*Below MDL*	200	ug/L	20.0	62-75-9	GC	08/23/96
8270B	ANILINE	S06118	*Below MDL*	200	ug/L	20.0	62-53-3	GC	08/23/96
8270B	PHENOL	S06118	*Below MDL*	200	ug/L	20.0	108-95-2	GC	08/23/96
	BIS(2-CHLOROETHYL) ETHER	S06118	*Below MDL*	200	ug/L	20.0	111-44-4	GC	08/23/96
	2-CHLOROPHENOL	S06118	*Below MDL*	200	ug/L	20.0	95-57-8	GC	08/23/96
8270B	1,3-DICHLOROBENZENE	S06118	*Below MDL*	200	ug/L	20.0	541-73-1	GC	08/23/96
8270B	1,4-DICHLOROBENZENE	S06118	*Below MDL*	200	ug/L	20.0	106-46-7	GC	08/23/96
8270B	BENZYL ALCOHOL	S06118	*Below MDL*	200	ug/L	20.0	100-51-6	GC	08/23/96
8270B	1,2-DICHLOROBENZENE	S06118	*Below MDL*	200	ug/L	20.0	95-50-1	GC	08/23/96
8270B	BIS(2-CHLOROISOPROPYL) ETHER	S06118	*Below MDL*	200	ug/L	20.0	108-60-1	GC	08/23/96
8270B	2-METHYLPHENOL	S06118	*Below MDL*	200	ug/L	20.0	95-48-7	GC	08/23/96
8270B	4-METHYLPHENOL	S06118	*Below MDL*	200	ug/L	20.0	106-44-5	GC	08/23/96
8270B	N-NITROSODI-N-PROPYLAMINE	S06118	*Below MDL*	200	ug/L	20.0	621-64-7	GC	08/23/96
8270B	HEXACHLOROETHANE	S06118	*Below MDL*	200	ug/L	20.0	67-72-1	GC	08/23/96
8270B	NITROBENZENE	S06118	*Below MDL*	200	ug/L	20.0	98-95-3	GC	08/23/96
8270B	ISOPHORONE	S06118	*Below MDL*	200	ug/L	20.0	78-59-1	GC	08/23/96
8270B	2-NITROPHENOL	S06118	*Below MDL*	400	ug/L	20.0	88-75-5	GC	08/23/96
8270B	2,4-DIMETHYLPHENOL	S06118	*Below MDL*	200	ug/L	20.0	105-67-9	GC	08/23/96
8270B	BIS(2-CHLOROETHOXY)METHANE	S06118	*Below MDL*	200	ug/L	20.0	111-91-1	GC	08/23/96
8270B	2,4-DICHLOROPHENOL	S06118	*Below MDL*	200	ug/L	20.0	120-83-2	GC	08/23/96
8270B	1,2,4-TRICHLOROBENZENE	S06118	*Below MDL*	200	ug/L	20.0	120-82-1	GC	08/23/96
8270B	BENZOIC ACID	S06118	*Below MDL*	1000	ug/L	20.0	65-85-0	GC	08/23/96
8270B	NAPHTHALENE	S06118	*Below MDL*	200	ug/L	20.0	91-20-3	GC	08/23/96
8270B	4-CHLOROANILINE	S06118	*Below MDL*	200	ug/L	20.0	106-47-8	GC	08/23/96
8270B	HEXACHLOROBUTADIENE	S06118	*Below MDL*	200	ug/L	20.0	87-68-3	GC	08/23/96
8270B	4-CHLORO-3-METHYLPHENOL	S06118	*Below MDL*	200	ug/L	20.0	59-50-7	GC	08/23/96
	2-METHYLNAPHTHALENE	S06118	*Below MDL*	200	ug/L	20.0	91-57-6	GC	08/23/96
82	HEXACHLOROCYCLOPENTADIENE	S06118	*Below MDL*	200	ug/L	20.0	77-47-4	GC	08/23/96
8270B	2,4,6-TRICHLOROPHENOL	S06118	*Below MDL*	200	ug/L	20.0	88-06-2	GC	08/23/96

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Lab Sample ID	AB37489	Client Site #	DIESEL
Project #	DO0101	Client Sample #	8101-TK2-GW
Project Name	FT STEWART		
Sampling Date/Time	08/13/96 15:00		

OD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
Semi (GC/MS) WATER				Prep Date 08/20/96			Batch 0821960002		
8270B	2,4,5-TRICHLOROPHENOL	S06118	*Below MDL*	200	ug/L	20.0	95-95-4	GC	08/23/96
8270B	2-CHLORONAPHTHALENE	S06118	*Below MDL*	200	ug/L	20.0	91-58-7	GC	08/23/96
8270B	2-NITROANILINE	S06118	*Below MDL*	200	ug/L	20.0	88-74-4	GC	08/23/96
8270B	DIMETHYL PHTHALATE	S06118	*Below MDL*	200	ug/L	20.0	131-11-3	GC	08/23/96
8270B	ACENAPHTHYLENE	S06118	*Below MDL*	200	ug/L	20.0	208-96-8	GC	08/23/96
8270B	2,6-DINITROTOLUENE	S06118	*Below MDL*	200	ug/L	20.0	606-20-2	GC	08/23/96
8270B	3-NITROANILINE	S06118	*Below MDL*	200	ug/L	20.0	99-09-2	GC	08/23/96
8270B	ACENAPHTHENE	S06118	*Below MDL*	200	ug/L	20.0	83-32-9	GC	08/23/96
8270B	2,4-DINITROPHENOL	S06118	*Below MDL*	1000	ug/L	20.0	51-28-5	GC	08/23/96
8270B	4-NITROPHENOL	S06118	*Below MDL*	1000	ug/L	20.0	100-02-7	GC	08/23/96
8270B	DIBENZOFURAN	S06118	*Below MDL*	200	ug/L	20.0	132-64-9	GC	08/23/96
8270B	2,4-DINITROTOLUENE	S06118	*Below MDL*	200	ug/L	20.0	121-14-2	GC	08/23/96
8270B	DIETHYL PHTHALATE	S06118	*Below MDL*	200	ug/L	20.0	84-66-2	GC	08/23/96
8270B	4-CHLOROPHENYL PHENYL ETHER	S06118	*Below MDL*	200	ug/L	20.0	7005-72-3	GC	08/23/96
8270B	FLUORENE	S06118	*Below MDL*	200	ug/L	20.0	86-73-7	GC	08/23/96
8270B	4-NITROANILINE	S06118	*Below MDL*	200	ug/L	20.0	100-01-6	GC	08/23/96
8270B	4,6-DINITRO-2-METHYLPHENOL	S06118	*Below MDL*	1000	ug/L	20.0	534-52-1	GC	08/2
8270B	N-NITROSODIPHENYLAMINE	S06118	*Below MDL*	200	ug/L	20.0	86-30-6	GC	08/23/
8270B	4-BROMOPHENYL PHENYL ETHER	S06118	*Below MDL*	200	ug/L	20.0	101-55-3	GC	08/23/96
70B	HEXACHLOROBENZENE	S06118	*Below MDL*	200	ug/L	20.0	118-74-1	GC	08/23/96
	PENTACHLOROPHENOL	S06118	*Below MDL*	1000	ug/L	20.0	87-86-5	GC	08/23/96
8	PHENANTHRENE	S06118	*273*	200	ug/L	20.0	85-01-8	GC	08/23/96
8270B	ANTHRACENE	S06118	*Below MDL*	200	ug/L	20.0	120-12-7	GC	08/23/96
8270B	DI-N-BUTYL PHTHALATE	S06118	*Below MDL*	200	ug/L	20.0	84-74-2	GC	08/23/96
8270B	FLUORANTHENE	S06118	*Below MDL*	200	ug/L	20.0	206-44-0	GC	08/23/96
8270B	BENZIDINE	S06118	*Below MDL*	1600	ug/L	20.0	92-87-5	GC	08/23/96
8270B	PYRENE	S06118	*Below MDL*	200	ug/L	20.0	129-00-0	GC	08/23/96
8270B	BUTYL BENZYL PHTHALATE	S06118	*Below MDL*	200	ug/L	20.0	85-68-7	GC	08/23/96
8270B	3,3'-DICHLOROBENZIDINE	S06118	*Below MDL*	200	ug/L	20.0	91-94-1	GC	08/23/96
8270B	BENZ(A)ANTHRACENE	S06118	*Below MDL*	200	ug/L	20.0	56-55-3	GC	08/23/96
8270B	BIS(2-ETHYLHEXYL) PHTHALATE	S06118	*Below MDL*	400	ug/L	20.0	117-81-7	GC	08/23/96
8270B	CHRYSENE	S06118	*Below MDL*	200	ug/L	20.0	218-01-9	GC	08/23/96
8270B	DI-N-OCTYL PHTHALATE	S06118	*Below MDL*	200	ug/L	20.0	117-84-0	GC	08/23/96
8270B	BENZO(B)FLUORANTHENE	S06118	*Below MDL*	200	ug/L	20.0	205-99-2	GC	08/23/96
8270B	BENZO(K)FLUORANTHENE	S06118	*Below MDL*	200	ug/L	20.0	207-08-9	GC	08/23/96
8270B	BENZO(A)PYRENE	S06118	*Below MDL*	200	ug/L	20.0	50-32-8	GC	08/23/96
8270B	INDENO(1,2,3-CD)PYRENE	S06118	*Below MDL*	200	ug/L	20.0	193-39-5	GC	08/23/96
8270B	DIBENZ(A,H)ANTHRACENE	S06118	*Below MDL*	200	ug/L	20.0	53-70-3	GC	08/23/96
8270B	BENZO(G,H,I)PERYLENE	S06118	*Below MDL*	200	ug/L	20.0	191-24-2	GC	08/23/96
8270B	1,2-DIPHENYL-HYDRAZINE	S06118	*Below MDL*	200	ug/L	20.0	122-66-7	GC	08/23/96
BTEX (GC) WATER				Prep Date 08/23/96			Batch 082396BW		
8020A	BENZENE	S08106	*Below MDL*	1.0	ug/L	10.0	71-43-2	DTA	08/23
	TOLUENE	S08106	*Below MDL*	1.0	ug/L	10.0	108-88-3	DTA	08/23/96
8	ETHYLBENZENE	S08106	*3*	1.0	ug/L	10.0	100-41-4	DTA	08/23/96
8020A	XYLENES (TOTAL)	S08106	*19*	1.0	ug/L	10.0	1330-20-7	DTA	08/23/96

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Lab Sample ID AB37489 Client Site # DIESEL
Project # DO0101 Client Sample # 8101-TK2-GW
Project Name FT STEWART
Sampling Date/Time 08/13/96 15:00

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
BTEX (GC) WATER				Prep Date 08/23/96			Batch 082396BW		
8020A	CHLOROBENZENE	S08106	Below MDL	1.0	ug/L	10.0	108-90-7	DTA	08/23/96
8020A	1,2-DICHLOROBENZENE	S08106	Below MDL	1.0	ug/L	10.0	95-50-1	DTA	08/23/96
8020A	1,3-DICHLOROBENZENE	S08106	Below MDL	1.0	ug/L	10.0	541-73-1	DTA	08/23/96
8020A	1,4-DICHLOROBENZENE	S08106	Below MDL	1.0	ug/L	10.0	106-46-7	DTA	08/23/96
8020A	TERT-METHYLBUTYL ETHER	S08106	Below MDL	1.0	ug/L	10.0	1634-04-4	DTA	08/23/96

Lab Sample ID AB37490 Client Site # MOGAS
Project # DO0101 Client Sample # 8101-TK3-GW
Project Name FT STEWART
Sampling Date/Time 08/13/96 15:00

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
SEMI (GC/MS) WATER				Prep Date 08/20/96			Batch 0821960002		
8270B	N-NITROSODIMETHYLAMINE	S06118	Below MDL	200	ug/L	20.0	62-75-9	GC	08/23/96
8270B	ANILINE	S06118	Below MDL	200	ug/L	20.0	62-53-3	GC	08/23/96
8270B	PHENOL	S06118	Below MDL	200	ug/L	20.0	108-95-2	GC	08/23/96
8270B	BIS(2-CHLOROETHYL) ETHER	S06118	Below MDL	200	ug/L	20.0	111-44-4	GC	08/23/96
	2-CHLOROPHENOL	S06118	Below MDL	200	ug/L	20.0	95-57-8	GC	08/23/96
	1,3-DICHLOROBENZENE	S06118	Below MDL	200	ug/L	20.0	541-73-1	GC	08/23/96
8270B	1,4-DICHLOROBENZENE	S06118	Below MDL	200	ug/L	20.0	106-46-7	GC	08/23/96
8270B	BENZYL ALCOHOL	S06118	Below MDL	200	ug/L	20.0	100-51-6	GC	08/23/96
8270B	1,2-DICHLOROBENZENE	S06118	Below MDL	200	ug/L	20.0	95-50-1	GC	08/23/96
8270B	BIS(2-CHLOROISOPROPYL) ETHER	S06118	Below MDL	200	ug/L	20.0	108-60-1	GC	08/23/96
8270B	2-METHYLPHENOL	S06118	Below MDL	200	ug/L	20.0	95-48-7	GC	08/23/96
8270B	4-METHYLPHENOL	S06118	Below MDL	200	ug/L	20.0	106-44-5	GC	08/23/96
8270B	N-NITROSODI-N-PROPYLAMINE	S06118	Below MDL	200	ug/L	20.0	621-64-7	GC	08/23/96
8270B	HEXACHLOROETHANE	S06118	Below MDL	200	ug/L	20.0	67-72-1	GC	08/23/96
8270B	NITROBENZENE	S06118	Below MDL	200	ug/L	20.0	98-95-3	GC	08/23/96
8270B	ISOPHORONE	S06118	Below MDL	200	ug/L	20.0	78-59-1	GC	08/23/96
8270B	2-NITROPHENOL	S06118	Below MDL	400	ug/L	20.0	88-75-5	GC	08/23/96
8270B	2,4-DIMETHYLPHENOL	S06118	Below MDL	200	ug/L	20.0	105-67-9	GC	08/23/96
8270B	BIS(2-CHLOROETHOXY)METHANE	S06118	Below MDL	200	ug/L	20.0	111-91-1	GC	08/23/96
8270B	2,4-DICHLOROPHENOL	S06118	Below MDL	200	ug/L	20.0	120-83-2	GC	08/23/96
8270B	1,2,4-TRICHLOROBENZENE	S06118	Below MDL	200	ug/L	20.0	120-82-1	GC	08/23/96
8270B	BENZOIC ACID	S06118	Below MDL	1000	ug/L	20.0	65-85-0	GC	08/23/96
8270B	NAPHTHALENE	S06118	Below MDL	200	ug/L	20.0	91-20-3	GC	08/23/96
8270B	4-CHLOROANILINE	S06118	Below MDL	200	ug/L	20.0	106-47-8	GC	08/23/96
8270B	HEXACHLOROBUTADIENE	S06118	Below MDL	200	ug/L	20.0	87-68-3	GC	08/23/96
8270B	4-CHLORO-3-METHYLPHENOL	S06118	Below MDL	200	ug/L	20.0	59-50-7	GC	08/23/96
8270B	2-METHYLNAPHTHALENE	S06118	Below MDL	200	ug/L	20.0	91-57-6	GC	08/23/96
	HEXACHLOROCYCLOPENTADIENE	S06118	Below MDL	200	ug/L	20.0	77-47-4	GC	08/23/96
8.	2,4,6-TRICHLOROPHENOL	S06118	Below MDL	200	ug/L	20.0	88-06-2	GC	08/23/96
8270B	2,4,5-TRICHLOROPHENOL	S06118	Below MDL	200	ug/L	20.0	95-95-4	GC	08/23/96

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Lab Sample ID AB37490 Client Site # MOGAS
Project # DO0101 Client Sample # 8101-TK3-GW
Project Name FT STEWART
Sampling Date/Time 08/13/96 15:00

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
(GC/MS) WATER				Prep Date 08/20/96			Batch 0821960002		
8270B	2-CHLORONAPHTHALENE	S06118	Below MDL	200	ug/L	20.0	91-58-7	GC	08/23/96
8270B	2-NITROANILINE	S06118	Below MDL	200	ug/L	20.0	88-74-4	GC	08/23/96
8270B	DIMETHYL PHTHALATE	S06118	Below MDL	200	ug/L	20.0	131-11-3	GC	08/23/96
8270B	ACENAPHTHYLENE	S06118	Below MDL	200	ug/L	20.0	208-96-8	GC	08/23/96
8270B	2,6-DINITROTOLUENE	S06118	Below MDL	200	ug/L	20.0	606-20-2	GC	08/23/96
8270B	3-NITROANILINE	S06118	Below MDL	200	ug/L	20.0	99-09-2	GC	08/23/96
8270B	ACENAPHTHENE	S06118	Below MDL	200	ug/L	20.0	83-32-9	GC	08/23/96
8270B	2,4-DINITROPHENOL	S06118	Below MDL	1000	ug/L	20.0	51-28-5	GC	08/23/96
8270B	4-NITROPHENOL	S06118	Below MDL	1000	ug/L	20.0	100-02-7	GC	08/23/96
8270B	DIBENZOFURAN	S06118	Below MDL	200	ug/L	20.0	132-64-9	GC	08/23/96
8270B	2,4-DINITROTOLUENE	S06118	Below MDL	200	ug/L	20.0	121-14-2	GC	08/23/96
8270B	DIETHYL PHTHALATE	S06118	Below MDL	200	ug/L	20.0	84-66-2	GC	08/23/96
8270B	4-CHLOROPHENYL PHENYL ETHER	S06118	Below MDL	200	ug/L	20.0	7005-72-3	GC	08/23/96
8270B	FLUORENE	S06118	Below MDL	200	ug/L	20.0	86-73-7	GC	08/23/96
8270B	4-NITROANILINE	S06118	Below MDL	200	ug/L	20.0	100-01-6	GC	08/23/96
8270B	4,6-DINITRO-2-METHYLPHENOL	S06118	Below MDL	1000	ug/L	20.0	534-52-1	GC	08/23/96
8270B	N-NITROSODIPHENYLAMINE	S06118	Below MDL	200	ug/L	20.0	86-30-6	GC	08/23/96
8270B	4-BROMOPHENYL PHENYL ETHER	S06118	Below MDL	200	ug/L	20.0	101-55-3	GC	08/23/96
8270B	HEXACHLOROBENZENE	S06118	Below MDL	200	ug/L	20.0	118-74-1	GC	08/23/96
8270B	PENTACHLOROPHENOL	S06118	Below MDL	1000	ug/L	20.0	87-86-5	GC	08/23/96
8270B	PHENANTHRENE	S06118	Below MDL	200	ug/L	20.0	85-01-8	GC	08/23/96
8270B	ANTHRACENE	S06118	Below MDL	200	ug/L	20.0	120-12-7	GC	08/23/96
8270B	DI-N-BUTYL PHTHALATE	S06118	Below MDL	200	ug/L	20.0	84-74-2	GC	08/23/96
8270B	FLUORANTHENE	S06118	Below MDL	200	ug/L	20.0	206-44-0	GC	08/23/96
8270B	BENZIDINE	S06118	Below MDL	1600	ug/L	20.0	92-87-5	GC	08/23/96
8270B	PYRENE	S06118	Below MDL	200	ug/L	20.0	129-00-0	GC	08/23/96
8270B	BUTYL BENZYL PHTHALATE	S06118	Below MDL	200	ug/L	20.0	85-68-7	GC	08/23/96
8270B	3,3'-DICHLOROBENZIDINE	S06118	Below MDL	200	ug/L	20.0	91-94-1	GC	08/23/96
8270B	BENZ(A)ANTHRACENE	S06118	Below MDL	200	ug/L	20.0	56-55-3	GC	08/23/96
8270B	BIS(2-ETHYLHEXYL) PHTHALATE	S06118	Below MDL	400	ug/L	20.0	117-81-7	GC	08/23/96
8270B	CHRYSENE	S06118	Below MDL	200	ug/L	20.0	218-01-9	GC	08/23/96
8270B	DI-N-OCTYL PHTHALATE	S06118	Below MDL	200	ug/L	20.0	117-84-0	GC	08/23/96
8270B	BENZO(B)FLUORANTHENE	S06118	Below MDL	200	ug/L	20.0	205-99-2	GC	08/23/96
8270B	BENZO(K)FLUORANTHENE	S06118	Below MDL	200	ug/L	20.0	207-08-9	GC	08/23/96
8270B	BENZO(A)PYRENE	S06118	Below MDL	200	ug/L	20.0	50-32-8	GC	08/23/96
8270B	INDENO(1,2,3-CD)PYRENE	S06118	Below MDL	200	ug/L	20.0	193-39-5	GC	08/23/96
8270B	DIBENZ(A,H)ANTHRACENE	S06118	Below MDL	200	ug/L	20.0	53-70-3	GC	08/23/96
8270B	BENZO(G,H,I)PERYLENE	S06118	Below MDL	200	ug/L	20.0	191-24-2	GC	08/23/96
8270B	1,2-DIPHENYL-HYDRAZINE	S06118	Below MDL	200	ug/L	20.0	122-66-7	GC	08/23/96
BTEX (GC) WATER				Prep Date 08/23/96			Batch 082396BW		
8020A	BENZENE	S08106	130	10	ug/L	10.0	71-43-2	DTA	08/23/96
8020A	TOLUENE	S08106	510	10	ug/L	10.0	108-88-3	DTA	08/23/96
8020A	ETHYLBENZENE	S08106	210	10	ug/L	10.0	100-41-4	DTA	08/23/96
8020A	XYLENES (TOTAL)	S08106	1160	10	ug/L	10.0	1330-20-7	DTA	08/23/96
8020A	CHLOROBENZENE	S08106	Below MDL	10	ug/L	10.0	108-90-7	DTA	08/23/96

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Lab Sample ID AB37490
Project # DO0101
Project Name FT STEWART
Sampling Date/Time 08/13/96 15:00

Client Site # MOGAS
Client Sample # 8101-TK3-GW

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
BTEX (GC) WATER				Prep Date 08/23/96			Batch 0823968W		
8020A	1,2-DICHLOROBENZENE	S08106	*Below MDL*	10	ug/L	10.0	95-50-1	DTA	08/23/96
8020A	1,3-DICHLOROBENZENE	S08106	*Below MDL*	10	ug/L	10.0	541-73-1	DTA	08/23/96
8020A	1,4-DICHLOROBENZENE	S08106	*Below MDL*	10	ug/L	10.0	106-46-7	DTA	08/23/96
8020A	TERT-METHYLBUTYL ETHER	S08106	*50*	10	ug/L	10.0	1634-04-4	DTA	08/23/96

Lab Sample ID AB37491
Project # DO0101
Project Name FT STEWART
Sampling Date/Time 08/14/96 14:00

Client Site # WASTE OIL UST
Client Sample # 8101-TK4A-S1

METHOD	ANALYTE	TEST CODE	RESULT	MDL	UNITS	Dilution Factor	CAS #	ANALYST	DATE OF ANALYSIS
Sample Comment	These results are reported on a wet weight basis.								
SEMI (GC/MS) SOIL				Prep Date 08/21/96			Batch 0821960007		
8270B	N-NITROSODIMETHYLAMINE	S06018	*Below MDL*	330	ug/Kg	1.0	62-75-9	GC	08/23/61
8270B	ANILINE	S06018	*Below MDL*	330	ug/Kg	1.0	62-53-3	GC	08/23/61
8270B	PHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	108-95-2	GC	08/23/61
8270B	BIS(2-CHLOROETHYL) ETHER	S06018	*Below MDL*	330	ug/Kg	1.0	111-44-4	GC	08/23/61
8270B	2-CHLOROPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	95-57-8	GC	08/23/61
8270B	1,3-DICHLOROBENZENE	S06018	*Below MDL*	330	ug/Kg	1.0	541-73-1	GC	08/23/61
8270B	1,4-DICHLOROBENZENE	S06018	*Below MDL*	330	ug/Kg	1.0	106-46-7	GC	08/23/61
8270B	BENZYL ALCOHOL	S06018	*Below MDL*	330	ug/Kg	1.0	100-51-6	GC	08/23/61
8270B	1,2-DICHLOROBENZENE	S06018	*Below MDL*	330	ug/Kg	1.0	95-50-1	GC	08/23/61
8270B	BIS(2-CHLOROISOPROPYL) ETHER	S06018	*Below MDL*	330	ug/Kg	1.0	108-60-1	GC	08/23/61
8270B	2-METHYLPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	95-48-7	GC	08/23/61
8270B	4-METHYLPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	106-44-5	GC	08/23/61
8270B	N-NITROSODI-N-PROPYLAMINE	S06018	*Below MDL*	330	ug/Kg	1.0	621-64-7	GC	08/23/61
8270B	HEXACHLOROETHANE	S06018	*Below MDL*	330	ug/Kg	1.0	67-72-1	GC	08/23/61
8270B	NITROBENZENE	S06018	*Below MDL*	330	ug/Kg	1.0	98-95-3	GC	08/23/61
8270B	ISOPHORONE	S06018	*Below MDL*	330	ug/Kg	1.0	78-59-1	GC	08/23/61
8270B	2-NITROPHENOL	S06018	*Below MDL*	660	ug/Kg	1.0	88-75-5	GC	08/23/61
8270B	2,4-DIMETHYLPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	105-67-9	GC	08/23/61
8270B	BIS(2-CHLOROETHOXY)METHANE	S06018	*Below MDL*	330	ug/Kg	1.0	111-91-1	GC	08/23/61
8270B	2,4-DICHLOROPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	120-83-2	GC	08/23/61
8270B	1,2,4-TRICHLOROBENZENE	S06018	*Below MDL*	330	ug/Kg	1.0	120-82-1	GC	08/23/61
8270B	BENZOIC ACID	S06018	*Below MDL*	1650	ug/Kg	1.0	65-85-0	GC	08/23/61
8270B	NAPHTHALENE	S06018	*Below MDL*	330	ug/Kg	1.0	91-20-3	GC	08/23/61
8270B	4-CHLOROANILINE	S06018	*Below MDL*	330	ug/Kg	1.0	106-47-8	GC	08/23/61
8270B	HEXACHLOROBUTADIENE	S06018	*Below MDL*	330	ug/Kg	1.0	87-68-3	GC	08/23/61
8270B	4-CHLORO-3-METHYLPHENOL	S06018	*Below MDL*	660	ug/Kg	1.0	59-50-7	GC	08/23/61
8270B	2-METHYLNAPHTHALENE	S06018	*Below MDL*	330	ug/Kg	1.0	91-57-6	GC	08/23/61
8270B	HEXACHLOROCYCLOPENTADIENE	S06018	*Below MDL*	330	ug/Kg	1.0	77-47-4	GC	08/23/61
8270B	2,4,6-TRICHLOROPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	88-06-2	GC	08/23/61
8270B	2,4,5-TRICHLOROPHENOL	S06018	*Below MDL*	330	ug/Kg	1.0	95-95-4	GC	08/23/61

EPA SW 846

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PAGE 5

CHAIN OF CUSTODY

9199

Anderson Columbia Env
2 Guerdon Road
Lake City, FL 32055
Mr. David Black Client ID 19111800

Sampler: Kevin P Hoyle KPHyle

Project Name: Ft Stewart COE

Project #: DO 0101

Due Date: 8/23

Lab #	Date Sampled	Time Sampled		Sample ID	Matrix	# Containers	8020	8270	418.1 Temp. AR receiving	Remarks
AB37489	8/13/96	1500	✓	8101-TK2-GW	WATER	4	X	X		Diesel - 8020-HCl Preserved
AB37490	8/14/96	1230	✓	8101-TK3-GW	WATER	4	X	X		Mogas - 8020-HCl Preserved
AB37491	8/14/96	1400	✓	8101-TK4A-S1	SOIL	3	X	X	X	Waste Oil UST
AB37492	8/14/96	1615	✓	8101-TK4B-S1	SOIL	3	X	X	X	Waste Oil - Oil/Water Separator
AB37493	8/14/96	1630	✓	8101-TK4B-S2	SOIL	3	X	X	X	Waste Oil - Oil/Water Separator
AB37494	8/14/96	1730	✓	8101-TK4A/B-Vault-S1	SOIL	3	X	X	X	W/O-Oil/Water Sep Vault
AB37495				Temp Vial					X	

Relinquished by: Kevin P Hoyle KPHyle — Date/Time: 8/15/96 0930

Received by: Oscar Aviles OA — Date/Time: 8/16/96 12:10

Relinquished by: — Date/Time: /

Received by: — Date/Time: /

Relinquished by: — Date/Time: /

Received by: — Date/Time: /

FILED
AUG 30 1996
#Pages

Cooler Temp: 4°C
PH: N/A

Custody Seals Y X N
Sample Condition: OK
Remarks at Time of Receipt

Cooler Number: 108 114

VIII-34

APPENDIX IX

EXCAVATION OF CONTAMINATED SOIL AND SUPPORTING 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 because review of the closure analytical data indicated that a CAP-Part A would be 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 USTs 2 & 3 site were submitted to GAEPD USTMP in September 1998 with the UST 207A (Facility ID #9-089039) Closure Report response to comments correspondence (Perez 1998). Approximately 545.34 tons of contaminated soil was excavated from the site.

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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MLL

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

SEP 15 1998

REPLY TO
ATTENTION OF

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

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19___ Load No. 15

Customer: Triple R Mgmt — Description: PCS

Project Number: RRR 104

Location: W Stewart — County: Liberty

30420 lb Net
21840 lb Tare
52260 lb+ Gross
08:52 AM AU 30 96

Signature of Weigher

TONS: 15.21 — TOTAL TONS: 255.38 (39)

TRUCKER: Kendrick — TRUCK NO. 65

DRIVER

TICKET NO. 60124

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00078

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-67[illegible]
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY | Signature: [signature] | Month 05 Day 28 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Patrick Ravch | Signature: [signature] | Month 8 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year

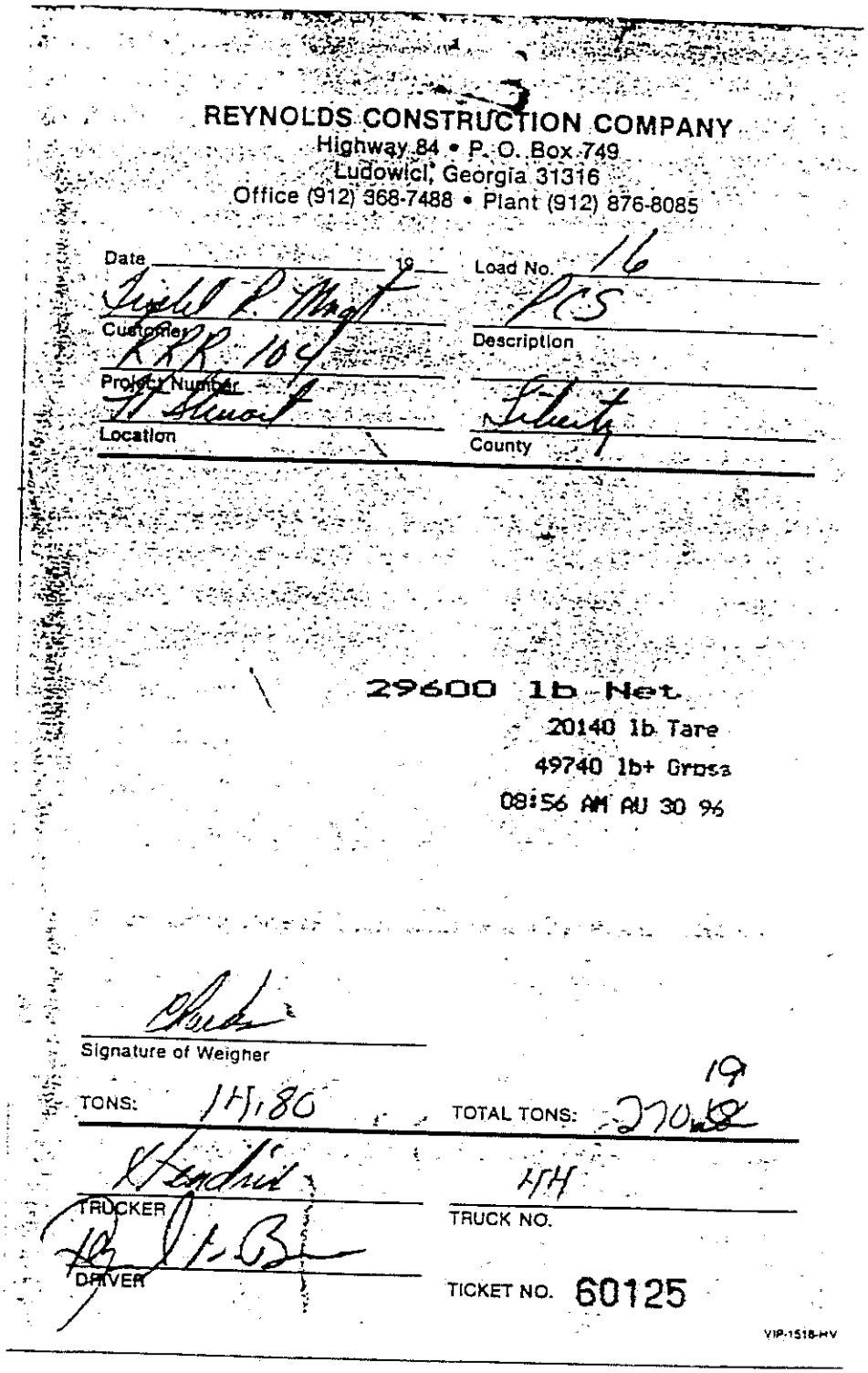
FACI

15. Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature: [signature] | Month 8 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR



REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 16

Customer Reid P. Wright Description PCS

Project Number RRR 104

Location N Stewart County Liberty

29600 lb Net.
20140 lb Tare
49740 lb+ Gross
08:56 AM AU 30 96

Signature of Weigher

TONS: 14.80 TOTAL TONS: 270.58

Trucker K Hendrix TRUCK NO. 4H

DRIVER

TICKET NO. 60125

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00072

1. Page 1 of 1

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

GENERATOR

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank # _____

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: TOM FRY | Signature | Month 8 | Day 25 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: RAYMOND G. BACA | Signature: Raymond G. Baca | Month 8 | Day 30 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACILITY

15. Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: CHARLES PRUITT | Signature: Charles Pruitt | Month 8 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 17

Customer Triple R Mart Description PCS

Project Number RR 104

Location Ft Stewart County Liberty

40600 lb Net
21740 lb Tare
62340 lb+ Gross
09:01 AM AU 30 96

Signature of Weigher

TONS: 2030 TOTAL TONS: 49 290.HQ

TRUCKER

TRUCK NO. 50

DRIVER

TICKET NO. 60126

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00674

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
S101
Tank#_____

TRANSPORTER

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 TOM FRY Signature Tom Fry Month 12 Day 15 Year 95

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name GILL, JERRY Signature Jerry Gill Month 08 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name Signature Month Day Year

FACI

15. Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19
Printed/Typed Name Charles Brewster Signature Charles Brewster Month 8 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19___ Load No. 18

Triple R Mgt — PCS
Customer — Description

RRR 104 —
Project Number

T Stewart — Liberty
Location — County

38060 lb Net
22020 lb Tare
60080 lb+ Gross
09:07 AM AU 30 96

Signature of Weigher

TONS: 19.03 TOTAL TONS: 309.52

Hendrix — 55
TRUCKER — TRUCK NO.

DRIVER

TICKET NO. 60127

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 000723

1. Page 1 of 1

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
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#_____

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 FRY		7	31	96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Aske Jay		8	30	96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FAC.

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
Mark Perritt	Mark Perritt	8	30	96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 19

Triple R. Mgt
Customer

PCS
Description

RR 104
Project Number

Stewart
Location

Liberty
County

39280 lb Net
21640 lb Tare
60920 lb Gross
09:21 AM AU 30 96

Signature of Weigher

TONS: 19.64 TOTAL TONS: 329.52 16

Windrift
TRUCKER

43
TRUCK NO.

Jerry Hooks
DRIVER

TICKET NO. 60128

V-P-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00075

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY Signature: Tom Fry Month 05 Day 31 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Terry Hoskins Signature: Terry Hoskins Month 8 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: Signature: Month Day Year

FACILITY

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Charles Pruitt Signature: Charles Pruitt Month 8 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No: 20

Customer: Triple R. Mgt. Description: PCS

Project Number: RR 104

Location: Hwy 17 County: Liberty

38700 lb Net
23760 lb Tare
62460 lb+ Gross
09:26 AM AU 30 96

Signature of Weigher

TONS: 19.35 TOTAL TONS: 348.50 51

TRUCKER: Hendrick TRUCK NO. 57

DRIVER: Guy Hendrick TICKET NO. 60129

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 005.94

1. Page 1 of 1

GENERATOR

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 Construction Co
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-67
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	C
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#_____

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: TOM FRY | Signature | Month 05 | Day 29 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: GEORGE H SUTTON | Signature | Month 08 | Day 29 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACILITY

15. Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature | Month 8 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 748
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 21

Customer Triple R Mgt Description RCS

Project Number RRR 104

Location W. Stewart County Liberty

35100 lb Net
21220 lb Tare
56320 lb+ Gross
09:30 AM AU 30 96

Signature of Weigher

TONS: 17.55 TOTAL TONS: 366.06

TRUCKER

TRUCK NO. 45

DRIVER

TICKET NO. 60130

VIP-1515-HV

43

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00093

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-673
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	8. Containers Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY | Signature: Tom Fry | Month 5 | Day 29 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Anthony Reckard | Signature: Anthony Reckard | Month 10 | Day 3 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

FACILITY

15. Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature: Charles Pruitt | Month 9 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 22

Customer Lyle R. Mast Description PCS

Project Number R.R. 184

Location Stewart County Liberty

34480 lb Net
21340 lb Tare
55820 lb+ Gross
09:36 AM AU 30 96

Signature of Weigher Charles

TONS: 17.24 TOTAL TONS: 383.29 30

TRUCKER Hendrix

TRUCK NO. 63

DRIVER Don R Long

TICKET NO. 60131

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 000 95

1. Page 1 of 1

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-67
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

GENERATOR

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY | Signature: Tom Fry | Month 12 | Day 29 | Year 95

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: David R. Lang | Signature: David R. Lang | Month 8 | Day 30 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: CHARles Pruitt | Signature: Charles Pruitt | Month 8 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 23

Customer Willie K. Mayfield Description PCS

Project Number RR 104

Location T. Stewart County Tilert

33760 lb Net
21300 lb Tare
55060 lb+ Gross
09:38 AM AU 30 96

Signature of Weigher

TONS: 16.88 TOTAL TONS: 405.18

TRUCKER

TRUCK NO. 48

DRIVER

TICKET NO. 60132

VIP-15-S-V

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00096

1. Page 1 of 1

GENERATOR

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

3. Generator's Phone (912) 23[illegible]

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc. C/O Reynolds Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone 912-427-67[illegible]
912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY | Signature | Month 8 | Day 29 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Ralph E Shaw Jr | Signature | Month 08 | Day 30 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: CHARLES PRUITT | Signature | Month 8 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 24

Customer Triple K Mfg

Description VCS

Project Number KKK 104

Location Hwy 17 Newport

County Liberty

38500 lb Net
21460 lb Tare
59960 lb+ Gross
09:46 AM AU 30 96

Signature of Weigher

TONS: 19.75 TOTAL TONS: 419.43

TRUCKER K Hendrix

TRUCK NO. 62

DRIVER Jerry Hall

TICKET NO. 60133

VIP-1518-HV

OL

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 60101

1. Page 1 of 1

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 Construction Co
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-67
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	C
b.				
c.				
d.				

GENERATOR

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY | Signature: Tom Fry | Month 08 Day 29 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Joey Stell | Signature: Joey Stell | Month 08 Day 29 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

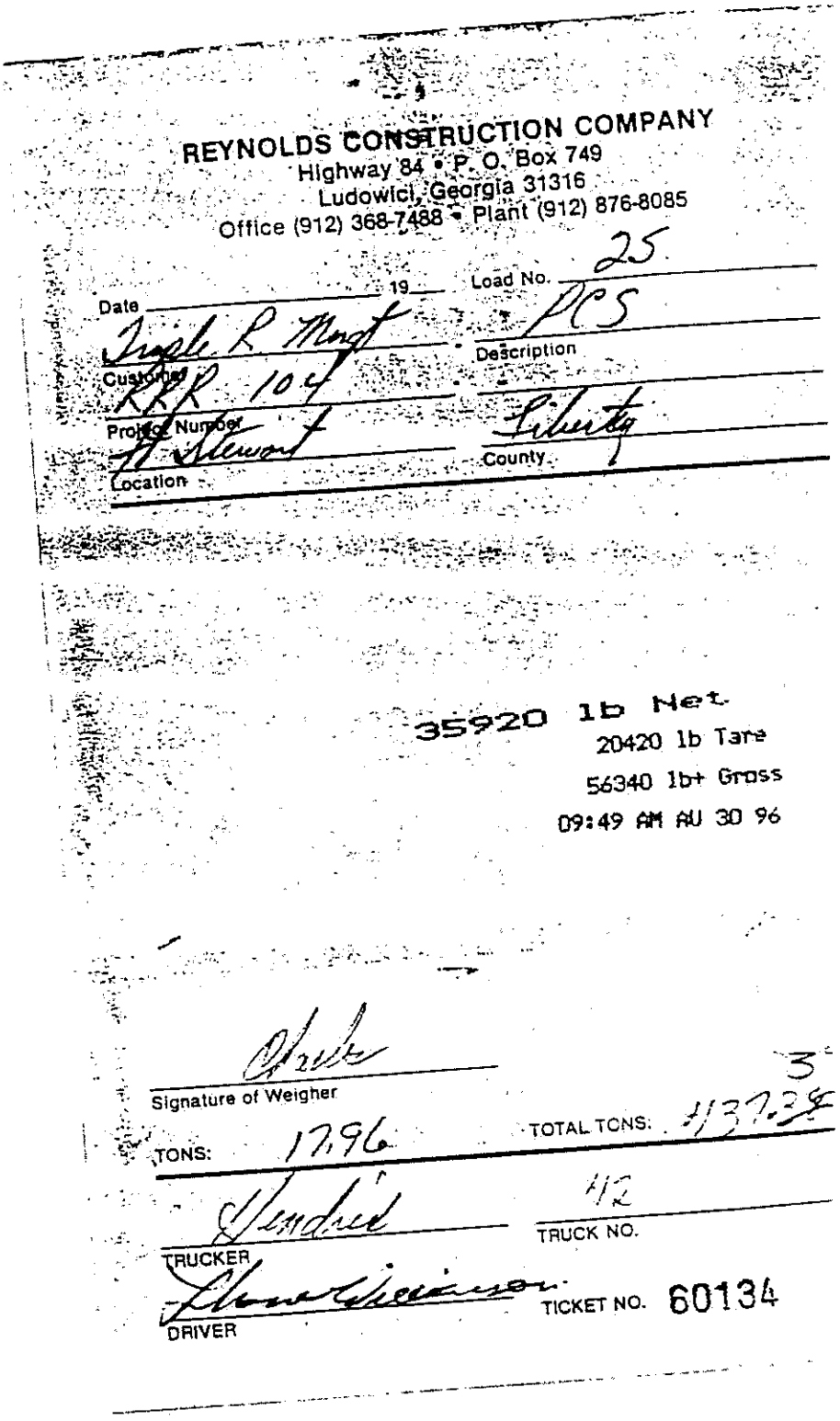
FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name: CHARLES PRUITT | Signature: Charles Pruitt | Month 8 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR



REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 25
Customer Ingle L. Mayf Description PCS
Project Number RKR 104
Location H Stewart County Liberty

35920 lb Net
20420 lb Tare
56340 lb+ Gross
09:49 AM AU 30 96

Signature of Weigher
TONS: 17.96 TOTAL TONS: 413.28
TRUCKER
TRUCK NO. 42
DRIVER
TICKET NO. 60134

42

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 20076

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY | Signature | Month 8 | Day 30 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: THOMAS KIMSON | Signature | Month 8 | Day 30 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FAC.

15. Discrepancy Indication Space

5. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: CHARLES PRUITT | Signature | Month 8 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19___ Load No. 26

Customer Triple L Mast Description PCS.

Project Number KRR 104

Location FJ Stewart County Liberty

37900 lb Net
21700 lb Tare
59600 lb Gross
09:53 AM AU 30 96

Signature of Weigher

TONS: 18.95 TOTAL TONS: 415.34

TRUCKER

65
TRUCK NO.

DRIVER

TICKET NO. 60135

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 000064

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank# _____

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: TOM FRY | Signature | Month 7 Day 29 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Patrick Rauch | Signature | Month 8 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

FACI-

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19

Printed/Typed Name: Charles Pruitt | Signature: Charles Pruitt | Month 8 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 27

Triple R. Mfg
Customer

PCS
Description

ERR 104
Project Number

H. Stewart
Location

Liberty
County

36660 lb Net
20160 lb Tare
56820 lb+ Grass
09:59 AM AU 30 96

Signature of Weigher

TONS: 18.33

67
TOTAL TONS: 474 Lb

Hendrix
TRUCKER

441
TRUCK NO.

Logan D. Baca
DRIVER

TICKET NO. 60136

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00079

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY | Signature | Month 8 | Day 29 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: RAYMOND G. BACA | Signature | Month 8 | Day 30 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

FACILITY

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: CHARLES PRUITT | Signature | Month 8 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 28

Customer Little R. Mart

Project Number K K 104

Location 17 Stewart

Description PCS

County Liberty

34640 lb Net
21700 lb Tare
56340 lb+ Gross
10:03 AM AU 30 96

Signature of Weigher Charlie

TONS: 17.33 TOTAL TONS: 499.99

TRUCKER Vendini

TRUCK NO. 61

DRIVER

TICKET NO. 60137

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00070

1. Page 1 of 1

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

3. Generator's Phone (912) 234-6570

4. Transporter 1 Company Name
Hendricks Hauling

5. Transporter 2 Company Name

6. Designated Facility Name and Site Address
Triple R Management, Inc. C/O Reynolds Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-67
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	C
b.				
c.				
d.				

GENERATOR

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: Tom FRY | Signature: Tom Fry | Month 08 | Day 25 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Malcolm B Ransom | Signature: Malcolm B Ransom | Month 08 | Day 30 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name: CHARles PruiTT | Signature: Charles Pruitt | Month 8 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19___ Load No. 29

Triple L Mgt — PCS
Customer — Description

RR
Project Number

Stewart — Liberty
Location — County

34600 lb Net.
21740 lb Tare
56340 lb+ Gross
10:06 AM AU 30 96

Signature of Weigher

TONS: 17.33 — TOTAL TONS: 29 58.28

Wendling — 50
TRUCKER — TRUCK NO.

Rob
DRIVER — TICKET NO. 60139

VP-1518-HV

50

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00080

1 Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

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

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY | Signature | Month 8 | Day 29 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Asa Jay | Signature | Month 8 | Day 30 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature | Month 8 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19___ Load No. 2930

Triple R. Mkt — PCS
Customer — Description

R.R. 104
Project Number

Stewart — Liberty
Location — County

36720 lb Net
22020 lb Tare
58740 lb+ Gross
10:08 AM AU 30 96

Signature of Weigher

TONS: 18.36 — TOTAL TONS: 501.44 65

Vandiver — 55
TRUCKER — TRUCK NO.

DRIVER — TICKET NO. 60138

VIP-1518-HV

55

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00081

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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 TOM FRY | Signature | Month 5 | Day 17 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name GILL, JERRY | Signature | Month | Day | Year

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name Charles Pruitt | Signature | Month 8 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P.O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 31

Customer Tyler R Mast Description PCS

Project Number RRR 104

Location Hwy 17 South County Liberty

35220 lb Net
21640 lb Tare
56860 lb+ Gross
10:25 AM AU 30 96

Signature of Weigher

TONS: 17.61 TOTAL TONS: 545.26

TRUCKER Overdrive TRUCK NO. 43

DRIVER Jerry Hodges TICKET NO. 60140

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00089

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY | Signature | Month 8 | Day 29 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Jerry Hoskins | Signature | Month 8 | Day 30 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature | Month 8 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 1

Triple R. Mart — Pcs
Customer — Description

RRR-104
Project Number

Ft Stewart — Liberty
Location — County

32240 lb Net
20420 lb Tare
52660 lb+ Gross
07:25 AM AU 30 96

Signature of Weigher

TONS: 16.12 TOTAL TONS: 16.12

Hendrix — 42
TRUCKER — TRUCK NO.

DRIVER

TICKET NO. 60110

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 200062

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY
Signature: Tom Fry
Month 05 Day 29 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: THOMAS WILLIAMSON
Signature: Thomas Williamson
Month 5 Day 29 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name
Signature
Month Day Year

FACILITY

15. Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt
Signature: Charles Pruitt
Month 8 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19___ Load No. 2

Triple R. Trucking — Res
Customer — Description

RRR-104
Project Number

Ft Stewart — Liberty
Location — County

~~32220 lb Net~~
~~53920 lb Tare~~
~~21700 lb Gross~~
21700
07:32 AM AU 30 96

Net 37.920

~~60 lb Net~~
~~59620 lb Tare~~
59620 lb Gross
07:28 AM AU 30 96

Signature of Weigher

TONS: 18.96 TOTAL TONS: 3508

Hendrix — LH
TRUCKER — TRUCK NO.

DRIVER

TICKET NO. 60111

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00084

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

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

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY | Signature | Month 05 Day 30 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Malcolm B Ransom | Signature | Month 08 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACILITY

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature | Month 8 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 3.

Triple R. Inc. — Pos

Customer — Description

RTR-104

Project Number

H. Stewart — Liberty

Location — County

00 lb Net
21840 lb Tare
~~21840 lb+ Gross~~
07:36 AM AU 30 96

Net 32080

00 lb Net
~~53920 lb Tare~~
53920 lb+ Gross
07:31 AM AU 30 96

Signature of Weigher

TONS: 16.04 TOTAL TONS: 51.12

Hendrix — 65

TRUCKER — TRUCK NO.

DRIVER

TICKET NO. 60112

VIP-1518-H v

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 6008 5

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

TRANSPORTER

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 TOM FRY | Signature | Month 8 | Day 29 | Year 96

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name Patrick T Rauch | Signature | Month 8 | Day 29 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name Charles Pruitt | Signature | Month 8 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19___ Load No. 41

Triple R. Mgmt — Rcs
Customer — Description

KKR)OH —
Project Number

Ft Stewart — Liberty
Location — County

32040 lb Net
20160 lb Tare
52200 lb+ Gross
07:41 AM AU 30 96

Signature of Weigher

TONS: 16.02 TOTAL TONS: 67.14

Hendrix — 44
TRUCKER — TRUCK NO.

DRIVER

TICKET NO. 60113

VIP-1518-HV

A 77

(Form [illegible])

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 000065

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY
Signature: Tom Fry
Month 08 Day 29 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: RAYMOND G. BACA
Signature: Raymond G. Baca
Month 8 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt
Signature: Charles Pruitt
Month 8 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19___ Load No. 5

Triple L Mgt — PCS
Customer — Description

RRR 104
Project Number

T. Stewart — Liberty
Location — County

-34520 lb Net
~~56260 lb Tare~~
21740 lb+ Gross
07:49 AM AU 30 96

~~30 lb Net~~
~~56260 lb Tare~~
56280 lb+ Gross
07:45 AM AU 30 96

K. D.
Signature of Weigher

TONS: 17.26 TOTAL TONS: 84.40

Wendrix — 50
TRUCKER — TRUCK NO.

DRIVER

TICKET NO. 60114

VIP-1515-mV

20

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. Q000666

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
5101
Tank# _____

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 FRY	Tom Fry	8	29	96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Acke Jay	Jay	8	30	96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
~~Charles~~ Charles Pruitt	Charles Pruitt	8	30	96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19 _____ Load No. 6

Customer Tuply K Mart Description PCS

Project Number KKR 104

Location FT Stewart County Liberty

37520 lb Net
22020 lb Tare
59540 lb+ Gross
08:04 AM AU 30 96

Signature of Weigher

TONS: 18.76 TOTAL TONS: 103.16

TRUCKER Hendrix TRUCK NO. 55

DRIVER

TICKET NO. 60115

VIP-1518-HV

#55

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00067

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-67
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank# _____

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: TOM FRY | Signature: Tom Fry | Month 08 Day 28 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: GILL, JERRY | Signature: Jerry Gill | Month 08 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: CHARLES REUTT | Signature: Charles Reutt | Month 8 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 7

Customer Little R Mart Description PCS

Project Number KRK 104

Location H Stewart County Liberty

~~21640 lb Net~~
Net 33.700
~~00 lb Tare~~
21640 lb+ Gross
08:23 AM AU 30 96

~~-20 lb Net~~
~~55360 lb Tare~~
55340 lb+ Gross
08:12 AM AU 30 96

R.D.
Signature of Weigher

TONS: 16.85 TOTAL TONS: 120.01

Hendrix 43
TRUCKER TRUCK NO.

Jerry Hooks
DRIVER TICKET NO. 60116

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No: 00668

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-67[illegible]
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY | Signature: Tom Fry | Month 8 | Day 29 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Jerry Hoskins | Signature: Jerry Hoskins | Month 8 | Day 30 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

Facility Owner or Operator Certification of receipt of waste materials covered by this manifest except as noted in Item 19

Printed/Typed Name: Charles Rhett | Signature: Charles Rhett | Month 8 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 8

Customer Triple R. Mgmt. Description PCS

Project Number RR 104

Location W Stewart County Liberty

38220 lb Net
21220 lb Tare
59440 lb+ Gross
08:20 AM AU 30 96

Signature of Weigher

TONS: 19.11 TOTAL TONS: 139.12

TRUCKER Hendrix TRUCK NO. 45

DRIVER

TICKET NO. 60117

VIP-1518-HV

#40

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00104

1. Page 1 of 1

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

GENERATOR

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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 FRY	Tom Fry	05	29	96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Anthony Reeksad		05	30	96

15. Discrepancy Indication Space

FACILITY

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	30	96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 9.

Customer Inglis R Mgt Description PCS

Project Number KKR 104

Location Hinson Church County Liberty

36220 lb Net
23760 lb Tare
59980 lb+ Gross
08:22 AM AU 30 96

Signature of Weigher K.D.

TONS: 18,11 TOTAL TONS: 157,33

TRUCKER Vendrix TRUCK NO. 57

DRIVER Guy Hall TICKET NO. 60118

VIP-1518-HV

#F57

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 20092

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone 912-427-675
B. Transporter's Phone
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#_____

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: TOM FRY | Signature | Month 08 Day 29 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: GEORGE H SUTTON | Signature | Month 08 Day 29 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature | Month 8 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 60

Customer Ingle & Mgmt Description PCS

Project Number RR 1047

Location I Stewart County Liberty

~~00 lb Net~~
21340 lb Tare
~~21340 lb+ Gross~~
08:38 AM AU 30 96

Net- 32180

~~00 lb Net~~
~~53520 lb Tare~~
53520 lb+ Gross
08:35 AM AU 30 96

Signature of Weigher

TONS: 16.09 TOTAL TONS: 173.32 ~~31~~

Hendrix TRUCKER

63 TRUCK NO.

Paul R. Long DRIVER

TICKET NO. 60119

VIP-1518-HV

#43

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00091

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-67
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	C
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#_____

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: TOM FRY | Signature: Tom Fry | Month 8 | Day 15 | Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: David R. Lang | Signature: David R. Lang | Month 8 | Day 30 | Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature: Charles Pruitt | Month 8 | Day 30 | Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 11

Customer Triple R. Mgt

Description PCS

Project Number RRR 104

Location H. Stewart

County Liberty

~~80 lb Net~~

~~55060 lb Tare~~

55060 lb Gross

08:37 AM AU 30 96

Net. 33,760

~~80 lb Net~~

21300 lb Tare

~~21300 lb Gross~~

08:42 AM AU 30 96

Signature of Weigher

TONS: 16.88 TOTAL TONS: 190.90

Hendrix

TRUCKER

48

TRUCK NO.

Ralph E Hendrix

DRIVER

TICKET NO. 60120

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 00092

1. Page 1 of

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-67
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10 Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	C
b.				
c.				
d.				

GENERATOR

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank# _____

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: TOM FRY | Signature | Month 05 Day 29 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Ralph E Shaw Jr | Signature | Month 08 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Charles Pruitt | Signature: Charles Pruitt | Month 8 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 12

Customer Triple R. Mngt. Description PCS

Project Number RR 104

Location Stewart County Talbot

~~00 lb Net~~

Net 36080 ~~58020 lb Tare~~

58320 lb+ Gross

08:40 AM AU 30 96

~~00 lb Net~~

22240 lb Tare

~~22240 lb+ Gross~~

08:45 AM AU 30 96

Signature of Weigher

TONS: 18,04 TOTAL TONS: 208.23 24

TRUCKER Hendrix 62

DRIVER Jeff Hall TRUCK NO.

TICKET NO. 60121

VIP-1518-HY

Uii

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 20105

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-67
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY | Signature: Tom Fry | Month 05 Day 29 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Joey Spell | Signature: Joey Spell | Month 05 Day 29 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: [illegible] | Signature: | Month Day Year

FACILITY

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19

Printed/Typed Name: Charles Pruitt | Signature: Charles Pruitt | Month 5 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date _____ 19__ Load No. 13

Customer Jesse R. Hunt Description PCS

Project Number RRR 184

Location W Hunt County Liberty

30720 lb Net
20420 lb Tare
51140 lb+ Grass
08:47 AM AU 30 96

Signature of Weigher

TONS: 15,36 TOTAL TONS: 223.59 CO

TRUCKER

TRUCK NO. 42

DRIVER Thomas Williams

TICKET NO. 60122

VIP:1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 50069

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-67
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
5101
Tank=

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: TOM FRY | Signature: Tom Fry | Month 05 Day 25 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: THOMAS WILLIAMSON | Signature: Thomas Williamson | Month 5 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: CHARLES PRUITT | Signature: Charles Pruitt | Month 6 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

REYNOLDS CONSTRUCTION COMPANY
Highway 84 • P. O. Box 749
Ludowici, Georgia 31316
Office (912) 368-7488 • Plant (912) 876-8085

Date 8/30 19 96 — Load No. 14

Customer Hall R. Yancy — Description PCS

Project Number FKR 104

Location Ft Stewart — County Liberty

33160 lb Net.
21700 lb Tare
54860 lb+ Gross
08:50 AM AU 30 96

Signature of Weigher

TONS: 16.58 — TOTAL TONS: 240.18

TRUCKER — TRUCK NO. GH

DRIVER

TICKET NO. 60123

VIP-1518-HV

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No: 00077

1. Page 1 of 1

GENERATOR

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 Construction Co.
Rt. 84
Ludowici GA 31316

A. Transporter's Phone
B. Transporter's Phone 912-427-675
C. Facility's Phone 912-756-3655

7. Waste Shipping Name and Description	8. Containers No.	Type	9. Total Quantity	10. Unit Wt/Vol
a. Petroleum Contaminated Soil	1	TT	18.00	CY
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

11. Special Handling Instructions and Additional Information
8101
Tank#_____

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: TOM FRY | Signature: Tom Fry | Month 05 Day 28 Year 96

TRANSPORTER

13. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Malcolm B Ransom | Signature | Month 05 Day 30 Year 96

14. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year

FACI

15. Discrepancy Indication Space

16. Facility Owner or Operator Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Charles Pruitt | Signature | Month 8 Day 30 Year 96

ORIGINAL – RETURN TO GENERATOR

APPENDIX X

SITE RANKING FORM

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SITE RANKING FORM

Facility Name: USTs 2 & 3, Building 1840 **Ranked by:** S. Stoller

County: Liberty **Facility ID #:** 9-089065 **Date Ranked:** 7/9/99

SOIL CONTAMINATION (based on soil closure and CAP-Part A 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

✳ CAP-Part A results indicated a benzene concentration of 0.0172J mg/kg but was not considered because it was collected from saturated zone.

C. Depth to Groundwater
(bls = below land surface)

☐	>50' bls	= 1
☐	>25' - 50' bls	= 2
☐	>10' - 25' bls	= 5
☒	≤10' bls	= 10

Fill in the blanks: (A. 25) + (B. 0) = (25) x (C. 10) = (D. 250)

GROUNDWATER CONTAMINATION (based on closure 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. 50) = (G. 50)

Facility Name: USTs 2 & 3, Building 1840 **County:** Liberty **Facility ID #:** 9-089065

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. 50) x (L. 50) = **M. 2500**

(M. 2500)+ (D. 250) = **N. 2750**

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. 2750) x (P. 1) = (2750) + (Q. 0)

= 2750 (based on closure & CAP-Part A soil data and 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

PUBLIC NOTIFICATION

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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, 1250, 9-089081
122, 7705, 9-089063
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 the USTs 2 & 3, Building 1840, Facility ID #9-089065, 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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ATTACHMENT C

SUPPLEMENTAL INFORMATION

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1. RISK-BASED CORRECTIVE ACTION

A risk-based approach was used to aid in the decision making process to determine the need for further action at the USTs 2 & 3 site. Due to the nature of the contamination (petroleum hydrocarbon contamination of groundwater), the risk-based approach was limited to human health concerns. Ecological risk concerns are negligible because of the lack of habitat available for ecological receptors as a result of the 10 to 12 inches of concrete overlying the majority of the site.

The methods for assessing human health concerns for the site were derived from GUST CAP-Part B guidance (GA EPD 1995) and recent GA EPD guidance (GA EPD 1996). These were supplemented by the additional guidance documents on risk assessment methods referenced in this section. In general, the risk-based corrective action approach is performed in two steps:

1. Results were screened against readily available regulatory levels and risk-based screening levels to identify chemicals of potential concern (COPCs).

2. Site-specific ACLs were developed for COPCs using the results of the fate and transport modeling and identified receptor locations.

The following sections present the conceptual model of the exposure setting and potential receptors as well as the general methodology employed to perform the screening for COPCs and the development of ACLs.

1.1 Potential receptor survey

The exposure assessment identifies any potentially complete pathways between the contaminant source and potential receptors. This involves identifying potential current and future receptors, release mechanisms through which contamination might come into contact with the receptors, and the routes of exposure through which the receptors might be exposed.

The USTs 2 & 3 site is located within Fort Stewart, an active military installation, and within an access-controlled fence of a secured motorpool. The land use at the site is currently military industrial. In the direction of groundwater flow, a storm drain is located approximately 15 feet northwest of the former dispenser island, a drainage ditch is located approximately 650 feet northwest of the site, and a tributary to Mill Creek is located approximately 1200 feet northwest of the site.

No connection between site contamination and current off-site receptors has been identified. Site contamination may migrate to the surficial aquifer. The Hawthorn Group separates the surficial aquifer from the deep drinking water aquifer, the Floridan aquifer, which is approximately 90 feet of clay. There appears to be no vertical migration from the surficial aquifer to the Floridan aquifer. Well #3 is located approximately 1700 feet upgradient of the USTs 2 & 3 site. However, the Hawthorn Group, a thick and highly effective confining unit, separates the water supply well from the surficial aquifer.

No current on-site receptors have been identified for the site. Potential future on-site receptors might include industrial workers and military residents.

Potential future on-site industrial receptors may come in direct contact with site soil contamination during construction or excavation activities. No near-term on-site receptors are likely to come into contact with groundwater, unless the surficial aquifer discharges into the drainage ditch.

1.2 Screening for Chemicals of Potential Concern

1.2.1 Screening Methodology

The purpose of a risk evaluation screen is to identify the COPCs and areas of concern at a site and possibly to identify sites for which no further action is needed. The first step in the risk process uses screening levels that are readily obtainable and that, due to their conservative nature, can be used with a high degree of confidence to indicate sites for which no further action is required.

An American Society of Testing and Materials (ASTM) (ASTM 1995) Tier 1–type risk evaluation process will be applied to the data collected for the USTs 2 & 3 site to identify any COPCs and media for which no further action is needed. The risk evaluation screen involves the steps listed below.

- Identify potential migration and exposure pathways associated with the site, and identify potential exposure scenarios that should be used to select screening levels.
- Identify risk-based screening levels and regulatory based screening levels for each contaminant.
- Compare site-related concentrations to screening levels to determine if any potential COPCs exist at the site.
- Compare detection limits to screening levels to identify potential false negative screening results.

The screening levels for the USTs 2 & 3 site data have been taken from the following sources based on GA EPD guidance (GA EPD 1996):

- federal MCLs (EPA 1989),
- GUST Soil Threshold Levels (i.e., Table A, Column 2),
- soil screening levels developed by the U.S. Environmental Protection Agency (EPA) (EPA 1996a), and
- soil and groundwater risk-based concentrations developed by EPA Region 3 (EPA 1996b).

These values reflect screening levels based on a combination of regulatory screening levels (i.e., MCLs and GUST soil threshold levels), and calculated risk-based values (i.e., EPA Region 3 risk-based concentrations).

Screening levels inherently incorporate assumptions about land use. In identifying COPCs, it is generally accepted that screening levels will reflect any potential future land uses, and thus, they usually reflect a conservative residential use scenario (EPA 1991; EPA 1996a; ASTM 1995). Based on GA EPD guidance, risk-based screening levels reflect residential land use for groundwater and industrial land use for deep soils (GA EPD 1996).

Default residential exposure scenarios for groundwater assume that use of the land could someday be residential and that the following exposures could occur:

- ingestion of groundwater and
- inhalation of volatiles during showering.

The default industrial exposure assumptions for deep soils assume that the following exposures could occur:

- incidental ingestion of soil and
- inhalation of volatiles and dust.

EPA's *Soil Screening Guidance* (EPA 1996a) provides two options for selecting soil values that address protection of groundwater. One value assumes no contaminant dilution or attenuation would occur between the soil and groundwater; a second value assumes a 20-fold dilution attenuation factor (DAF). A DAF of 20 was used to develop soil screening values protective of groundwater at the USTs 2 & 3 site.

If ARAR- or risk-based values are not available, it generally means that (1) the chemical is not considered to be toxic except perhaps at extremely high concentrations (e.g., aluminum, sodium); (2) the dose-response data do not indicate a toxic effect; or (3) EPA is currently reviewing toxicity information, and no reference dose or cancer slope factor is currently available.

1.2.2 Screening Results

The risk screening process is a systematic screening of sample results to identify site-related COPCs. Constituent concentrations below risk- or regulatory-based screening levels are not considered COPCs and are not evaluated further. Table C-1 presents the results of the risk-based screening for the Part A SI soil data. Table C-2 presents the results of the risk-based screening for the Part A SI groundwater data.

Benzene was detected above the GUST soil threshold level for soil data collected for the Part A SI. Ethylbenezene, toluene, xylenes, phenanthrene, lead, and TPH were detected below screening levels during the Part A sampling. Benzene was selected as a COPC for USTs 2 & 3 site soils.

Detection limits for benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene exceeded risk-based screening levels for soils in three samples. One result for TPH-DRO was rejected due to a laboratory control sample recovery of less than 50%. No COPCs for soils were selected for the site based on the detection limit screening.

Benzene was detected in two temporary wells at concentrations above screening levels. The detections were 5.6 µg/L (well 77-02) and 22.7 µg/L (well 77-01). These results exceeded the risk-based screening level for benzene of 0.36 µg/L and the federal MCL for benzene of 5 µg/L. Ethylbenzene, toluene, and xylenes were detected below screening values for the Part A SI. Benzene was selected as a COPC for the USTs 2 & 3 site groundwater.

Detection limits for several PAHs exceeded risk-based screening levels for the Part A groundwater data. For these constituents, risk-based values represent values below analytically achievable levels. The detection limits for one PAH, benzo(*a*)pyrene, also exceeded the federal MCL of 0.2 µg/L by two to three orders of magnitude. No additional COPCs were selected for groundwater based on the detection limit screening.

1.3 Site-Specific Levels

Detections exceeding the conservative generic screening levels are considered COPCs. ACLs are developed, when appropriate, for the COPCs using site-specific information from the fate and transport modeling and available regulatory screening levels. When regulatory screening levels were not

available, then ACLs were developed based on risk-based levels. No risk-based ACLs were developed for the USTs 2 & 3 site.

1.3.1 Alternate Threshold Levels

The CAP-Part A data were screened against risk- and regulatory-based screening levels. Closure data was not used to evaluate the site because the more recent CAP-Part A data was more reflective of current site conditions. Benzene was selected as a COPC for USTs 2 & 3 site soils. The maximum soil concentrations (including the detection for benzene that exceeded screening criteria) at this site are either below or at the water table. Exposure to these concentrations would most likely occur through contact with leached contaminants in the groundwater. Therefore, ATLs were not developed, instead equilibrium contaminant partitioning between sorbed and aqueous phases were utilized to determine the maximum concentration of the contaminants in the groundwater at the source. These maximum concentrations were then used to develop ACLs in Section 1.3.2.

1.3.2 Alternative Concentration Limits

Benzene was identified as a COPC for groundwater at the site. Benzene was modeled to three potential downgradient locations where a receptor may come in contact with migrating site contamination. These three locations included a storm drain 15 feet downgradient, a drainage ditch 650 feet downgradient, and a tributary to Mill Creek 1200 feet downgradient from the site. Fate and transport modeling was used to develop site-specific dilution attenuation factors (DAF) between the source and the receptor locations (see 1.3.3.2 below). Modeling results for the storm drain estimated a DAF for benzene of 1.0, indicating that the storm drain is located within the groundwater plume. The MCL for benzene is 5 µg/L. Adjusting this regulatory level using the site-specific DAF identified for the potential migration of contamination from the site to the storm drain results in an ACL for benzene of 5 µg/L (i.e., 1.0 × 5 µg/L). The modeling estimated DAFs of 96,500 for the drainage ditch, which results in an ACL of 482,500 µg/L (i.e., 96,500 × 5 µg/L), and infinity for the tributary to Mill Creek. An infinite DAF indicates that contamination will never reach these locations, thus no ACLs were developed for the tributary to Mill Creek.

1.3.3 Fate and transport model

1.3.3.1 Model Selection

Site-specific DAFs between the source and the receptor locations were developed. The DAF is a numerical value that represents the attempt to mathematically quantify the natural physical, chemical, and biological processes (e.g., advection-dispersion, sorption-retardation, biodegradation, volatilization) that result in the decrease of a chemical concentration in an environmental medium. In simple terms, the DAF is the ratio of chemical concentration at the source (or the point of origin) to the concentration at the exposure point. The DAFs reflect the natural attenuation concepts outlined in the ASTM's Risk Based Corrective Action (RBCA) protocol (ASTM 1995).

Fate and transport models are used as tools for developing DAFs. The application of fate and transport models at any release site must ensure that the modeling results are protective of human health and the environment. Therefore, the selection process of a predictive model at a release site must consider its performance, characteristics, and applicability to the site being considered. The following characteristics were considered before selecting an appropriate model for Fort Stewart:

- the model provides conservative predictions,

- the model is technically sound,
- the model is a public-domain model or is readily available,
- the model has received adequate peer review,
- the model has been applied to other similar sites, and
- the model is easy to use.

The Analytical Transient 1-, 2-, 3-Dimensional Model (AT123D) meets all of the above criteria, and was selected for performing fate and transport analysis for this site. AT123D is a well-known and commonly used analytical groundwater pollutant fate and transport model. It computes the spatial-temporal concentration distribution of chemicals in the aquifer system and predicts the transient spread of a chemical plume through a groundwater aquifer. The fate and transport processes accounted for in AT123D are advection, dispersion, adsorption/retardation, and decay. This model can be used as a tool for estimating the dissolved concentration of a chemical in one, two, or three dimensions in the groundwater, resulting from a mass release (either continuous or instant or depleting source) over a source area (i.e., point, line, area, or volume source).

1.3.3.2 Fate and Transport Results

The AT123D model was used to determine the impact of dissolved hydrocarbons on potential receptors. The maximum soil concentrations at this site are either below or at the water table. Therefore, leaching to groundwater by the percolating rain water was not modeled, instead equilibrium contaminant partitioning between sorbed and aqueous phases (i.e., 0.0172 mg/kg in soil corresponds to 44.4 µg/L in groundwater) were utilized to determine the maximum concentration of the contaminants in the groundwater at the source. A steady-state AT123D model was developed by calibrating the model against the predicted maximum concentration in the groundwater (i.e., 44.4 µg/L) beneath the USTs 2 & 3 site instead of the observed maximum concentration of 22.7 µg/L. Site specific geotechnical information was collected during the CAP-Part A investigation and is presented in Table C-3. Potential receptors are a storm drain located 15 feet northwest of the site, a drainage ditch located 650 feet northwest of the site, and a tributary to Mill Creek located approximately 1200 feet northwest of the site.

Vertical migration of the contaminant plume through the confining unit to the Principal Artesian aquifer is improbable. The confining unit has a vertical hydraulic conductivity on the order of 10^{-8} cm/sec and ranges from 15 to 90 feet in thickness. Assuming a vertical gradient of 1.0 ft/ft and an effective porosity of 0.06 (Mills et al. 1985) for the confining unit, the groundwater travel time is estimated to be 87 years. However, benzene will not travel at the same speed as water because of retardation due to adsorption. The retardation factor for benzene through the confining unit is 5.05. Therefore, the travel time for benzene through the confining unit (15 feet thick) is greater than 400 years (i.e., 87 years × 5.05 = 439 years). The surficial aquifer in which the contaminant plume is located is not used as a source of drinking water.

The fate and transport modeling results are provided in Table C-4 and Section 1.5. Three potential downgradient locations, a storm drain, a drainage ditch, and a tributary to Mill Creek, at which a receptor might encounter migrating groundwater contamination, were modeled. These are the nearest possible locations at which a receptor might encounter migrating groundwater contamination due to a possible hydraulic connection between the groundwater and the surface water in the ditch and the creek. Contaminant fate and transport simulations were performed to predict the maximum concentrations at these receptor locations over a simulation period of 100 years. The modeling results indicate that the maximum benzene concentration at the source is predicted to be 44.4 µg/L. In addition, due to dilution attenuation, benzene contamination will not reach the drainage ditch or Mill Creek at detectable concentrations. Therefore, surface water will not be impacted at concentrations above MCLs by the

current site conditions at the USTs 2 & 3 site, Facility ID #: 9-089065. However, the storm drain is located within the plume and has the potential of acting as a preferential pathway, however CAP-Part A data indicates that it is not acting as a preferential pathway.

Based on modeling results the estimated DAF for benzene at the storm drain is 1.0 (i.e. 44.4 µg/L ÷ 44.4 µg/L) and the DAF for benzene at the drainage ditch is 96,500 (i.e., 44.4 µg/L ÷ 0.00046 µg/L). The tributary to Mill Creek is infinity indicating that the predicted concentrations at this receptor is zero. Simulations were not performed to predict the maximum concentrations of benzene over a simulation period of two years because there are no permanent monitoring wells at the site to confirm the model predictions. This simulation will be performed during the long-term monitoring

1.4 Conclusions and recommendations

The conclusions below are based on a fate and transport modeling assuming a continuous source of contamination of infinite duration at the site based on the maximum predicted benzene concentration (i.e. 44.4 µg/L) in groundwater based on soil concentrations during the CAP-Part A investigation.

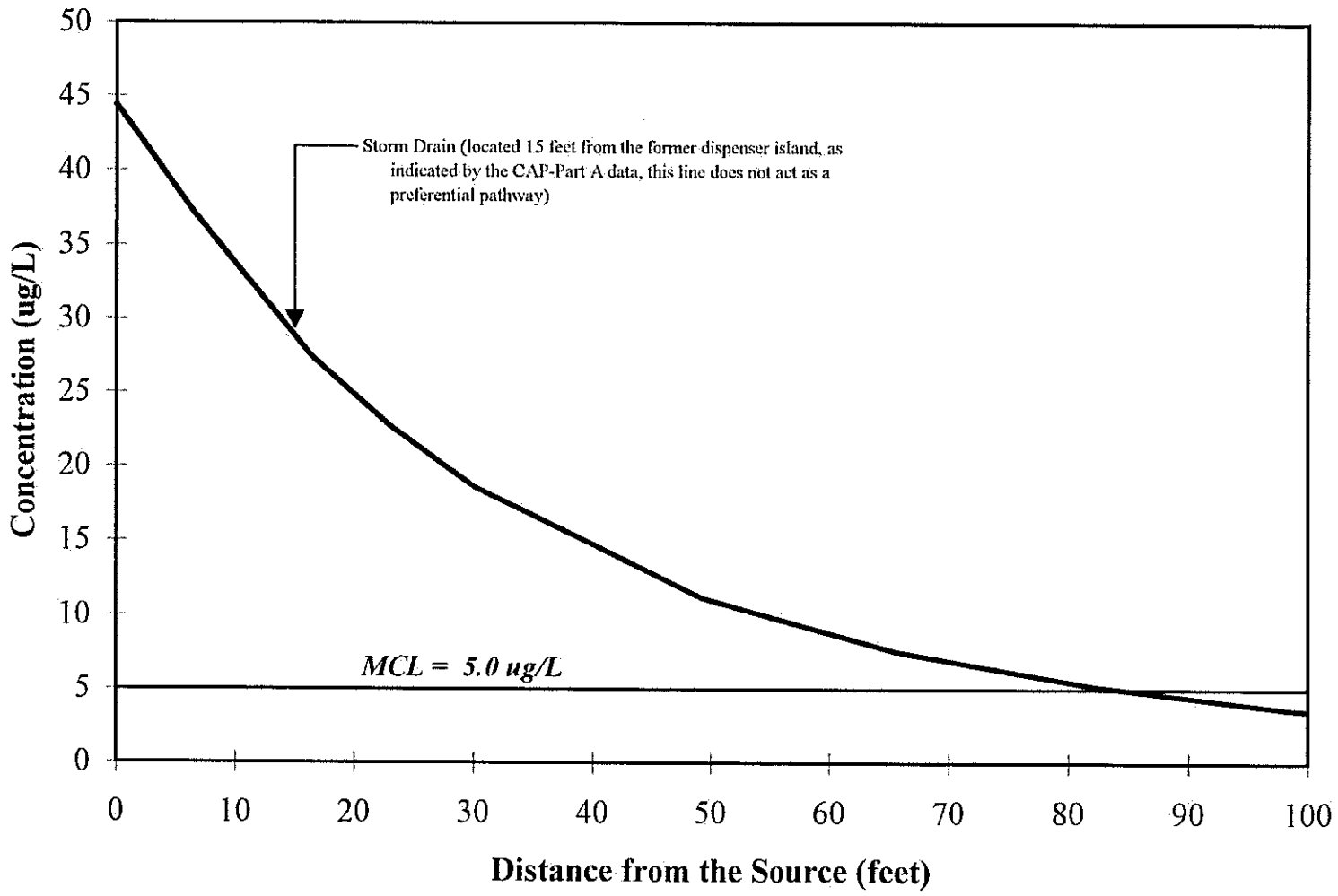
- Risk-based screening results show that benzene concentrations in groundwater exceed the initial screening levels.
- Benzene concentrations in groundwater exceed the ACL of 5 µg/L at the storm drain, but not the ACL of 482,500 µg/L at the drainage ditch.
- The horizontal and vertical extent of soil and groundwater contamination was determined during the CAP-Part A investigation.
- Fate and transport modeling of benzene indicates that contamination does not exceed MCLs at the conservatively defined downgradient receptors, a drainage ditch and Mill Creek.

Considering the site characteristics, a monitoring only plan is recommended to confirm that natural attenuation is taking place at the site.

1.5 Fate and Transport Model Output Results

Following are the data for fate and transport modeling.

Figure 1. AT123D modeled maximum concentration of benzene in the groundwater versus downgradient distance from the source (USTs 2 & 3)



Ft Stewart UST 2&3 Benzene (calibrated plume)

NO. OF POINTS IN X-DIRECTION	9
NO. OF POINTS IN Y-DIRECTION	5
NO. OF POINTS IN Z-DIRECTION	1
NO. OF ROOTS: NO. OF SERIES TERMS	400
NO. OF BEGINNING TIME STEP	145
NO. OF ENDING TIME STEP	360
NO. OF TIME INTERVALS FOR PRINTED OUT SOLUTION	12
INSTANTANEOUS SOURCE CONTROL = 0 FOR INSTANT SOURCE	1
SOURCE CONDITION CONTROL = 0 FOR STEADY SOURCE	0
INTERMITTENT OUTPUT CONTROL = 0 NO SUCH OUTPUT	1
CASE CONTROL =1 THERMAL, = 2 FOR CHEMICAL, = 3 RAD	2

AQUIFER DEPTH, = 0.0 FOR INFINITE DEEP (METERS)	0.1070E+02
AQUIFER WIDTH, = 0.0 FOR INFINITE WIDE (METERS)	0.0000E+00
BEGIN POINT OF X-SOURCE LOCATION (METERS)	-0.1524E+02
END POINT OF X-SOURCE LOCATION (METERS)	0.0000E+00
BEGIN POINT OF Y-SOURCE LOCATION (METERS)	-0.6100E+01
END POINT OF Y-SOURCE LOCATION (METERS)	0.6100E+01
BEGIN POINT OF Z-SOURCE LOCATION (METERS)	0.0000E+00
END POINT OF Z-SOURCE LOCATION (METERS)	0.2000E+01

POROSITY	0.2000E+00
HYDRAULIC CONDUCTIVITY (METER/HOUR)	0.7200E-02
HYDRAULIC GRADIENT	0.8300E-01
LONGITUDINAL DISPERSIVITY (METER)	0.5000E+01
LATERAL DISPERSIVITY (METER)	0.1500E+01
VERTICAL DISPERSIVITY (METER)	0.5000E+00
DISTRIBUTION COEFFICIENT, KD (M**3/KG)	0.3872E-03
HEAT EXCHANGE COEFFICIENT (KCAL/HR-M**2-DEGREE C)	0.0000E+00

MOLECULAR DIFFUSION MULTIPLY BY POROSITY (M**2/HR)	0.3530E-05
DECAY CONSTANT (PER HOUR)	0.4015E-04
BULK DENSITY OF THE SOIL (KG/M**3)	0.1644E+04
ACCURACY TOLERANCE FOR REACHING STEADY STATE	0.1000E-02
DENSITY OF WATER (KG/M**3)	0.1000E+04
TIME INTERVAL SIZE FOR THE DESIRED SOLUTION (HR)	0.7300E+03
DISCHARGE TIME (HR)	0.8760E+06
WASTE RELEASE RATE (KCAL/HR), (KG/HR), OR (CI/HR)	0.2682E-05

RETARDATION FACTOR	0.4183E+01
RETARDED DARCY VELOCITY (M/HR)	0.7144E-03
RETARDED LONGITUDINAL DISPERSION COEF. (M**2/HR)	0.3576E-02
RETARDED LATERAL DISPERSION COEFFICIENT (M**2/HR)	0.1076E-02
RETARDED VERTICAL DISPERSION COEFFICIENT (M**2/HR)	0.3614E-03

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LIST OF Z-EIGENVALUES
   0.2936E+00  0.5872E+00  0.8808E+00  0.1174E+01  0.1468E+01  0.1762E+01  0.2055E+01  0.2349E+01  0.2642E+01  0.2936E+01
   0.3230E+01  0.3523E+01  0.3817E+01  0.4110E+01  0.4404E+01  0.4698E+01  0.4991E+01  0.5285E+01  0.5579E+01  0.5872E+01
   0.6166E+01  0.6459E+01  0.6753E+01  0.7047E+01  0.7340E+01  0.7634E+01  0.7927E+01  0.8221E+01  0.8515E+01  0.8808E+01
   0.9102E+01  0.9395E+01  0.9689E+01  0.9983E+01  0.1028E+02  0.1057E+02  0.1086E+02  0.1116E+02  0.1145E+02  0.1174E+02
   0.1204E+02  0.1233E+02  0.1263E+02  0.1292E+02  0.1321E+02  0.1351E+02  0.1380E+02  0.1409E+02  0.1439E+02  0.1468E+02
   0.1497E+02  0.1527E+02  0.1556E+02  0.1585E+02  0.1615E+02  0.1644E+02  0.1674E+02  0.1703E+02  0.1732E+02  0.1762E+02
   0.1791E+02  0.1820E+02  0.1850E+02  0.1879E+02  0.1908E+02  0.1938E+02  0.1967E+02  0.1997E+02  0.2026E+02  0.2055E+02
   0.2085E+02  0.2114E+02  0.2143E+02  0.2173E+02  0.2202E+02  0.2231E+02  0.2261E+02  0.2290E+02  0.2319E+02  0.2349E+02
   0.2378E+02  0.2408E+02  0.2437E+02  0.2466E+02  0.2496E+02  0.2525E+02  0.2554E+02  0.2584E+02  0.2613E+02  0.2642E+02
   0.2672E+02  0.2701E+02  0.2731E+02  0.2760E+02  0.2789E+02  0.2819E+02  0.2848E+02  0.2877E+02  0.2907E+02  0.2936E+02
   0.2965E+02  0.2995E+02  0.3024E+02  0.3054E+02  0.3083E+02  0.3112E+02  0.3142E+02  0.3171E+02  0.3200E+02  0.3230E+02
   0.3259E+02  0.3288E+02  0.3318E+02  0.3347E+02  0.3376E+02  0.3406E+02  0.3435E+02  0.3465E+02  0.3494E+02  0.3523E+02
   0.3553E+02  0.3582E+02  0.3611E+02  0.3641E+02  0.3670E+02  0.3699E+02  0.3729E+02  0.3758E+02  0.3788E+02  0.3817E+02
   0.3846E+02  0.3876E+02  0.3905E+02  0.3934E+02  0.3964E+02  0.3993E+02  0.4022E+02  0.4052E+02  0.4081E+02  0.4110E+02
   0.4140E+02  0.4169E+02  0.4199E+02  0.4228E+02  0.4257E+02  0.4287E+02  0.4316E+02  0.4345E+02  0.4375E+02  0.4404E+02
   0.4433E+02  0.4463E+02  0.4492E+02  0.4522E+02  0.4551E+02  0.4580E+02  0.4610E+02  0.4639E+02  0.4668E+02  0.4698E+02
   0.4727E+02  0.4756E+02  0.4786E+02  0.4815E+02  0.4845E+02  0.4874E+02  0.4903E+02  0.4933E+02  0.4962E+02  0.4991E+02
   0.5021E+02  0.5050E+02  0.5079E+02  0.5109E+02  0.5138E+02  0.5167E+02  0.5197E+02  0.5226E+02  0.5256E+02  0.5285E+02
   0.5314E+02  0.5344E+02  0.5373E+02  0.5402E+02  0.5432E+02  0.5461E+02  0.5490E+02  0.5520E+02  0.5549E+02  0.5579E+02
   0.5608E+02  0.5637E+02  0.5667E+02  0.5696E+02  0.5725E+02  0.5755E+02  0.5784E+02  0.5813E+02  0.5843E+02  0.5872E+02
   0.5901E+02  0.5931E+02  0.5960E+02  0.5990E+02  0.6019E+02  0.6048E+02  0.6078E+02  0.6107E+02  0.6136E+02  0.6166E+02
   0.6195E+02  0.6224E+02  0.6254E+02  0.6283E+02  0.6313E+02  0.6342E+02  0.6371E+02  0.6401E+02  0.6430E+02  0.6459E+02
   0.6489E+02  0.6518E+02  0.6547E+02  0.6577E+02  0.6606E+02  0.6636E+02  0.6665E+02  0.6694E+02  0.6724E+02  0.6753E+02
   0.6782E+02  0.6812E+02  0.6841E+02  0.6870E+02  0.6900E+02  0.6929E+02  0.6958E+02  0.6988E+02  0.7017E+02  0.7047E+02
   0.7076E+02  0.7105E+02  0.7135E+02  0.7164E+02  0.7193E+02  0.7223E+02  0.7252E+02  0.7281E+02  0.7311E+02  0.7340E+02
   0.7370E+02  0.7399E+02  0.7428E+02  0.7458E+02  0.7487E+02  0.7516E+02  0.7546E+02  0.7575E+02  0.7604E+02  0.7634E+02
   0.7663E+02  0.7692E+02  0.7722E+02  0.7751E+02  0.7781E+02  0.7810E+02  0.7839E+02  0.7869E+02  0.7898E+02  0.7927E+02
   0.7957E+02  0.7986E+02  0.8015E+02  0.8045E+02  0.8074E+02  0.8104E+02  0.8133E+02  0.8162E+02  0.8192E+02  0.8221E+02
   0.8250E+02  0.8280E+02  0.8309E+02  0.8338E+02  0.8368E+02  0.8397E+02  0.8427E+02  0.8456E+02  0.8485E+02  0.8515E+02
   0.8544E+02  0.8573E+02  0.8603E+02  0.8632E+02  0.8661E+02  0.8691E+02  0.8720E+02  0.8749E+02  0.8779E+02  0.8808E+02
   0.8838E+02  0.8867E+02  0.8896E+02  0.8926E+02  0.8955E+02  0.8984E+02  0.9014E+02  0.9043E+02  0.9072E+02  0.9102E+02
   0.9131E+02  0.9161E+02  0.9190E+02  0.9219E+02  0.9249E+02  0.9278E+02  0.9307E+02  0.9337E+02  0.9366E+02  0.9395E+02
   0.9425E+02  0.9454E+02  0.9484E+02  0.9513E+02  0.9542E+02  0.9572E+02  0.9601E+02  0.9630E+02  0.9660E+02  0.9689E+02
   0.9718E+02  0.9748E+02  0.9777E+02  0.9806E+02  0.9836E+02  0.9865E+02  0.9895E+02  0.9924E+02  0.9953E+02  0.9983E+02
   0.1001E+03  0.1004E+03  0.1007E+03  0.1010E+03  0.1013E+03  0.1016E+03  0.1019E+03  0.1022E+03  0.1025E+03  0.1028E+03
   0.1031E+03  0.1033E+03  0.1036E+03  0.1039E+03  0.1042E+03  0.1045E+03  0.1048E+03  0.1051E+03  0.1054E+03  0.1057E+03
   0.1060E+03  0.1063E+03  0.1066E+03  0.1069E+03  0.1072E+03  0.1075E+03  0.1078E+03  0.1080E+03  0.1083E+03  0.1086E+03
   0.1089E+03  0.1092E+03  0.1095E+03  0.1098E+03  0.1101E+03  0.1104E+03  0.1107E+03  0.1110E+03  0.1113E+03  0.1116E+03
   0.1119E+03  0.1122E+03  0.1125E+03  0.1127E+03  0.1130E+03  0.1133E+03  0.1136E+03  0.1139E+03  0.1142E+03  0.1145E+03
   0.1148E+03  0.1151E+03  0.1154E+03  0.1157E+03  0.1160E+03  0.1163E+03  0.1166E+03  0.1169E+03  0.1171E+03  0.1174E+03
LIST OF Z-COEFFICIENTS
   0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00
   0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00
   0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00
   0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00
   0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00
   0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00  0.1869E+00
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0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00
0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00
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0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00
0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00
0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00
0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00	0.1869E+00

LIST OF ZS-SERIES

0.1887E+01	0.1571E+01	0.1115E+01	0.6065E+00	0.1390E+00	-0.2114E+00	-0.4011E+00	-0.4257E+00	-0.3181E+00	-0.1361E+00
0.5426E-01	0.1962E+00	0.2557E+00	0.2271E+00	0.1313E+00	0.6249E-02	-0.1061E+00	-0.1723E+00	-0.1769E+00	-0.1248E+00
-0.3775E-01	0.5342E-01	0.1195E+00	0.1418E+00	0.1166E+00	0.5585E-01	-0.1845E-01	-0.8148E-01	-0.1138E+00	-0.1071E+00
-0.6613E-01	-0.6246E-02	0.5204E-01	0.8998E-01	0.9646E-01	0.7117E-01	0.2404E-01	-0.2845E-01	-0.6896E-01	-0.8492E-01
-0.7234E-01	-0.3671E-01	0.9281E-02	0.5014E-01	0.7276E-01	0.7055E-01	0.4530E-01	0.6242E-02	-0.3327E-01	-0.6028E-01
-0.6643E-01	-0.5052E-01	-0.1860E-01	0.1825E-01	0.4776E-01	0.6050E-01	0.5288E-01	0.2811E-01	-0.5079E-02	-0.3549E-01
-0.5320E-01	-0.5281E-01	-0.3502E-01	-0.6235E-02	0.2372E-01	0.4494E-01	0.5070E-01	0.3955E-01	0.1567E-01	-0.1271E-01
-0.3609E-01	-0.4689E-01	-0.4191E-01	-0.2321E-01	0.2665E-02	0.2698E-01	0.4174E-01	0.4231E-01	0.2888E-01	0.6227E-02
-0.1793E-01	-0.3556E-01	-0.4100E-01	-0.3273E-01	-0.1383E-01	0.9217E-02	0.2868E-01	0.3820E-01	0.3485E-01	0.2003E-01
-0.1099E-02	-0.2141E-01	-0.3418E-01	-0.3536E-01	-0.2479E-01	-0.6218E-02	0.1403E-01	0.2921E-01	0.3440E-01	0.2807E-01
0.1256E-01	-0.6815E-02	-0.2355E-01	-0.3215E-01	-0.2992E-01	-0.1780E-01	0.2074E-06	0.1747E-01	0.2882E-01	0.3040E-01
0.2186E-01	0.6206E-02	-0.1123E-01	-0.2463E-01	-0.2961E-01	-0.2468E-01	-0.1163E-01	0.5059E-02	0.1979E-01	0.2770E-01
0.2627E-01	0.1614E-01	0.8126E-03	-0.1454E-01	-0.2482E-01	-0.2668E-01	-0.1965E-01	-0.6193E-02	0.9111E-02	0.2115E-01
0.2597E-01	0.2209E-01	0.1092E-01	-0.3718E-02	-0.1690E-01	-0.2427E-01	-0.2346E-01	-0.1486E-01	-0.1438E-02	0.1227E-01
0.2170E-01	0.2378E-01	0.1792E-01	0.6177E-02	-0.7455E-02	-0.1842E-01	-0.2311E-01	-0.2004E-01	-0.1035E-01	0.2661E-02
0.1461E-01	0.2154E-01	0.2121E-01	0.1383E-01	0.1933E-02	-0.1045E-01	-0.1920E-01	-0.2144E-01	-0.1652E-01	-0.6160E-02
0.6123E-02	0.1622E-01	0.2078E-01	0.1838E-01	0.9880E-02	-0.1805E-02	-0.1275E-01	-0.1932E-01	-0.1937E-01	-0.1298E-01
-0.2334E-02	0.8964E-02	0.1715E-01	0.1952E-01	0.1537E-01	0.6142E-02	-0.5026E-02	-0.1439E-01	-0.1886E-01	-0.1700E-01
-0.9488E-02	0.1099E-02	0.1120E-01	0.1747E-01	0.1784E-01	0.1227E-01	0.2664E-02	-0.7723E-02	-0.1543E-01	-0.1791E-01
-0.1440E-01	-0.6121E-02	0.4107E-02	0.1286E-01	0.1724E-01	0.1583E-01	0.9152E-02	-0.5052E-03	-0.9897E-02	-0.1590E-01
-0.1654E-01	-0.1166E-01	-0.2940E-02	0.6671E-02	0.1396E-01	0.1653E-01	0.1356E-01	0.6099E-02	-0.3326E-02	-0.1155E-01
-0.1585E-01	-0.1482E-01	-0.8859E-02	0.2074E-06	0.8777E-02	0.1455E-01	0.1541E-01	0.1113E-01	0.3174E-02	-0.5767E-02
-0.1270E-01	-0.1534E-01	-0.1284E-01	-0.6075E-02	0.2653E-02	0.1042E-01	0.1464E-01	0.1394E-01	0.8600E-02	0.4344E-03
-0.7805E-02	-0.1337E-01	-0.1443E-01	-0.1066E-01	-0.3373E-02	0.4981E-02	0.1160E-01	0.1430E-01	0.1220E-01	0.6050E-02
-0.2068E-02	-0.9428E-02	-0.1358E-01	-0.1317E-01	-0.8368E-02	-0.8123E-03	0.6953E-02	0.1234E-01	0.1356E-01	0.1025E-01
0.3544E-02	-0.4290E-02	-0.1063E-01	-0.1337E-01	-0.1163E-01	-0.6022E-02	0.1553E-02	0.8552E-02	0.1264E-01	0.1248E-01
0.8157E-02	0.1143E-02	-0.6199E-02	-0.1142E-01	-0.1278E-01	-0.9875E-02	-0.3692E-02	0.3678E-02	0.9765E-02	0.1255E-01
0.1112E-01	0.5994E-02	-0.1098E-02	-0.7771E-02	-0.1180E-01	-0.1186E-01	-0.7965E-02	-0.1435E-02	0.5526E-02	0.1059E-01
0.1209E-01	0.9537E-02	0.3820E-02	-0.3132E-02	-0.8990E-02	-0.1181E-01	-0.1066E-01	-0.5963E-02	0.6919E-03	0.7070E-02
0.1104E-01	0.1130E-01	0.7786E-02	0.1694E-02	-0.4922E-02	-0.9851E-02	-0.1146E-01	-0.9227E-02	-0.3931E-02	0.2642E-02
0.8290E-02	0.1113E-01	0.1024E-01	0.5931E-02	-0.3280E-03	-0.6436E-02	-0.1036E-01	-0.1079E-01	-0.7620E-02	-0.1925E-02
0.4376E-02	0.9176E-02	0.1088E-01	0.8941E-02	0.4027E-02	-0.2200E-02	-0.7653E-02	-0.1052E-01	-0.9849E-02	-0.5897E-02
0.1670E-06	0.5861E-02	0.9727E-02	0.1032E-01	0.7464E-02	0.2132E-02	-0.3880E-02	-0.8559E-02	-0.1035E-01	-0.8675E-02
-0.4111E-02	0.1798E-02	0.7071E-02	0.9951E-02	0.9490E-02	0.5861E-02	0.2964E-03	-0.5334E-02	-0.9150E-02	-0.9887E-02
-0.7317E-02	-0.2317E-02	0.3427E-02	0.7993E-02	0.9863E-02	0.8427E-02	0.4184E-02	-0.1432E-02	-0.6537E-02	-0.9430E-02
-0.9156E-02	-0.5824E-02	-0.5660E-03	0.4851E-02	0.8618E-02	0.9484E-02	0.7177E-02	0.2485E-02	-0.3011E-02	-0.7471E-02
-0.9409E-02	-0.8194E-02	-0.4247E-02	0.1097E-02	0.6045E-02	0.8946E-02	0.8843E-02	0.5786E-02	0.8117E-03	-0.4406E-02
-0.8124E-02	-0.9107E-02	-0.7042E-02	-0.2635E-02	0.2629E-02	0.6986E-02	0.8987E-02	0.7973E-02	0.4301E-02	-0.7887E-03
-0.5589E-02	-0.8496E-02	-0.8549E-02	-0.5745E-02	-0.1036E-02	0.3995E-02	0.7665E-02	0.8754E-02	0.6913E-02	0.2772E-02
-0.2275E-02	-0.6536E-02	-0.8591E-02	-0.7765E-02	-0.4348E-02	0.5050E-03	0.5164E-02	0.8074E-02	0.8272E-02	0.5703E-02

DISTRIBUTION OF DISSOLVED CHEMICALS IN PPM AT 0.0000E+00 HRS
(ADSORBED CHEMICAL CONC. = 0.3872E+00 * DISSOLVED CHEMICAL CONC.)
Z = 0.00

Y	X = 0.	2.	5.	7.	9.	15.	20.	30.	50.
5.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

DISTRIBUTION OF DISSOLVED CHEMICALS IN PPM AT 0.1051E+06 HRS
(ADSORBED CHEMICAL CONC. = 0.3872E+00 * DISSOLVED CHEMICAL CONC.)
Z = 0.00

Y	X = 0.	2.	5.	7.	9.	15.	20.	30.	50.
5.	0.324E-01	0.271E-01	0.202E-01	0.169E-01	0.141E-01	0.892E-02	0.619E-02	0.312E-02	0.879E-03
4.	0.372E-01	0.309E-01	0.228E-01	0.189E-01	0.157E-01	0.970E-02	0.665E-02	0.330E-02	0.913E-03
3.	0.406E-01	0.337E-01	0.248E-01	0.205E-01	0.169E-01	0.104E-01	0.703E-02	0.344E-02	0.940E-03
2.	0.428E-01	0.357E-01	0.263E-01	0.217E-01	0.179E-01	0.108E-01	0.732E-02	0.355E-02	0.960E-03
0.	0.444E-01	0.371E-01	0.274E-01	0.227E-01	0.186E-01	0.112E-01	0.756E-02	0.364E-02	0.977E-03

DISTRIBUTION OF DISSOLVED CHEMICALS IN PPM AT 0.1139E+06 HRS
(ADSORBED CHEMICAL CONC. = 0.3872E+00 * DISSOLVED CHEMICAL CONC.)
Z = 0.00

Y \ X	0.	2.	5.	7.	9.	15.	20.	30.	50.
5.	0.324E-01	0.271E-01	0.202E-01	0.169E-01	0.141E-01	0.893E-02	0.619E-02	0.312E-02	0.888E-03
4.	0.372E-01	0.309E-01	0.228E-01	0.189E-01	0.157E-01	0.970E-02	0.665E-02	0.330E-02	0.922E-03
3.	0.406E-01	0.337E-01	0.248E-01	0.205E-01	0.169E-01	0.104E-01	0.704E-02	0.345E-02	0.950E-03
2.	0.428E-01	0.357E-01	0.263E-01	0.217E-01	0.179E-01	0.108E-01	0.732E-02	0.356E-02	0.970E-03
0.	0.444E-01	0.371E-01	0.274E-01	0.227E-01	0.186E-01	0.112E-01	0.756E-02	0.365E-02	0.986E-03

DISTRIBUTION OF DISSOLVED CHEMICALS IN PPM AT 0.1226E+06 HRS
(ADSORBED CHEMICAL CONC. = 0.3872E+00 * DISSOLVED CHEMICAL CONC.)
Z = 0.00

Y \ X	0.	2.	5.	7.	9.	15.	20.	30.	50.
5.	0.324E-01	0.271E-01	0.202E-01	0.169E-01	0.141E-01	0.893E-02	0.619E-02	0.313E-02	0.893E-03
4.	0.372E-01	0.309E-01	0.228E-01	0.189E-01	0.157E-01	0.971E-02	0.665E-02	0.330E-02	0.927E-03
3.	0.406E-01	0.337E-01	0.248E-01	0.205E-01	0.169E-01	0.104E-01	0.704E-02	0.345E-02	0.955E-03
2.	0.428E-01	0.357E-01	0.263E-01	0.217E-01	0.179E-01	0.108E-01	0.732E-02	0.356E-02	0.975E-03
0.	0.444E-01	0.371E-01	0.274E-01	0.227E-01	0.186E-01	0.112E-01	0.756E-02	0.365E-02	0.992E-03

DISTRIBUTION OF DISSOLVED CHEMICALS IN PPM AT 0.1314E+06 HRS
(ADSORBED CHEMICAL CONC. = 0.3872E+00 * DISSOLVED CHEMICAL CONC.)
Z = 0.00

Y \ X	0.	2.	5.	7.	9.	15.	20.	30.	50.
5.	0.324E-01	0.271E-01	0.202E-01	0.169E-01	0.141E-01	0.893E-02	0.619E-02	0.313E-02	0.896E-03
4.	0.372E-01	0.309E-01	0.228E-01	0.189E-01	0.157E-01	0.971E-02	0.665E-02	0.330E-02	0.930E-03
3.	0.406E-01	0.337E-01	0.248E-01	0.205E-01	0.169E-01	0.104E-01	0.704E-02	0.345E-02	0.958E-03
2.	0.428E-01	0.357E-01	0.263E-01	0.217E-01	0.179E-01	0.108E-01	0.733E-02	0.356E-02	0.978E-03
0.	0.444E-01	0.371E-01	0.274E-01	0.227E-01	0.186E-01	0.112E-01	0.756E-02	0.365E-02	0.994E-03

DISTRIBUTION OF DISSOLVED CHEMICALS IN PPM AT 0.1402E+06 HRS
(ADSORBED CHEMICAL CONC. = 0.3872E+00 * DISSOLVED CHEMICAL CONC.)
Z = 0.00

Y \ X	0.	2.	5.	7.	9.	15.	20.	30.	50.
5.	0.324E-01	0.271E-01	0.202E-01	0.169E-01	0.141E-01	0.893E-02	0.619E-02	0.313E-02	0.898E-03
4.	0.372E-01	0.309E-01	0.228E-01	0.189E-01	0.157E-01	0.971E-02	0.666E-02	0.331E-02	0.932E-03
3.	0.406E-01	0.337E-01	0.248E-01	0.205E-01	0.169E-01	0.104E-01	0.704E-02	0.345E-02	0.959E-03
2.	0.428E-01	0.357E-01	0.263E-01	0.217E-01	0.179E-01	0.108E-01	0.733E-02	0.356E-02	0.979E-03
0.	0.444E-01	0.371E-01	0.274E-01	0.227E-01	0.186E-01	0.112E-01	0.756E-02	0.365E-02	0.996E-03

STEADY STATE SOLUTION HAS BEEN OBTAINED BEFORE FINAL SIMULATING TIME

DISTRIBUTION OF DISSOLVED CHEMICALS IN PPM AT 0.1489E+06 HRS
(ADSORBED CHEMICAL CONC. = 0.3872E+00 * DISSOLVED CHEMICAL CONC.)
Z = 0.00

Y \ X	0.	2.	5.	7.	9.	15.	20.	30.	50.
5.	0.324E-01	0.271E-01	0.202E-01	0.169E-01	0.141E-01	0.893E-02	0.619E-02	0.313E-02	0.898E-03
4.	0.372E-01	0.309E-01	0.228E-01	0.189E-01	0.157E-01	0.971E-02	0.666E-02	0.331E-02	0.933E-03
3.	0.406E-01	0.337E-01	0.248E-01	0.205E-01	0.169E-01	0.104E-01	0.704E-02	0.345E-02	0.960E-03
2.	0.428E-01	0.357E-01	0.263E-01	0.217E-01	0.179E-01	0.108E-01	0.733E-02	0.356E-02	0.980E-03
0.	0.444E-01	0.371E-01	0.274E-01	0.227E-01	0.186E-01	0.112E-01	0.756E-02	0.365E-02	0.997E-03

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Table C-1. Comparison of Fort Stewart CAP-Part A USTs 2 & 3 Soil Results to Screening Levels

Station:	Screening Levels			77-01	77-01	77-02	77-02	77-03	77-03	77-04	77-04
Sample ID:	GA UST	Risk-based		770111	770121	770211	770221	770311	770321	770411	770421
Sample Interval (ft BGS):	Soil Threshold	Screening	Leaching to	2.0-4.0	4.0-6.0	4.7-6.7	6.7-8.7	1.0-2.0	2.0-4.0	4.7-6.7	2.7-4.7
Collection Date:	Level[a]	Level[b]	Groundwater[c]	12-May-98	12-May-98	08-May-98	08-May-98	12-May-98	12-May-98	08-May-98	08-May-98
Units:	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Volatile Organic Compounds											
Benzene	8	200000	30	2.2 U	**17.2 J**	2.2 U	2.4 U	2.3 U	2.2 U	2.9 J	2.2 U
Toluene	6000	410000000	12000	8.7 =	16.7 J	2.2 U	2.4 U	2.3 U	2.2 U	2.2 U	3.9 =
Ethylbenzene	10000	200000000	13000	40 =	30.8 J	44 =	24.7 =	9.4 =	10.3 J	19.4 =	42 =
Xylenes, Total	700000	1000000000	190000	28 =	39.7 J	6.5 U	4 J	7 U	6.6 U	5.2 J	22.2 =
Polynuclear Aromatic Hydrocarbons											
2-Chloronaphthalene	N/A[e]	82000000	84000	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Acenaphthene	N/A[e]	120000000	570000	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Acenaphthylene	N/A[e]	61000000	4200000	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Anthracene	N/A[e]	610000000	12000000	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Benzo(a)anthracene	N/A[e]	7800	2000	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Benzo(a)pyrene	N/A[e]	780	8000	*3620 U*	388 U	362 U	392 U	386 U	*7230 U*	370 U	366 U
Benzo(b)fluoranthene	N/A[e]	7800	5000	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Benzo(g,h,i)perylene	N/A[e]	--	--	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Benzo(k)fluoranthene	N/A[e]	78000	49000	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Chrysene	N/A[e]	780000	160000	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Dibenzo(a,h)anthracene	N/A[e]	780	2000	*3620 U*	388 U	362 U	392 U	386 U	*7230 U*	370 U	366 U
Fluoranthene	N/A[e]	82000000	4300000	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Fluorene	N/A[e]	82000000	560000	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Indeno(1,2,3-cd)pyrene	N/A[e]	7800	14000	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Naphthalene	N/A[e]	82000000	84000	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Phenanthrene	N/A[e]	61000000	4200000	3620 U	388 U	362 U	392 U	386 U	7230 U	29.8 J	366 U
Pyrene	N/A[e]	61000000	4200000	3620 U	388 U	362 U	392 U	386 U	7230 U	370 U	366 U
Other Analytes											
Lead	--	5000000	--		11100 =		5200 U		4400 =		15600 =
Total Organic Carbon	--	--	--						4780000 =		
TPH-Diesel Range Organics	--	--	--	4900 =	6100 R	1200 UJ	1600 UJ	120 U	1600 UJ	2500 UJ	3400 UJ
TPH-Gasoline Range Organics	--	--	--	423 J	1160 U	1090 U	1180 U	77.2 J	1100 U	1110 U	1100 UJ

[a] Average or higher groundwater pollution susceptibility area (where public water supply is within 2.0 mi.).
[b] Protective of soil exposure during Industrial Land Use.
[c] Protective of groundwater ingestion. Used a dilution attenuation factor of 20.
[d] Values based on naphthalene as a surrogate chemical.
[e] Not applicable. The screening level exceeds the expected soil concentration under free product condition.
[f] Values based on pyrene as a surrogate chemical.

Bold values indicate results exceeding Georgia UST action levels.

Italicized values indicate results exceeding risk-based screening levels.
Underlined values indicate results exceeding leaching to groundwater screening levels.

U Indicates that the compound was not detected above the reported sample quantitation limit.
J Indicates that the value for the compound was an estimated value.
UJ Indicates that the sample was not detected above an approximate sample quantitation limit.
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 C-1. Comparison of Fort Stewart CAP-Part A USTs 2 & 3 Soil Results to Screening Levels (continued)

Station:	Screening Levels			77-05	77-05	77-05	77-05	77-05	77-05	77-05
Sample ID:	GA UST	Risk-based		770521	770531	770541	770551	770561	770571	770581
Sample Interval (ft BGS):	Soil Threshold	Screening	Leaching to	6.0-8.0	10.0-12.0	14.0-16.0	18.0-20.0	22.0-24.0	24.0-26.0	30.0-32.0
Collection Date:	Level[a]	Level[b]	Groundwater[c]	12-May-98	12-May-98	12-May-98	12-May-98	12-May-98	12-May-98	12-May-98
Units:	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Volatile Organic Compounds										
Benzene	8	200000	30	2.4 U	2.4 U	2.4 U	2.4 U	2.6 U	2.6 U	2.5 U
Toluene	6000	410000000	12000	2.4 U	2.4 U	2.4 U	2.4 U	2.6 U	2.6 U	2.5 U
Ethylbenzene	10000	200000000	13000	46.4 =	2.4 U	2.4 U	5.5 =	2.6 U	2.6 U	3.5 =
Xylenes, Total	700000	1000000000	190000	7.2 U	7.3 U	7.2 U	7.3 U	7.7 U	7.7 U	7.4 U
Polynuclear Aromatic Hydrocarbons										
2-Chloronaphthalene	N/A[e]	82000000	84000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Acenaphthene	N/A[e]	120000000	570000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Acenaphthylene	N/A[e]	61000000	4200000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Anthracene	N/A[e]	610000000	12000000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Benzo(a)anthracene	N/A[e]	7800	2000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Benzo(a)pyrene	N/A[e]	780	8000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Benzo(b)fluoranthene	N/A[e]	7800	5000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Benzo(g,h,i)perylene	N/A[e]	--	--	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Benzo(k)fluoranthene	N/A[e]	78000	49000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Chrysene	N/A[e]	780000	160000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Dibenzo(a,h)anthracene	N/A[e]	780	2000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Fluoranthene	N/A[e]	82000000	4300000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Fluorene	N/A[e]	82000000	560000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Indeno(1,2,3-cd)pyrene	N/A[e]	7800	14000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Naphthalene	N/A[e]	82000000	84000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Phenanthrene	N/A[e]	61000000	4200000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Pyrene	N/A[e]	61000000	4200000	402 U	395 U	399 U	401 U	418 U	424 U	410 U
Other Analytes										
Lead	--	5000000	--	4700 =						
Total Organic Carbon	--	--	--							
TPH-Diesel Range Organics	--	--	--	390 UJ	600 U	4210000 =	620 U	310 U	650 UJ	530 UJ
TPH-Gasoline Range Organics	--	--	--	53.5 J	50.3 J	1200 U	1220 U	1280 U	1280 U	1230 U

[a] Average or higher groundwater pollution susceptibility area (where public water supply is within 2.0 mi.).
[b] Protective of soil exposure during Industrial Land Use.
[c] Protective of groundwater ingestion. Used a dilution attenuation factor of 20.
[d] Values based on naphthalene as a surrogate chemical.
[e] Not applicable. The screening level exceeds the expected soil concentration under free product condition.
[f] Values based on pyrene as a surrogate chemical.

Bold values indicate results exceeding Georgia UST action levels.

Italicized values indicate results exceeding risk-based screening levels.
Underlined values indicate results exceeding leaching to groundwater screening levels.

U Indicates that the compound was not detected above the reported sample quantitation limit.
J Indicates that the value for the compound was an estimated value.
UJ Indicates that the sample was not detected above an approximate sample quantitation limit.
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Table C-1. Comparison of Fort Stewart CAP-Part A USTs 2 & 3 Soil Results to Screening Levels (continued)

Station:	Screening Levels			77-05	77-06	77-06	77-07	77-07	77-08	77-08
Sample ID:	GA UST	Risk-based		770591	770611	770621	770711	770721	770811	770821
Sample Interval (ft BGS):	Soil Threshold	Screening	Leaching to	32.0-34.0	3.5-4.5	2.0-3.5	2.2-3.7	3.7-5.2	0.5-2.0	2.0-3.5
Collection Date:	Level[a]	Level[b]	Groundwater[c]	12-May-98	15-Nov-98	15-Nov-98	15-Nov-98	15-Nov-98	15-Nov-98	15-Nov-98
Units:	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Volatile Organic Compounds										
Benzene	8	200000	30	2.7 U	2.3 U	2.2 U	2.2 U	2.3 U	2.2 U	2.2 U
Toluene	6000	410000000	12000	2.7 U	2.3 U	2.2 U	2.2 U	2.3 U	2.2 U	2.2 U
Ethylbenzene	10000	200000000	13000	2.8 =	2.3 U	2 J	4.8 =	2.9 =	4.4 =	1.5 J
Xylenes, Total	700000	1000000000	190000	8.1 U	3.5 U	3.3 U	3.3 U	1 J	0.68 J	3.4 U
Polynuclear Aromatic Hydrocarbons										
2-Chloronaphthalene	N/A[e]	82000000	84000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Acenaphthene	N/A[e]	120000000	570000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Acenaphthylene	N/A[e]	61000000	4200000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Anthracene	N/A[e]	610000000	12000000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Benzo(a)anthracene	N/A[e]	7800	2000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Benzo(a)pyrene	N/A[e]	780	8000	449 U	388 U	741 U	*1480 U*	383 U	366 U	374 U
Benzo(b)fluoranthene	N/A[e]	7800	5000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Benzo(g,h,i)perylene	N/A[e]	--	--	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Benzo(k)fluoranthene	N/A[e]	78000	49000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Chrysene	N/A[e]	780000	160000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Dibenzo(a,h)anthracene	N/A[e]	780	2000	449 U	388 U	741 U	*1480 U*	383 U	366 U	374 U
Fluoranthene	N/A[e]	82000000	4300000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Fluorene	N/A[e]	82000000	560000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Indeno(1,2,3-cd)pyrene	N/A[e]	7800	14000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Naphthalene	N/A[e]	82000000	84000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Phenanthrene	N/A[e]	61000000	4200000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Pyrene	N/A[e]	61000000	4200000	449 U	388 U	741 U	1480 U	383 U	366 U	374 U
Other Analytes										
Lead	--	5000000	--			3800 =		1200 =		910 =
Total Organic Carbon	--	--	--							
TPH-Diesel Range Organics	--	--	--	3200 =	1200 U	6800 =	6600 =	1700 U	1600 U	2200 U
TPH-Gasoline Range Organics	--	--	--	1350 U	116 UJ	111 U	111 U	115 U	110 U	112 U

[a] Average or higher groundwater pollution susceptibility area (where public water supply is within 2.0 mi.).
[b] Protective of soil exposure during Industrial Land Use.
[c] Protective of groundwater ingestion. Used a dilution attenuation factor of 20.
[d] Values based on naphthalene as a surrogate chemical.
[e] Not applicable. The screening level exceeds the expected soil concentration under free product condition.
[f] Values based on pyrene as a surrogate chemical.

Bold values indicate results exceeding Georgia UST action levels.

Italicized values indicate results exceeding risk-based screening levels.
Underlined values indicate results exceeding leaching to groundwater screening levels.

U Indicates that the compound was not detected above the reported sample quantitation limit.
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Table C-2. Comparison of Fort Stewart CAP-Part A USTs 2 & 3 Groundwater Results to Screening Levels

Station:	Screening Levels		77-01	77-02	77-03	77-04	77-06	77-07	77-08
Sample ID:	Federal		770112	770212	770312	770412	770612	770712	770812
Screened Interval (ft BGS)	SDWA		0.0-9.5	0.0-12.0	0.0-12.0	0.0-12.0	0.0-10.3	0.0-9.5	0.0-11.5
Collection Date:	MCLs	Risk-based[a]	12-May-98	08-May-98	12-May-98	08-May-98	15-Nov-98	15-Nov-98	15-Nov-98
Units:	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
VOLATILE ORGANIC COMPOUNDS									
Benzene	5	0.36	**22.7** =	**5.6** =	2 U	2 U	2 U	2 U	2 U
Toluene	1000	750	2 U	6.1 =	2 U	2 U	2 U	2 U	2 U
Ethylbenzene	700	1300	2 U	5.9 =	2 U	3.8 =	2 U	2 U	2 U
Xylenes, Total	10000	12000	6.6 =	9.9 J	6 U	6 U	3 U	3 U	0.56 J
POLYNUCLEAR AROMATIC HYDROCARBONS									
2-Chloronaphthalene[b]	-	1500	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Acenaphthene	-	2200	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Acenaphthylene	-	1100	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Anthracene	-	11000	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Benzo(a)anthracene	-	0.092	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Benzo(a)pyrene	0.2	0.0092	**20** U	**101** U	**20** U	**13.5** U	**10.5** U	**10.8** U	**470** U
Benzo(b)fluoranthene	-	0.092	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Benzo(g,h,i)perylene	-	-	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Benzo(k)fluoranthene	-	0.92	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Chrysene	-	9.2	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Dibenzo(a,h)anthracene	-	0.0092	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Fluoranthene	-	1500	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Fluorene	-	1500	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Indeno(1,2,3-cd)pyrene	-	0.092	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Naphthalene	-	1500	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Phenanthrene[c]	-	1100	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U
Pyrene	-	1100	20 U	101 U	20 U	13.5 U	10.5 U	10.8 U	470 U

[a] Protective of tap water ingestion by a resident.
[b] Values based on naphthalene as a surrogate chemical.
[c] Values based on pyrene as a surrogate chemical.
Bold values indicate results exceeding Federal Safe Drinking Water Act Maximum Contaminant Levels.
Underlined values indicate results exceeding risk-based screening levels.

U Indicates that the compound was not detected above the reported sample quantitation limit.
J Indicates that the value for the compound was an estimated value.
UJ Indicates that the sample was not detected above an approximate sample quantitation limit.
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Table C-3. Summary of Geotechnical Results for the USTs 2 & 3 Site

Site	USTs 2 & 3
Boring	77-03
Sample ID	770331
Sample Depth Interval (ft BGS)	10.0 – 12.0
Grain Size Analysis - % Fines	3
Grain Size Analysis - % Sand	97
Grain Size Analysis - % Gravel	0
Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP
Moisture Content (%)	19.8
Permeability	6.01×10^{-5}
Porosity	0.37
Specific Gravity	2.61

NP = nonplastic

Table C-4. Natural Attenuation Modeling Results for the USTs 2 & 3 Site

Distance from the source (ft)	Distance from the source (m)	Predicted maximum conc. in groundwater (µg/L)
0.0	0.0	44.4
6.6	2.0	37.1
16.4	5.0	27.4
23.0	7.0	22.7
30.0	9.1	18.6
49.2	15.0	11.2
65.6	20.0	7.56
82.0	25.0	5.21
98.4	30.0	3.65
114.8	35.0	2.6
131.2	40.0	1.87
164.0	50.0	1
196.9	60.0	0.55
229.7	70.0	0.31
328.1	100.0	0.061
650.0	198.1	0.00046
1200.0	365.8	0

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