FINAL

FIRST ANNUAL MONITORING ONLY REPORT
FOR
UNDERGROUND STORAGE TANK 29
FACILITY ID 9-089088
BUILDING 1633
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 0016

Prepared by:

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

October 1999

TABLE OF CONTENTS

Attachments

List of Abbreviations and Acronyms

ACL	alternate concentration limit
AMSL	above mean sea level
BGS	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylene
BTOC	below top of casing
CAP	Corrective Action Plan
DAF	dilution-attenuation factor
DPW	Directorate of Public Works
GA EPD	Georgia Environmental Protection Division
IWQS	In-stream Water Quality Standards
MCL	maximum contaminant level
ND	not detected
NRC	no regulatory criteria
PAH	polynuclear aromatic hydrocarbon
SAIC	Science Applications International Corporation
TPH	total petroleum hydrocarbons
USACE	U.S. Army Corps of Engineers
UST	underground storage tank

MONITORING ONLY REPORT

Submittal Date: October 1999 Monitoring Report Number: 1st Annual

For Period Covering: January 1999 to December 1999

Facility Name: UST 29, Building 1633 Street Address: McFarland Avenue between Divarty Avenue and W. 8th Street

Facility ID: 9-089088 City: Fort Stewart County: Liberty Zip Code: 31314

Latitude: 32° 15' 57" Longitude: 82° 05' 14"

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
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	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

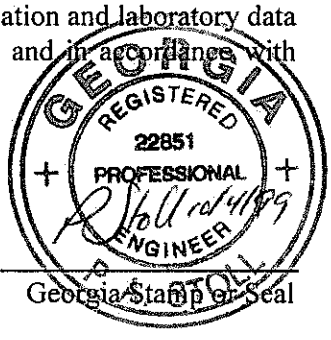
I. REGISTERED PROFESSIONAL ENGINEER OR PROFESSIONAL GEOLOGIST CERTIFICATION

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: P A Stoll

Date: 10/4/99



Georgia Stamp or Seal

II. PROJECT SUMMARY

(Appendix I, Figure 1: Site Location Map)

Provide a brief description or explanation of the site and a brief chronology of environmental events leading up to this report.

Former UST 29, Facility ID #9-089088, was located near Building 1633 at Fort Stewart, Georgia. One UST containing used oil was removed from the site in 1995. SAIC performed a CAP-Part A investigation in 1996 and a CAP-Part B investigation in 1997 to determine the extent of petroleum contamination at the site. Five monitoring wells and seven soil borings were installed during these investigations. The CAP-Part B Report was submitted in March 1999. The CAP-Part B Report recommended semiannual monitoring of four of the seven monitoring wells: 14-08, 14-09, 14-11, and 14-12. The report was approved in correspondence dated June 1, 1999 (McAllister 1999). Two additional monitoring wells (14-13 and 14-14) were installed following the first semiannual monitoring event.

The purpose of the semiannual monitoring is to confirm the results of the fate and transport modeling and to confirm that natural attenuation is taking place at the site. A request for no further action will be made to GA EPD, if after two semiannual monitoring events, the measured benzene concentrations in the wells are less than or equal to those predicted by the fate and transport model.

III. ACTIVITIES AND ASSESSMENT OF EXISTING CONDITIONS

A. Potentiometric Data:

(Appendix I, Figure 2a and 2b: Potentiometric Surface Maps)
(Appendix II, Table 1: Groundwater Elevations)

Discuss groundwater flow at this site and implications for this project.

During the first semiannual sampling event in January 1999, groundwater elevations were measured in the seven site monitoring wells to determine the groundwater flow direction. In January 1999, the groundwater flow direction was towards the west, and the groundwater gradient was approximately 0.0033 ft/ft. In December 1998, during the CAP-Part B investigation, the groundwater flow direction was towards the north-northwest.

During the second semiannual sampling event in July 1999, groundwater elevations were measured in the seven site monitoring wells to determine the groundwater flow direction. However, groundwater elevations were measured again in August due to a 100-yr rain event that preceeded the July 1999 sampling event. In August 1999, the groundwater flow direction was toward the west, and the groundwater gradient was approximately 0.0015 ft/ft. No significant changes were observed in the potentiometric surface, flow direction, or gradient from the previous sampling events.

B. Analytical Data:

(Appendix I, Figure 3a and 3b: Groundwater Quality Maps)
(Appendix I, Figure 4: Trend of Contaminant Concentrations)
(Appendix II, Table 2, Groundwater Analysis Results)
(Appendix III, Laboratory Analysis Results)

Discuss groundwater analysis results, trend of contaminant concentrations, and implications for this project.

During the first semiannual sampling event in January 1999, monitoring wells 14-08, 14-09, 14-11, and 14-12 were sampled for BTEX and PAH in accordance with the CAP-Part B Report. Analytical results from the first sampling event showed elevated BTEX and naphthalene concentrations in wells 14-08, 14-09, 14-11, and 14-12. The benzene concentrations in wells 14-08, 14-09, and 14-12 exceeded the MCL of 5 µg/L, but were below the ACL of 550 µg/L. The concentrations of the other detected compounds were below the applicable regulatory standards. The benzene concentrations decreased in well 14-08 and increased in wells 14-09 and 14-12 from the concentrations from the CAP-Part B sampling event (December 1997). In addition, the benzene concentration observed in well 14-11 remained constant from the CAP-Part B sampling event (December 1997) at slightly below its respective MCL of 5 µg/L.

In February 1999, wells 14-13 and 14-14 were installed at the site. The wells were sampled in March 1999, and groundwater analytical results indicated low concentrations of benzene, toluene, and xylenes in 14-13 and low concentrations of toluene and xylenes in 14-14.

During the second semiannual sampling event in July 1999, monitoring wells 14-07, 14-08, 14-09, 14-11, 14-12, 14-13, and 14-14 were sampled for BTEX. PAH compounds were removed from the analyte list because naphthalene is the only PAH compound to have been detected in the groundwater at the site during previous sampling events, and the concentrations are below the risk-based screening value presented in the CAP-Part B report. Analytical results from the second sampling event showed elevated BTEX concentrations in wells 14-07, 14-08, 14-09, and 14-12. The benzene concentrations in wells 14-08, 14-09, and 14-12 exceeded the MCL of 5-µg/L, but were below the ACL of 550 µg/L. The benzene concentrations decreased in wells 14-08 and 14-12 and increased in well 14-09 from the concentrations from the first semiannual sampling event. Benzene was not detected in wells 14-11, 14-13, and 14-14.

IV. SITE RANKING (Note: re-rank site after each monitoring event
(Appendix IV: Site Ranking Form)

Environmental Site Sensitivity Score: 510 (January 1999 – first semiannual monitoring event)
510 (July 1999 – second semiannual monitoring event)

V. CONCLUSIONS/RECOMMENDATIONS

Provide justification of no-further-action-required recommendation or briefly discuss future monitoring plans for this site.

Semiannual monitoring will continue in wells 14-07, 14-08, 14-09, 14-11, 14-12, 14-13, and 14-14, and groundwater samples will only be collected for BTEX. Naphthalene is the only PAH compound that has been detected in groundwater during the previous sampling events. This compound does not have an MCL or IWQS, and the concentrations are below the risk-based value provided in the CAP-Part B Report; therefore, continued PAH analysis of groundwater samples collected at the former UST 29 site is not recommended.

VI. REIMBURSEMENT

Attached _____ N/A X

(Appendix V: Reimbursement Application)

Fort Stewart is a federally owned facility and has funded the investigation for the UST 29 Site, Building 1633, Facility ID #9-089088, 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

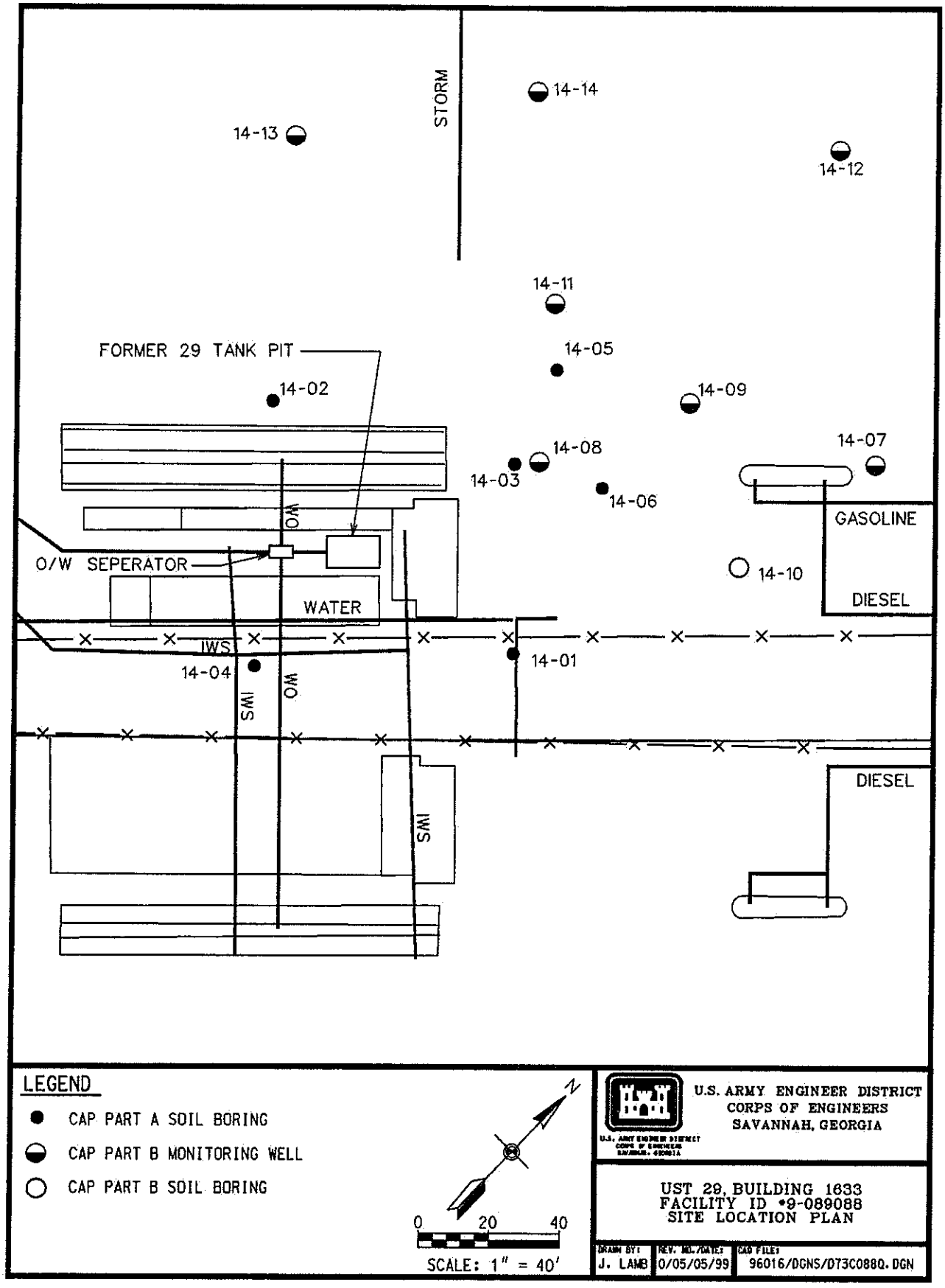


Figure 1. Location Map of UST 29 at Fort Stewart, Liberty County, Georgia

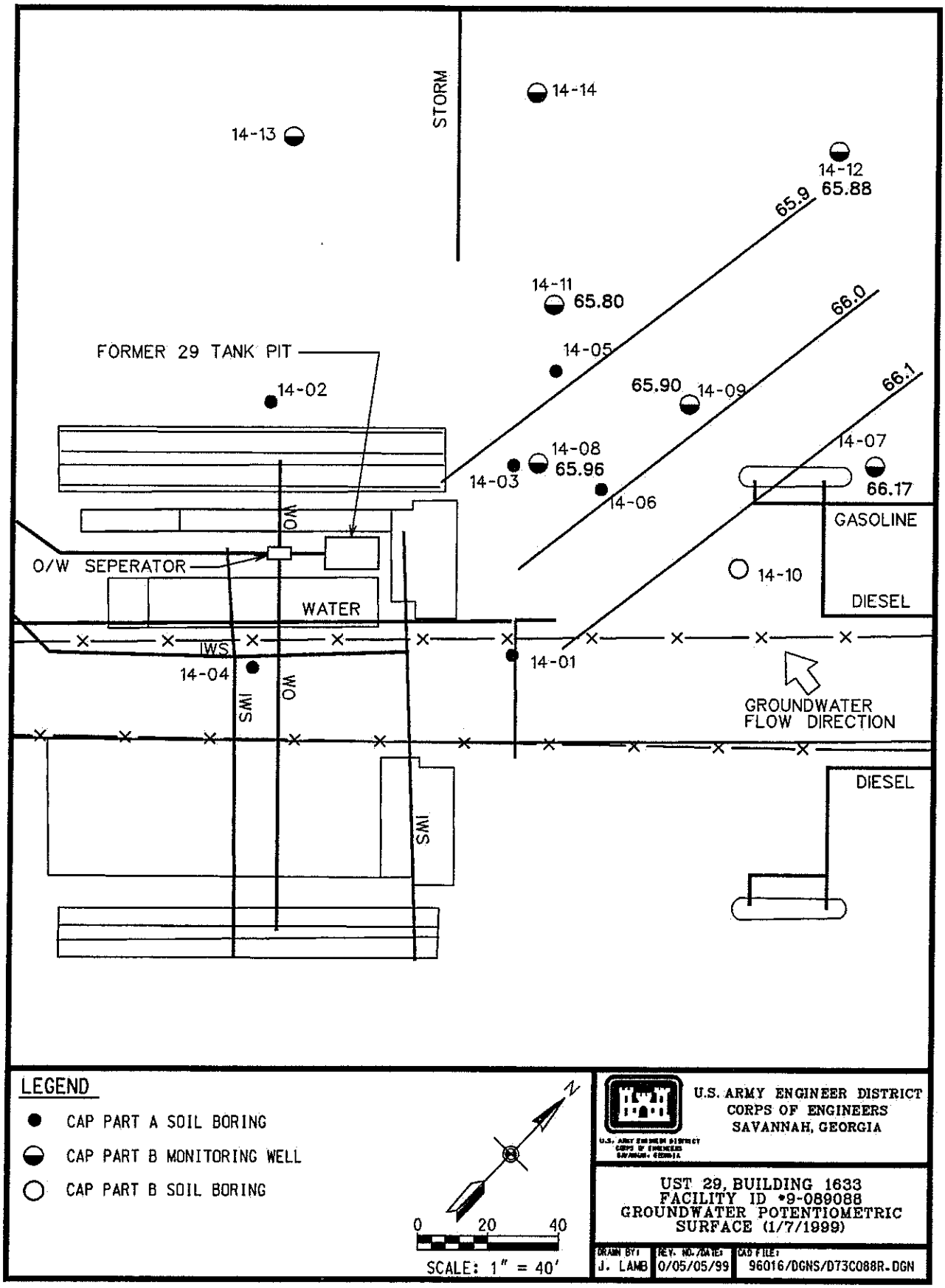


Figure 2a. Potentiometric Surface Map of the UST 29 Site (1/7/99)

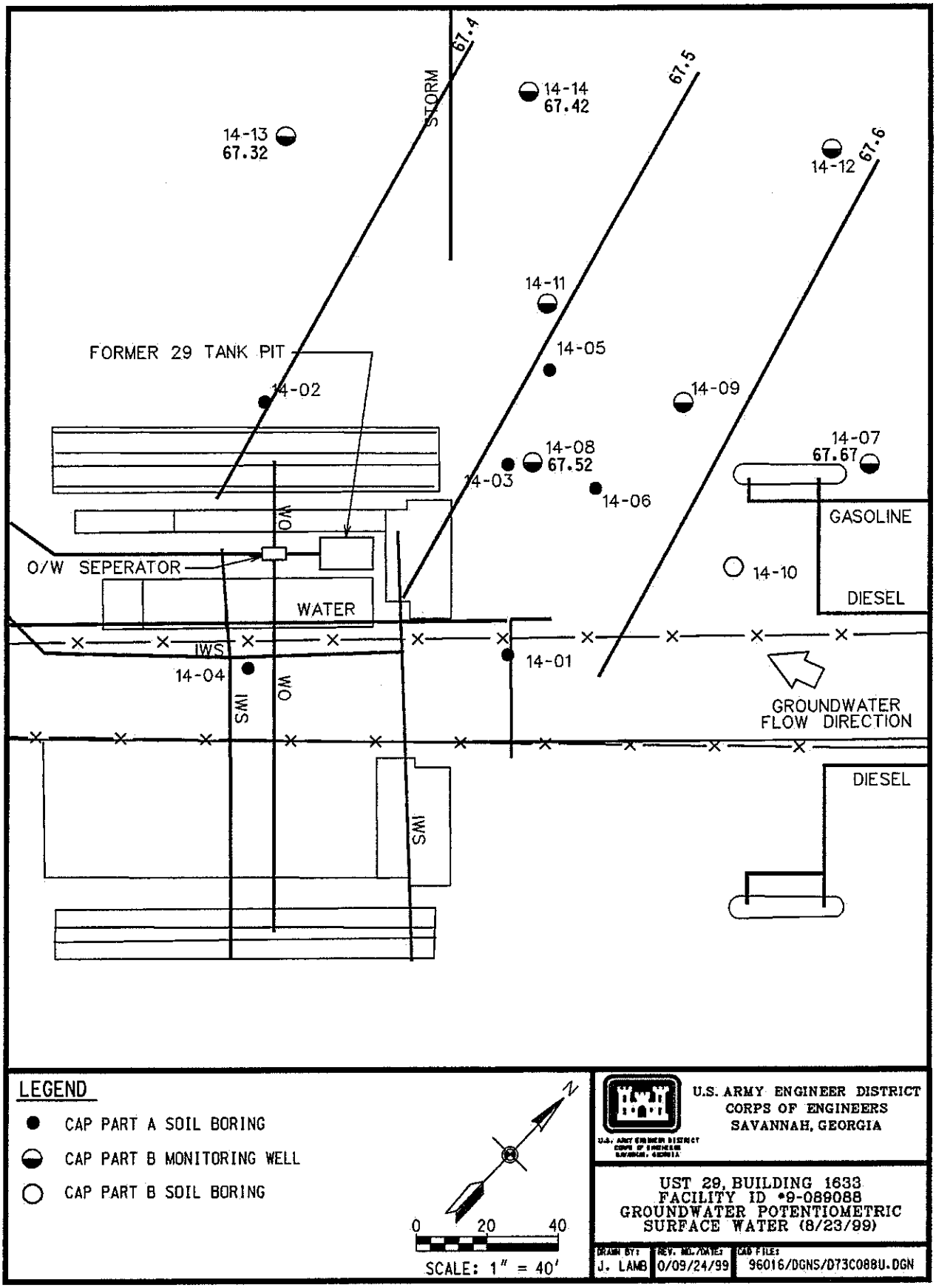


Figure 2b. Potentiometric Surface Map of the UST 29 Site (8/23/99)

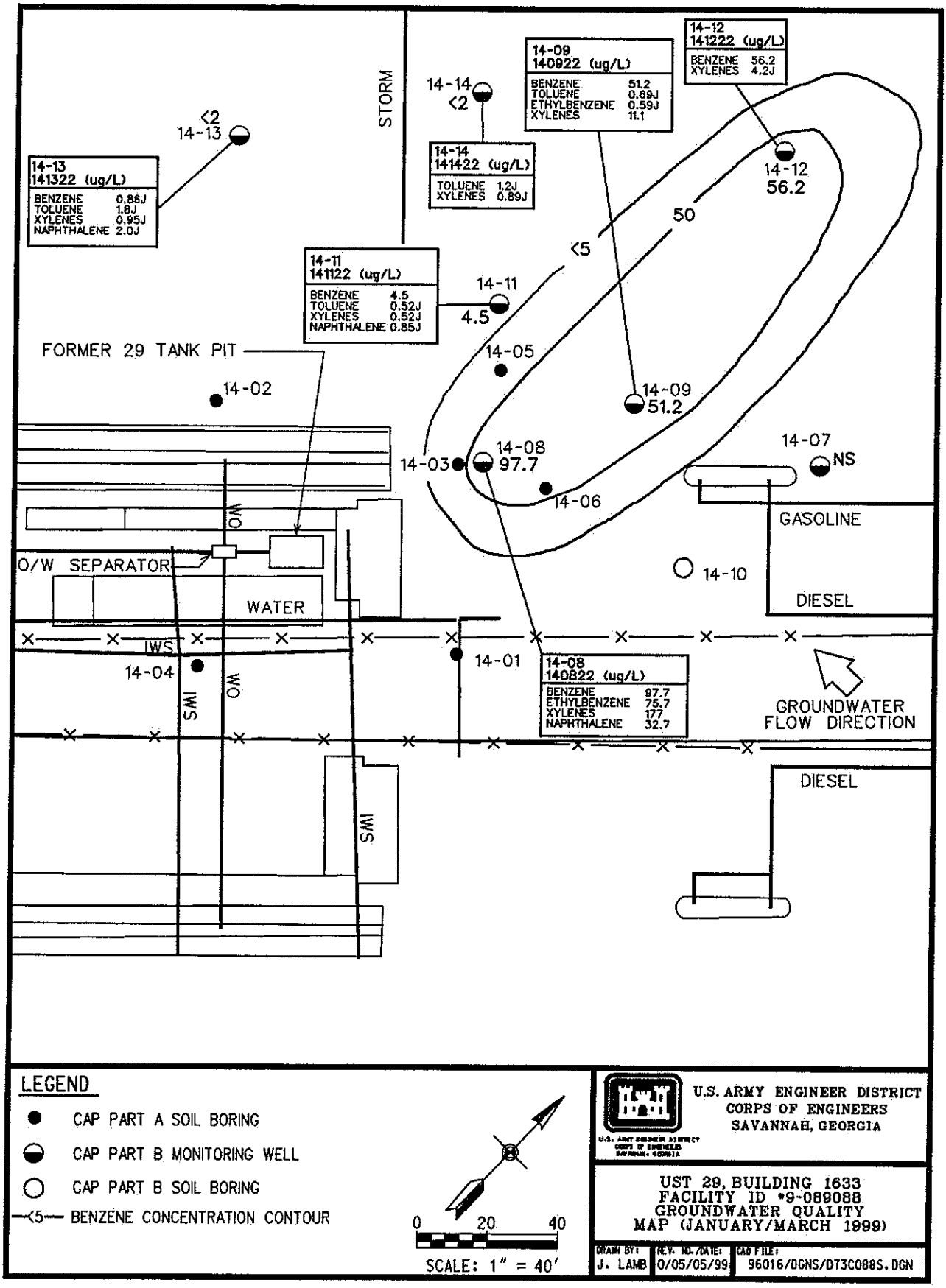


Figure 3a. Groundwater Quality Map for the UST 29 Site (January/March 1999)

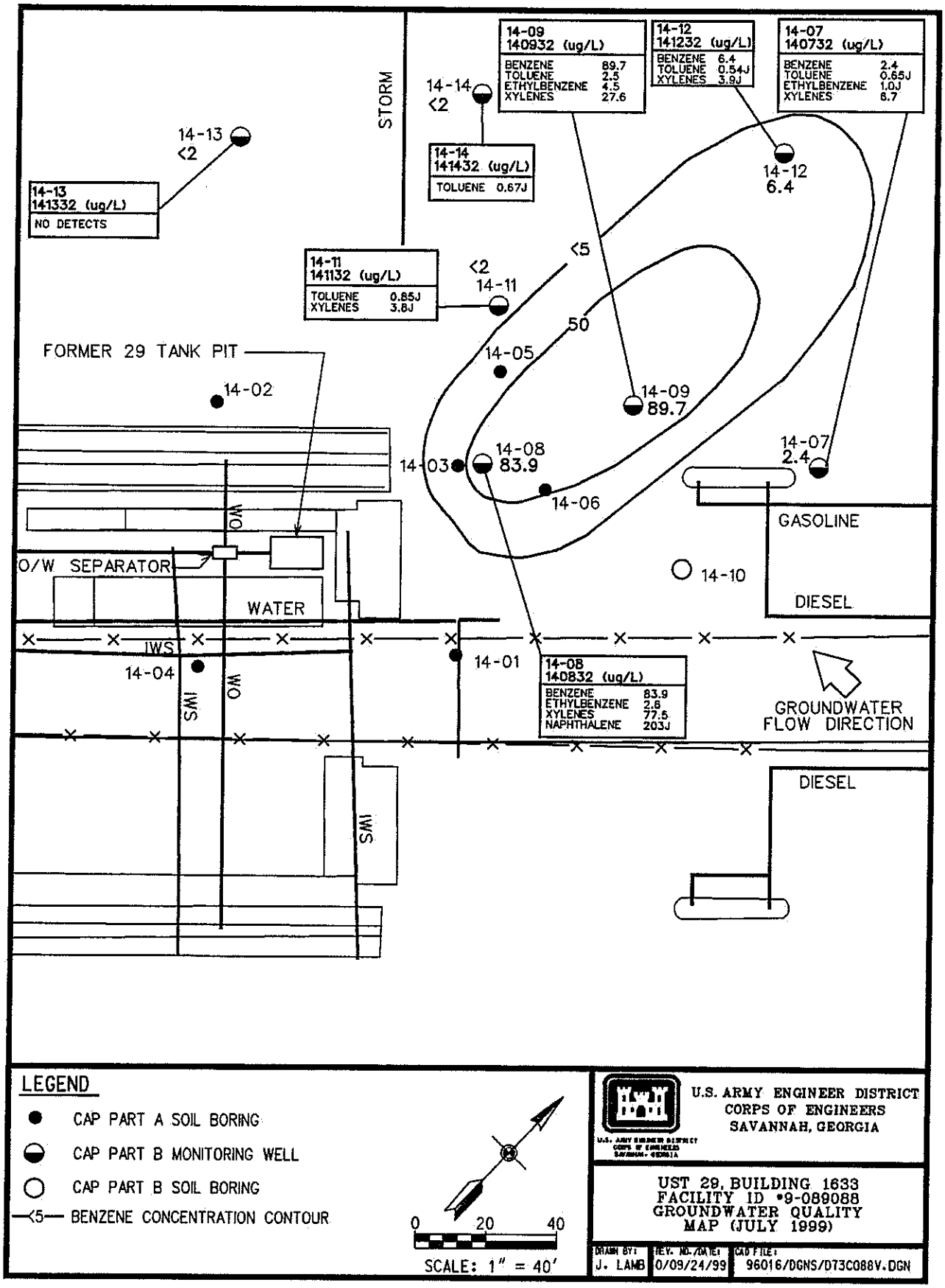


Figure 3b. Groundwater Quality Map for the UST 29 Site (July 1999)

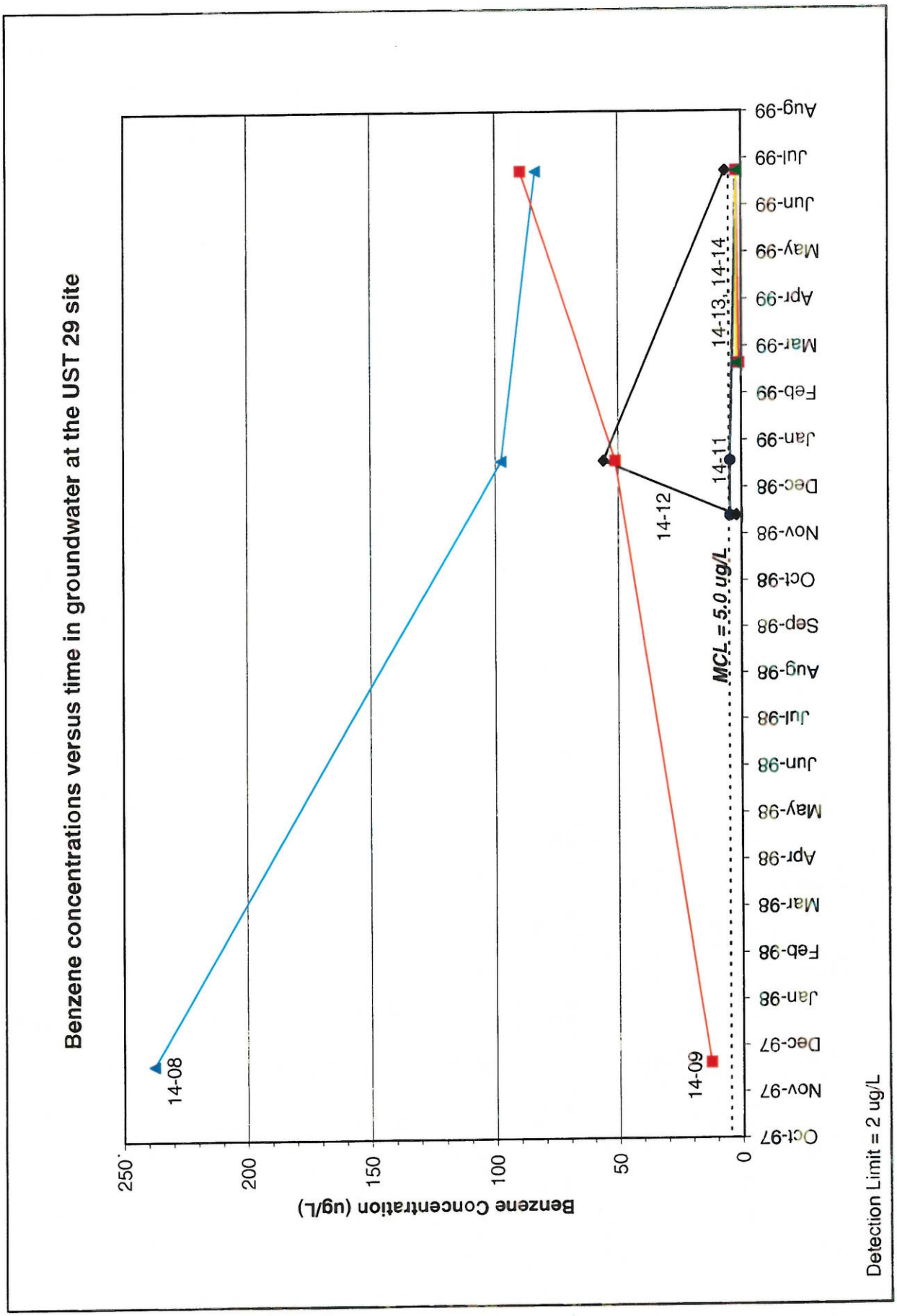


Figure 4. Trend of Benzene Concentrations for the UST 29 Site

APPENDIX II

REPORT TABLES

TABLE 1: GROUNDWATER ELEVATIONS

Well Number	Date of Measurement	Top of Casing Elevation* (ft AMSL)	Screened Interval (ft BGS)	Water Depth (ft BTOC)	Groundwater Elevation (ft AMSL)
14-07	1/7/99	70.97	3.0 – 13.0	4.80	66.17
14-08	1/7/99	70.06	3.0 – 13.0	4.10	65.96
14-09	1/7/99	70.47	3.0 – 13.0	4.57	65.90
14-11	1/7/99	69.78	4.7 – 14.7	3.98	65.80
14-12	1/7/99	70.62	9.7 – 19.7	4.74	65.88
14-07	8/23/99	70.97	3.0 – 13.0	3.30	67.67
14-08	8/23/99	70.06	3.0 – 13.0	2.54	67.52
14-09	8/23/99	70.47	3.0 – 13.0	3.28	67.19
14-11	8/23/99	69.78	4.7 – 14.7	2.62	67.16
14-12	8/23/99	70.62	9.7 – 19.7	3.43	67.19
14-13	8/23/99	69.64	3.2 – 13.2	2.32	67.32
14-14	8/23/99	69.96	3.5 – 13.5	2.54	67.42

AMSL above mean seal level
BGS below ground surface
BTOC below top of casing
* Casing elevations were resurveyed in August 1999 by ACHW.

TABLE 2: GROUNDWATER ANALYTICAL RESULTS

Sample Location	Sample ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)	Total PAH (µg/L)
14-08	140822	1/7/99	**97.7 =**	20 U	75.7 =	177 =	350.4	32.7
14-09	140922	1/6/99	**51.2 =**	0.69 J	0.59 J	11.1 =	63.58	ND
14-11	141122	1/7/99	4.5 =	0.52 J	2 U	0.52 J	5.02	0.85
14-12	141222	1/7/99	**56.2 =**	2 U	2 U	4.2 J	60.4	ND
14-13	141312	3/10/99	0.86 J	1.8 J	2 U	0.95 J	3.61	2.0
14-14	141412	3/10/99	2 U	1.2 J	2 U	0.89 J	2.09	ND
14-07	140732	7/9/99	2.4 =	0.65 J	1 J	6.7 =	10.75	NA
14-08	140832	7/9/99	**83.9 =**	2.6 =	77.5 =	203 J	367	NA
14-09	140932	7/9/99	**89.7 =**	2.5 =	4.5 =	27.6 =	124.3	NA
14-11	141132	7/9/99	2 U	0.85 J	2 U	3.8 J	4.65	NA
14-12	141232	7/9/99	**6.4 =**	0.54 J	2 U	3.9 J	4.44	NA
14-13	141332	7/9/99	2 U	2 U	2 U	6 U	ND	NA
14-14	141432	7/9/99	2 U	0.67 J	2 U	6 U	0.67	NA
Maximum Concentration Limit			5	1000	700	10,000	NRC	NRC
In-Stream Water Quality Standards (GA EPD Chapter 391-3-6)			71.28	200,000	28,718	NRC	NRC	NRC
Alternate Concentration Limit			550	-	-	-	-	-

NOTE:

Bold values exceed MCLs

BTEX Benzene, toluene, ethylbenzene, and xylene.

BGS Below ground surface.

NA Not analyzed, PAH compounds were removed from the analyte list for the July 1999 sampling event.

ND Not detected.

NRC No regulatory criteria.

PAH Polynuclear aromatic hydrocarbon.

Laboratory Qualifiers

U Indicates the compound was not detected at the concentration reported.

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 3a: SOIL ANALYTICAL RESULTS
(VOLATILE ORGANIC COMPOUNDS)

Sample Location	Sample ID	Depth (ft BGS)	Date Sampled	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH (mg/kg)
14-13	141311	0.8 – 2.8	2/17/99	0.00097 J	0.00061 J	0.0022 U	0.0033 U	0.00158	155 =
14-13	141321	10.0 – 12.5	2/17/99	0.002 U	0.002 U	0.002 U	0.0029 U	ND	5.66 U
14-14	141411	7.5 – 10.0	2/17/99	0.002 U	0.002 U	0.002 U	0.003 U	ND	238 =
14-14	141421	10.0 – 12.5	2/17/99	0.0021 U	0.0021 U	0.0021 U	0.0031 U	ND	11.4 U
GA UST Soil Threshold Levels (Table A, Column 2)				0.008	10	6	700	NRC	NRC

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

Sample Location	Sample ID	Depth (ft BGS)	Date Sampled	Detected PAH Compounds (mg/kg)						Total PAHs (mg/kg)
14-13	141311	0.8 – 2.8	2/17/99							ND
14-13	141321	10.0 – 12.5	2/17/99							ND
14-14	141411	7.5 – 10.0	2/17/99							ND
14-14	141421	10.0 – 12.5	2/17/99							ND
GA UST Soil Threshold Levels (Table A, Column 2)										NRC

NOTE:

- BTEX Benzene, toluene, ethylbenzene, and xylene
- BGS Below ground surface
- ND Not detected
- NRC No regulatory criteria
- PAH Polynuclear aromatic hydrocarbon
- TPH Total petroleum hydrocarbons

Laboratory Qualifiers

- U Indicates the compound was not detected at the concentration reported.
- 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

LABORATORY ANALYTICAL RESULTS

FIRST SEMIANNUAL MONITORING EVENT

JANUARY 1999

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

140822

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS5A04W

Matrix: (soil/water) WATER Lab Sample ID: 9901222-04

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2R211

Level: (low/med) LOW Date Received: 01/08/99

% Moisture: not dec. _____ Date Analyzed: 01/12/99

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 10.0

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	97.7	
108-88-3	toluene	20.0	U
100-41-4	ethylbenzene	75.7	
75-71-8	xylenes (total)	177	

FORM I VOA OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

140822

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS5A03W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9901223-08

Sample wt/vol: 1010 (g/mL) ML Lab File ID: 4C222

Level: (low/med) LOW Date Received: 01/08/99

% Moisture: ______ decanted: (Y/N) Date Extracted: 01/11/99

DATA VALIDATION COPY

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 01/13/99

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	32.7		=
91-58-7	2-chloronaphthalene	9.9	U	U
209-96-8	acenaphthylene	9.9	U	
83-32-9	acenaphthene	9.9	U	
86-73-7	fluorene	9.9	U	
85-01-8	phenanthrene	9.9	U	
120-12-7	anthracene	9.9	U	
206-44-0	fluoranthene	9.9	U	
129-00-0	pyrene	9.9	U	UJ P01
56-55-3	benzo(a)anthracene	9.9	U	U
218-01-9	chrysene	9.9	U	
205-99-2	benzo(b)fluoranthene	9.9	U	
207-08-9	benzo(k)fluoranthene	9.9	U	
50-32-8	benzo(a)pyrene	9.9	U	
193-39-5	indeno(1,2,3-cd)pyrene	9.9	U	
53-70-3	dibenz(a,h)anthracene	9.9	U	
191-24-2	benzo(g,h,i)perylene	9.9	U	

FORM I SV-1 OLM03.0

Form 1: Inorganic Analyses Data Sheet

DATA VALIDATION COPY

SDG No.: FS5A04W

Method Type: Total Metals

Sample ID: 9901222-04

Client ID: 140822

Contract: SAIC01298 Lab Code: GEL Case No.: SAS No.:

Matrix: WATER Date Received: 1/8/99 Level: LOW

% Solids: 0.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-89-6	Iron	27500	µg/L			P	4.6	TJA61 Trace2 ICPAES	990120-2

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

140922

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS5A04W

Matrix: (soil/water) WATER Lab Sample ID: 9901222-10

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2R111

Level: (low/med) LOW Date Received: 01/08/99

% Moisture: not dec. _____ Date Analyzed: 01/11/99

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	51.2	
108-88-3	toluene	0.69	J
100-41-4	ethylbenzene	0.59	J
75-71-8	xylenes (total)	11.1	

FORM I VOA OLM03.0

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

140922

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS5A03W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9901223-01

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 4C215

Level: (low/med) LOW Date Received: 01/08/99

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 01/11/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 01/13/99

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	10.0	U
91-58-7	2-chloronaphthalene	10.0	U
209-96-8	acenaphthylene	10.0	U
83-32-9	acenaphthene	10.0	U
86-73-7	fluorene	10.0	U
85-01-8	phenanthrene	10.0	U
120-12-7	anthracene	10.0	U
206-44-0	fluoranthene	10.0	U
129-00-0	pyrene	10.0	U
56-55-3	benzo(a)anthracene	10.0	U
218-01-9	chrysene	10.0	U
205-99-2	benzo(b)fluoranthene	10.0	U
207-08-9	benzo(k)fluoranthene	10.0	U
50-32-8	benzo(a)pyrene	10.0	U
193-39-5	indeno(1,2,3-cd)pyrene	10.0	U
53-70-3	dibenz(a,h)anthracene	10.0	U
191-24-2	benzo(g,h,i)perylene	10.0	U

U

UJ POL

U

DATA VALIDATION COPY

Form 1: Inorganic Analyses Data Sheet

SDG No.: FS5A04W

Method Type: Total Metals

Sample ID: 9901222-10

Client ID: 140922

Contract: SAIC01298 Lab Code: GEL Case No.: SAS No.:

Matrix: WATER Date Received: 1/8/99 Level: LOW

% Solids: 0.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-89-6	Iron	34000	µg/L			P	4.6	TJA61 Trace2 ICPAES	990120-2

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141122

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS5A01W

Matrix: (soil/water) WATER Lab Sample ID: 9901216-01

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2Q607

Level: (low/med) LOW Date Received: 01/08/99

% Moisture: not dec. _____ Date Analyzed: 01/09/99

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	4.5	
108-88-3	toluene	0.52	J
100-41-4	ethylbenzene	2.0	U
75-71-8	xylenes (total)	0.52	J

9911

FORM I VOA OLM03.0

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141122

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS5A01W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9901216-01

Sample wt/vol: 940.0 (g/mL) ML Lab File ID: SB615

Level: (low/med) LOW DATA VALIDATION COPY Date Received: 01/08/99

% Moisture: _____ decanted: (Y/N) Date Extracted: 01/09/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 01/09/99

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	0.85	J
91-58-7	2-chloronaphthalene	10.6	U
208-96-8	acenaphthylene	10.6	U
83-32-9	acenaphthene	10.6	U
86-73-7	fluorene	10.6	U
85-01-8	phenanthrene	10.6	U
120-12-7	anthracene	10.6	U
206-44-0	fluoranthene	10.6	U
129-00-0	pyrene	10.6	U
56-55-3	benzo(a)anthracene	10.6	U
218-01-9	chrysene	10.6	U
205-99-2	benzo(b)fluoranthene	10.6	U
207-08-9	benzo(k)fluoranthene	10.6	U
50-32-8	benzo(a)pyrene	10.6	U
193-39-5	indeno(1,2,3-cd)pyrene	10.6	U
53-70-3	dibenz(a,h)anthracene	10.6	U
191-24-2	benzo(g,h,i)perylene	10.6	U

J
U

Form 1: Inorganic Analyses Data Sheet

DATA VALIDATION COPY

SDG No.: FS5A04W

Method Type: Total Metals

Sample ID: 9901222-07

Client ID: 141122

Contract: SAIC01298 Lab Code: GEL Case No.: SAS No.:

Matrix: WATER Date Received: 1/8/99 Level: LOW

% Solids: 0.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-89-6	Iron	33900	µg/L			P	4.6	TIA61 Trace2 ICPAES	990120-2

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141222

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS5A04W

Matrix: (soil/water) WATER Lab Sample ID: 9901222-08

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2R216

Level: (low/med) LOW Date Received: 01/08/99

% Moisture: not dec. _____ Date Analyzed: 01/12/99

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	56.2	
108-88-3	toluene	2.0	U
100-41-4	ethylbenzene	2.0	U
75-71-8	xylenes (total)	4.2	J

= 4.2 J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141222

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS5A03W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9901223-10

Sample wt/vol: 970.0 (g/mL) ML Lab File ID: 4C306

Level: (low/med) LOW Date Received: 01/08/99

% Moisture: _____ decanted: (Y/N) Date Extracted: 01/11/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 01/13/99

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	10.3	U
91-58-7	2-chloronaphthalene	10.3	U
209-96-8	acenaphthylene	10.3	U
83-32-9	acenaphthene	10.3	U
86-73-7	fluorene	10.3	U
85-01-8	phenanthrene	10.3	U
120-12-7	anthracene	10.3	U
206-44-0	fluoranthene	10.3	U
129-00-0	pyrene	10.3	U
56-55-3	benzo(a)anthracene	10.3	U
218-01-9	chrysene	10.3	U
205-99-2	benzo(b)fluoranthene	10.3	U
207-08-9	benzo(k)fluoranthene	10.3	U
50-32-8	benzo(a)pyrene	10.3	U
193-39-5	indeno(1,2,3-cd)pyrene	10.3	U
53-70-3	dibenz(a,h)anthracene	10.3	U
191-24-2	benzo(g,h,i)perylene	10.3	U

U

UJ P01

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FORM I SV-1 OLM03.0

DATA VALIDATION COPY

Form 1: Inorganic Analyses Data Sheet

SDG No.: FS5A04W

Method Type: Total Metals

Sample ID: 9901222-08

Client ID: 141222

Contract: SAIC01298 Lab Code: GEL Case No.: SAS No.:

Matrix: WATER Date Received: 1/8/99 Level: LOW

% Solids: 0.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-89-6	Iron	4250	µg/L			P	4.6	TJA61 Trace2 ICPAES	990120-2

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141224

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS5A04W

Matrix: (soil/water) WATER Lab Sample ID: 9901222-09

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2R110

Level: (low/med) LOW Date Received: 01/08/99

% Moisture: not dec. _____ Date Analyzed: 01/11/99

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	54.7		=
108-88-3	toluene	0.69	J	J
100-41-4	ethylbenzene	2.0	U	U
75-71-8	xylenes (total)	4.7	J	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141224

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FS5A03W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9901223-09

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 4C305

Level: (low/med) LOW Date Received: 01/08/99

% Moisture: _____ decanted: (Y/N)___ Date Extracted:01/11/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 01/13/99

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	10.0	U	U
91-58-7	2-chloronaphthalene	10.0	U	
209-96-8	acenaphthylene	10.0	U	
83-32-9	acenaphthene	10.0	U	
86-73-7	fluorene	10.0	U	
85-01-8	phenanthrene	10.0	U	
120-12-7	anthracene	10.0	U	
206-44-0	fluoranthene	10.0	U	
129-00-0	pyrene	10.0	U	UJ P01
56-55-3	benzo(a)anthracene	10.0	U	U
218-01-9	chrysene	10.0	U	
205-99-2	benzo(b)fluoranthene	10.0	U	
207-08-9	benzo(k)fluoranthene	10.0	U	
50-32-8	benzo(a)pyrene	10.0	U	
193-39-5	indeno(1,2,3-cd)pyrene	10.0	U	
53-70-3	dibenz(a,h)anthracene	10.0	U	
191-24-2	benzo(g,h,i)perylene	10.0	U	

FORM I SV-1 OLM03.0

DATA VALIDATION COPY

Form 1: Inorganic Analyses Data Sheet

SDG No.: FS5A04W

Method Type: Total Metals

Sample ID: 9901222-09

Client ID: 141224

Contract: SAIC01298 Lab Code: GEL Case No.: SAS No.:

Matrix: WATER Date Received: 1/8/99 Level: LOW

% Solids: 0.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-89-6	Iron	4380	µg/L			P	4.6	TJA61 Trace2 ICPAES	990120-2

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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CHAIN OF CUSTODY RECORD

COC NO.: GLTM04

PROJECT NAME: CAP-Part B UST Investigations

PROJECT NUMBER: 01-0331-04-8358-220

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

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	BTEX, GRO	PAH, DRO	PAH, TPH	PAH, TPH, Lead, TOC	PAH, DRO, Lead, TOC	Dissolved Iron	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
141122	1/7/99	1040	water	2	2							4	9901216-01	24 HR TURN
030129	1/6/99	910		2	2							4	-02	
030229	1/6/99	920		2	2							4	-03	
385139	1/6/99	1026		2	2							4	-04	
385239	1/6/99	1015		2	2							4	-05	
030120	1/6/99	910	Soil			1	1					2		9901217-01
030220	1/6/99	920	Soil			1	1					2		-02
385130	1/6/99	1026	Soil			1	1					2		-03
385230	1/6/99	1015	Soil			1	1					2		-04

1/7/99

RELINQUISHED BY: Laura Lumley	Date/Time 1/8/99 1145	RECEIVED BY: Franco	Date/Time 1/8/99 1545	TOTAL NUMBER OF CONTAINERS: 26	Cooler Temperature: 4°C
COMPANY NAME: SAIC		COMPANY NAME: GEL		Cooler ID: # 474	FEDEX NUMBER:
RECEIVED BY:	Date/Time 1/8/99 1145	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL		COMPANY NAME:			
RELINQUISHED BY:	Date/Time 1/8/99 1545	RECEIVED BY:	Date/Time		
COMPANY NAME: GEL		COMPANY NAME:			

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CHAIN OF CUSTODY RECORD

COC NO.: GLTM01

PROJECT NAME: CAP-Part B UST Investigations

PROJECT NUMBER: 01-0331-04-8358-~~220~~ 700

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	BTEX, GRO	PAH, DRO	PAH, TPH	PAH, TPH, Lead, TOC	PAH, DRO, Lead, TOC	Dissolved Iron	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
140922	1/6/99	1655	Water		2							2		990122 3-01
030534	1/6/99	1300			2							2		-02
030632	1/6/99	1630			2							2		-03
030932	1/6/99	1205			2							2		-04
031132	1/6/99	1525			2							2		-05
031232	1/6/99	1340			2							2		-06

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	1/6/99	[illegible]	1/8/99
COMPANY NAME: SAIC	1145	COMPANY NAME: GEC	1530
RECEIVED BY: [illegible]	Date/Time 1/8/99	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEC	1145	COMPANY NAME:	
RELINQUISHED BY: [illegible]	Date/Time 1/8/99	RECEIVED BY:	Date/Time
COMPANY NAME: GEC	1530	COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 12

Cooler ID: #719

Cooler Temperature: 4°C

FEDEX NUMBER:

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CHAIN OF CUSTODY RECORD

COC NO.: GLTM02

PROJECT NAME: CAP-Part B UST Investigations

PROJECT NUMBER: 01-0331-04-8358-~~220~~ 700

PROJECT MANAGER: Patty Stoll

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

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	BTEX, GRO	PAH, DRO	PAH, TPH	PAH, TPH, Lead, TOC	PAH, DRO, Lead, TOC	Dissolved Iron	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
030532	1/6/99	1300	water		Z							Z		990123-07
140922	1/7/99	1115			Z							Z		-08
141224	1/7/99	1240			Z							Z		-09
141222	1/7/99	1240			Z							Z		-10
151434	1/7/99	1610			Z							Z		-11
151532	1/7/99	1500			Z							Z		-12

1/8/99

RELINQUISHED BY: Laura Lumley	Date/Time 1/8/99 1745	RECEIVED BY: Branco	Date/Time 1/8/99 1550	TOTAL NUMBER OF CONTAINERS: 12	Cooler Temperature: 4°C
COMPANY NAME: SAIC		COMPANY NAME: Yel		Cooler ID: # 512	FEDEX NUMBER:
RECEIVED BY:	Date/Time 1/8/99 1745	RELINQUISHED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			
RELINQUISHED BY:	Date/Time 1/9/99 1545	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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1 of 2

CHAIN OF CUSTODY RECORD

COC NO.: GLTM03

PROJECT NAME: CAP-Part B UST Investigations

PROJECT NUMBER: 01-0331-04-8358-~~220~~ 700

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	BTEX, GRO	PAH, DRO	PAH, TPH	PAH, TPH, Lead, TOC	PAH, DRO, Lead, TOC	Dissolved Iron	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
151132	1/7/99	1440	water	Z	Z							5		990122201
151232	1/7/99	1325		Z	Z							5		02
151432	1/7/99	1610		Z	Z							5		03
140622	1/7/99	1115		Z								3		04
151532	1/7/99	1500		Z								3		05
151434	1/7/99	1610		Z								3		06
141122	1/7/99	1040										1		07
141222	1/7/99	1240		Z								3		08
141224	1/7/99	1240		Z								3		09
140922	1/6/99	1655		Z								3		10
030532	1/6/99	1300		Z								3		11
030534	1/6/99	1300		Z								3		12
030632	1/6/99	1630		Z								3		13

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	1/8/99 1145	Braurer	1/8/99 1545
COMPANY NAME: SAIC		COMPANY NAME:	
RECEIVED BY:	Date/Time 1/8/99 1145	RELINQUISHED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	
RELINQUISHED BY:	Date/Time 1/8/99 1545	RECEIVED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS:

Cooler ID: #699

Cooler Temperature: 4°C

FEDEX NUMBER:

ADDITIONAL WELL INSTALLATION

FEBRUARY/MARCH 1999

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141312

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSB13W

Matrix: (soil/water) WATER Lab Sample ID: 9903450-19

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 1A620

Level: (low/med) LOW Date Received: 03/11/99

% Moisture: not dec. _____ Date Analyzed: 03/20/99

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	0.86	J
108-88-3	toluene	1.8	J
100-41-4	ethylbenzene	2.0	U
75-71-8	xylenes (total)	0.95	J

hhh

DATA VALIDATION COPY

FORM I VOA OLM03.0

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141312RE

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSB11W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9903448-20

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: 7M325

Level: (low/med) LOW Date Received: 03/11/99

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 03/19/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 03/24/99

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

USR

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
91-20-3	naphthalene	2.0	J
91-58-7	2-chloronaphthalene	10.2	U
208-96-8	acenaphthylene	10.2	U
83-32-9	acenaphthene	10.2	U
86-73-7	fluorene	10.2	U
85-01-8	phenanthrene	10.2	U
120-12-7	anthracene	10.2	U
206-44-0	fluoranthene	10.2	U
129-00-0	pyrene	10.2	U
56-55-3	benzo(a)anthracene	10.2	U
218-01-9	chrysene	10.2	U
205-99-2	benzo(b)fluoranthene	10.2	U
207-08-9	benzo(k)fluoranthene	10.2	U
50-32-8	benzo(a)pyrene	10.2	U
193-39-5	indeno(1,2,3-cd)pyrene	10.2	U
53-70-3	dibenz(a,h)anthracene	10.2	U
191-24-2	benzo(g,h,i)perylene	10.2	U

DATA VALIDATED COPY

J A01

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FORM I SV-1

OLM03.0

47

Form 1: Inorganic Analyses Data Sheet

SDG No.: FSB13W

Method Type: Total Metals

Sample ID: 9903450-19

Client ID: 141312

Contract: SAIC00299

Lab Code: GEL

Case No.:

SAS No.:

Matrix: WATER

Date Received: 3/11/99

Level: LOW

% Solids: 0.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-89-6	Iron	11100	µg/L	=		P	4.6	TJA61 Trace ICPAES	990325-2

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141412

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSB14W

Matrix: (soil/water) WATER Lab Sample ID: 9903461-01

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 1A306

Level: (low/med) LOW Date Received: 03/11/99

% Moisture: not dec. _____ Date Analyzed: 03/17/99

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	UJ
108-88-3	toluene	1.2	J	
100-41-4	ethylbenzene	2.0	U	UJ
75-71-8	xylenes (total)	0.89	J	

DATA VALIDATION STUDY

FORM I VOA OLM03.0

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141412

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSB12W

Matrix: (soil/water) GROUNDH2O Lab Sample ID: 9903449-03

Sample wt/vol: 940.0 (g/mL) ML Lab File ID: 2L409

Level: (low/med) LOW Date Received: 03/11/99

% Moisture: _____ decanted: (Y/N)___ Date Extracted:03/12/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 03/18/99

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

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

U

Form 1: Inorganic Analyses Data Sheet

SDG No.: FSB12W

Method Type: Total Metals

Sample ID: 9903449-11

Client ID: 141412

Contract: SAIC00299 Lab Code: GEL Case No.: SAS No.:

Matrix: WATER Date Received: 3/11/99 Level: LOW

% Solids: 0.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-89-6	Iron	20700	µg/L	=		P	4.6	TJA61 Trace ICPAES	990316-1

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141311

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSB01S

Matrix: (soil/water) SOIL Lab Sample ID: 9902752-18

Sample wt/vol: 4.9 (g/mL) G Lab File ID: 5X507

Level: (low/med) LOW Date Received: 02/18/99

% Moisture: not dec. 9 Date Analyzed: 02/26/99

GC Column: DB624 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	0.97	J	J
108-88-3	toluene	0.61	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.

141311

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSBQ1S

Matrix: (soil/water) SOIL Lab Sample ID: 9902752-18

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 4I311

Level: (low/med) LOW Date Received: 02/18/99

% Moisture: 9 decanted: (Y/N) N Date Extracted: 02/20/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 02/24/99

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	1460	U
91-58-7	2-chloronaphthalene	1460	U
208-96-8	acenaphthylene	1460	U
83-32-9	acenaphthene	1460	U
86-73-7	fluorene	1460	U
85-01-8	phenanthrene	1460	U
120-12-7	anthracene	1460	U
206-44-0	fluoranthene	1460	U
129-00-0	pyrene	1460	U
56-55-3	benzo(a)anthracene	1460	U
218-01-9	chrysene	1460	U
205-99-2	benzo(b)fluoranthene	1460	U
207-08-9	benzo(k)fluoranthene	1460	U
50-32-8	benzo(a)pyrene	1460	U
193-39-5	indeno(1,2,3-cd)pyrene	1460	U
53-70-3	dibenz(a,h)anthracene	1460	U
191-24-2	benzo(g,h,i)perylene	1460	U

U

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Leslie Barbour
Project Description: CAP-Part A and B UST Sites

cc: SAIC00299

Report Date: March 12, 1999

Sample ID	: 141311
Lab ID	: 9902752-18
Matrix	: Soil
Date Collected	: 02/17/99
Date Received	: 02/18/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry											
Total Rec. Petro. Hydrocarbons		155	10.9	22.0	mg/kg	1.0	AAT	03/11/99	1200	144327	1

M = Method	Method-Description
M 1	EPA 418.1 Modified

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

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141313

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSB01S

Matrix: (soil/water) SOIL Lab Sample ID: 9902752-19

Sample wt/vol: 5.5 (g/mL) G Lab File ID: SX508

Level: (low/med) LOW Date Received: 02/18/99

% Moisture: not dec. 8 Date Analyzed: 02/26/99

GC Column: DB624 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	0.58	J	J
108-88-3	toluene	2.0	U	U
100-41-4	ethylbenzene	2.0	U	U
1330-20-7	xylenes (total)	2.9	U	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141313

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSB01S

Matrix: (soil/water) SOIL Lab Sample ID: 9902752-19

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 4I312

Level: (low/med) LOW Date Received: 02/18/99

% Moisture: 8 decanted: (Y/N) N Date Extracted: 02/20/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 02/24/99

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	1450	U
91-58-7	2-chloronaphthalene	1450	U
208-96-8	acenaphthylene	1450	U
83-32-9	acenaphthene	1450	U
86-73-7	fluorene	1450	U
85-01-8	phenanthrene	1450	U
120-12-7	anthracene	1450	U
206-44-0	fluoranthene	1450	U
129-00-0	pyrene	1450	U
56-55-3	benzo(a)anthracene	1450	U
218-01-9	chrysene	1450	U
205-99-2	benzo(b)fluoranthene	1450	U
207-08-9	benzo(k)fluoranthene	1450	U
50-32-8	benzo(a)pyrene	1450	U
193-39-5	indeno(1,2,3-cd)pyrene	1450	U
53-70-3	dibenz(a,h)anthracene	1450	U
191-24-2	benzo(g,h,i)perylene	1450	U

Client:	Science Applications International Corp. P.O. Box 2502 800 Oak Ridge Turnpike Oak Ridge, Tennessee 37831
Contact:	Ms. Leslie Barbour
Project Description:	CAP-Part A and B UST Sites

cc: SAIC00299 Report Date: March 12, 1999

Sample ID	: 141313
Lab ID	: 9902752-19
Matrix	: Soil
Date Collected	: 02/17/99
Date Received	: 02/18/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry											
Total Rec. Petro. Hydrocarbons		37.9	10.8	21.7	mg/kg	1.0	AAT	03/11/99	1200	144327	1

M = Method	Method-Description
M 1	EPA 418.1 Modified

Notes:
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J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).
U indicates that the analyte was not detected at a concentration greater than the detection limit.
* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

386

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141321

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSB02S

Matrix: (soil/water) SOIL Lab Sample ID: 9902753-01

Sample wt/vol: 6.0 (g/mL) G Lab File ID: 1Y131

Level: (low/med) LOW Date Received: 02/18/99

% Moisture: not dec. 15 Date Analyzed: 03/02/99

GC Column: DB-624 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	2.0	U
108-88-3	toluene	2.0	U
100-41-4	ethylbenzene	2.0	U
75-71-8	xylenes (total)	2.9	U

U

FORM I VOA OLM03.0

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141321

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSB02S

Matrix: (soil/water) SOIL Lab Sample ID: 9902753-01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8J319

Level: (low/med) LOW Date Received: 02/18/99

% Moisture: 15 decanted: (Y/N) N Date Extracted:02/19/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 03/04/99

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	1570	U
91-58-7	2-chloronaphthalene	1570	U
208-96-8	acenaphthylene	1570	U
83-32-9	acenaphthene	1570	U
86-73-7	fluorene	1570	U
85-01-8	phenanthrene	1570	U
120-12-7	anthracene	1570	U
206-44-0	fluoranthene	1570	U
129-00-0	pyrene	1570	U
56-55-3	benzo(a)anthracene	1570	U
218-01-9	chrysene	1570	U
205-99-2	benzo(b)fluoranthene	1570	U
207-08-9	benzo(k)fluoranthene	1570	U
50-32-8	benzo(a)pyrene	1570	U
193-39-5	indeno(1,2,3-cd)pyrene	1570	U
53-70-3	dibenz(a,h)anthracene	1570	U
191-24-2	benzo(g,h,i)perylene	1570	U

U

FORM I SV-1 OLM03.0

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Leslie Barbour
Project Description: CAP-Part A and B UST Sites

cc: SAIC00299

Report Date: March 12, 1999

Sample ID	: 141321
Lab ID	: 9902753-01
Matrix	: Soil
Date Collected	: 02/17/99
Date Received	: 02/18/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry											
Total Rec. Petro. Hydrocarbons	U	5.66 U	11.6	23.5	mg/kg	1.0	AAT	03/11/99	1200	144327	1
TOTAL ORGANIC CARBON (TOC)		303 =	43.1	100	mg/kg	1.0	JHC	02/28/99	1534	143154	2

M = Method	Method-Description
M 1	EPA 418.1 Modified
M 2	EPA 415.1 Modified

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

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

Form 1: Inorganic Analyses Data Sheet

SDG No.: FSB02S

Method Type: Total Metals

Sample ID: 9902753-01

Client ID: 141321

Contract: SAIC00299 Lab Code: GEL Case No.: SAS No.:

Matrix: SOIL Date Received: 2/18/99 Level: LOW

% Solids: 85.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	0.99	mg/kg	=		P	0.16	TJA61 Trace ICPAES	990303-1

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141411

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSB01S

Matrix: (soil/water) SOIL Lab Sample ID: 9902752-20

Sample wt/vol: 5.9 (g/mL) G Lab File ID: 5X509

Level: (low/med) LOW Date Received: 02/18/99

% Moisture: not dec. 14 Date Analyzed: 02/26/99

GC Column: DB624 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	2.0	U
108-88-3	toluene	2.0	U
100-41-4	ethylbenzene	2.0	U
1330-20-7	xylenes (total)	3.0	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141411

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSB01S

Matrix: (soil/water) SOIL Lab Sample ID: 9902752-20

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 4I313

Level: (low/med) LOW Date Received: 02/18/99

% Moisture: 14 decanted: (Y/N) N Date Extracted:02/20/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 02/24/99

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

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Leslie Barbour
Project Description: CAP-Part A and B UST Sites

cc: SAIC00299

Report Date: March 12, 1999

Sample ID	: 141411
Lab ID	: 9902752-20
Matrix	: Soil
Date Collected	: 02/17/99
Date Received	: 02/18/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry												
Total Rec. Petro. Hydrocarbons		238	=	11.5	23.2	mg/kg	1.0	AAT	03/11/99	1200	144327	1

M = Method	Method-Description
M 1	EPA 418.1 Modified

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

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis at (843) 769-7391.

Reviewed By

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141421

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSB02S

Matrix: (soil/water) SOIL Lab Sample ID: 9902753-02

Sample wt/vol: 5.8 (g/mL) G Lab File ID: 1Y132

Level: (low/med) LOW Date Received: 02/18/99

% Moisture: not dec. 17 Date Analyzed: 03/02/99

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
71-43-2	benzene	2.1	U	U
108-88-3	toluene	2.1	U	
100-41-4	ethylbenzene	2.1	U	
75-71-8	xylenes (total)	3.1	U	

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141421

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSB02S

Matrix: (soil/water) SOIL Lab Sample ID: 9902753-02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8J320

Level: (low/med) LOW Date Received: 02/18/99

% Moisture: 17 decanted: (Y/N) N Date Extracted:02/19/99

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 03/04/99

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

U

Client: Science Applications International Corp.
P.O. Box 2502
800 Oak Ridge Turnpike
Oak Ridge, Tennessee 37831
Contact: Ms. Leslie Barbour
Project Description: CAP-Part A and B UST Sites

cc: SAIC00299

Report Date: March 12, 1999

Sample ID	: 141421
Lab ID	: 9902753-02
Matrix	: Soil
Date Collected	: 02/17/99
Date Received	: 02/18/99
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry												
Total Rec. Petro. Hydrocarbons	U	11.4	U	11.9	24.1	mg/kg	1.0	AAT	03/11/99	1200	144327	1
TOTAL ORGANIC CARBON (TOC)		846	=	43.1	100	mg/kg	1.0	JHC	02/28/99	1554	143154	2

M = Method	Method-Description
M 1	EPA 418.1 Modified
M 2	EPA 415.1 Modified

Notes:
The qualifiers in this report are defined as follows:
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J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).
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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 (843) 769-7391.

Reviewed By

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Form 1: Inorganic Analyses Data Sheet

SDG No.: FSB02S

Method Type: Total Metals

Sample ID: 9902753-02

Client ID: 141421

Contract: SAIC00299 Lab Code: GEL Case No.: SAS No.:

Matrix: SOIL Date Received: 2/18/99 Level: LOW

% Solids: 83.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical Run
7439-92-1	Lead	2.2	mg/kg			P	0.16	TJA61 Trace ICPAES	990303-1

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

SAIC Science Applications International Corporation — An Employee Owned Company

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

1013

CHAIN OF CUSTODY RECORD

COC NO.: D03503

PROJECT NAME: CAP-Part B UST Investigations

PROJECT NUMBER: 01-0331-04-1693-200

PROJECT MANAGER: Patty Stoll

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

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Road, Charleston, SC 29417

PHONE NO: (803) 556-8171

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	GRO	PAH, DRO	PAH, DRO, Lead, TOC	PAH, TPH	PAH, TPH, Lead, TOC	Dissolved Iron	No. of Bottles/ Vials	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
761921	2/17/99	1115	Soil	1		1		1				3		9902752-14
761323	2/17/99	1715		1		1		1				3		-15
421211	2/17/99	1515		1		1		1				3		-16
762423	2/17/99	1515		1		1		1				3		-17
141311	2/17/99	1353		1								2		-18
141313	2/17/99	1353		1								2		-19
141411	2/17/99	1515		1								2		-20
141321	2/17/99	1355		1					1			2		9902753-01
141421	2/17/99	1521		1					1			2		-02
620612	2/17/99	1230	water	2								2		9902754-01
840912	2/17/99	1040		2								2		-02
841212	2/17/99	1700		2								2		-03
841025	2/17/99	1730		2								2		-04

	Date/Time		Date/Time		
RELINQUISHED BY: Laura Lumley	2/18/99 1145	RECEIVED BY: [signature]	2/18/99 1730	TOTAL NUMBER OF CONTAINERS:	Cooler Temperature: 4 °C
COMPANY NAME: SAIC		COMPANY NAME: [illegible]		Cooler ID: # 675	FEDEX NUMBER:
RECEIVED BY: [signature] Lockhart	Date/Time 2/18/99 1145	RELINQUISHED BY:	Date/Time		
COMPANY NAME: [illegible]		COMPANY NAME:			
RELINQUISHED BY: [signature] Lockhart	Date/Time 2/18/99 1730	RECEIVED BY:	Date/Time		
COMPANY NAME: [illegible]		COMPANY NAME:			

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

2 of 3

CHAIN OF CUSTODY RECORD

COC NO.: D03522

PROJECT NAME: CAP-Part B UST Investigations

PROJECT NUMBER: 01-0331-04-1693-200

PROJECT MANAGER: Patty Stoll

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

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556-8171

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	GRO	PAH, DRO	PAH, ORO, Lead, TOC	PAH, TPH	PAH, TPH, Lead, TOC	Dissolved Iron	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
790714	3/9/99	1715	water	2								3		9903450-13
790912	3/9/99	1710		2								3		-14
260622	3/10/99	1725		2								3		-15
260722	3/10/99	1710		2								3		-16
260822	3/10/99	1435		2								3		-17
260922	3/10/99	1204		2								3		-18
141312	3/10/99	915		2								3		-19
141412	3/10/99	1020										1		9903449-11
421112	3/10/99	1410										1		-12
421212	3/10/99	1245										1		-13
790812	3/10/99	1054										1		-14
791012	3/10/99	926										1		-15
791112	3/10/99	1225										1		-16

RELINQUISHED BY: Laura Lumley	Date/Time 3/11/99 1030	RECEIVED BY: Branch	Date/Time 3/11/99 1520	TOTAL NUMBER OF CONTAINERS:	Cooler Temperature: 4°C
COMPANY NAME: SAIC		COMPANY NAME: GEL		Cooler ID: #1566	FEDEX NUMBER:
RECEIVED BY:	Date/Time 3/11/99 1030	RELINQUISHED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			
RELINQUISHED BY:	Date/Time 3/11/99 1520	RECEIVED BY:	Date/Time		
COMPANY NAME:		COMPANY NAME:			

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CHAIN OF CUSTODY RECORD

COC NO.: D03523

PROJECT NAME: CAP-Part B UST Investigations

PROJECT NUMBER: 01-0331-04-1593-200

PROJECT MANAGER: Patty Stoll

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

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod Charleston, SC 29417

PHONE NO: (803) 556-8171

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	GRO	PAH, DRO	PAH, DRO, Lead, TOC	PAH, TPH	PAH, TPH, Lead, TOC	Dissolved Iron	Oil & Grease	Total Phenols	624 VOC	No. of Bottles/ Vials	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
D03504	3/11/99	1100	water								2	1			7		9903460-01
141412	3/10/99	1020		2											2		9903461-01
421112	3/10/99	1410		2											2		-02
421212	3/10/99	1245		2											2		-03
790812	3/10/99	1045		2											2		-04
791012	3/10/99	926		2											2		-05
791112	3/10/99	1225		2											2		-06
930812	3/10/99	950		2											2		-07
930912	3/10/99	1715		2											2		-08
931012	3/10/99	1530		2											2		-09
931014	3/10/99	1530		2											2		-10
931112	3/10/99	1135		2											2		-11
TBD011	3/10/99	745		2											2		-12

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	3/11/99	Franco	3/11/99
COMPANY NAME: SAIC	1140	COMPANY NAME: GEL	1520
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL	3/11/99 1140	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
COMPANY NAME: GEL	3/11/99 1520	COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 31

Cooler ID: # 221

Cooler Temperature: 4°C

FEDEX NUMBER:

7 DAY TURN

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CHAIN OF CUSTODY RECORD

COC NO.: D03520

PROJECT NAME: CAP-Part B UST Investigations

PROJECT NUMBER: 01-0331-04-1593-200

PROJECT MANAGER: Patty Stoll

Sampler (Signature) Laura Lumley (Printed Name)

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29417

PHONE NO: (803) 556 8171

Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	GRO	PAH, DRO	PAH, DRO, Lead, TOC	PAH, TPH	PAH, TPH, Lead, TOC	Dissolved Iron	No. of Bottles/ Vials	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
791012	3/10/99	926	water		N		N		N			2		990344-19
141312	3/10/99	915			N		N		N			2		-20
421112	3/10/99	1410			N		N		N			2		990344-01
421212	3/10/99	1245			N		N		N			2		-02
141412	3/10/99	1020			N		N		N			2		-03
2160122	3/10/99	1725	↓		N		N		N			2		-04

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
Laura Lumley	3/11/99 1030	Brandon	3/11/99 1520
COMPANY NAME: SAIC		COMPANY NAME: GEL	
RECEIVED BY: Patty Stoll	3/11/99 1030	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL		COMPANY NAME:	
RELINQUISHED BY: Patty Stoll	3/11/99 1520	RECEIVED BY:	Date/Time
COMPANY NAME: GEL		COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 12

Cooler ID: #724, 5°C

Cooler Temperature:

FEDEX NUMBER:

HTRW DRILLING LOG

HOLE NUMBER 14-13

PROJECT: Fort Stewart USTs | INSPECTOR T. COFFEY | 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	silty sandy CLAY, weak, plastic, moist, red (2.5YR4/8)				
		SAND, very fine grained, unconsolidated, dry to moist, very dark gray (7.5YR3/1) to light gray (10YR7/1)	5.7ppm		Soil Sample 141311	
	2					
	3		3.3ppm			
	4					
	5					
	6		1.4 ppm			
	7	CLAY, stiff, plastic, moist greenish gray (5G 6/1)				
	8		1.8ppm			
	9					
	10					

HTRW DRILLING LOG

HOLE NUMBER 14-13

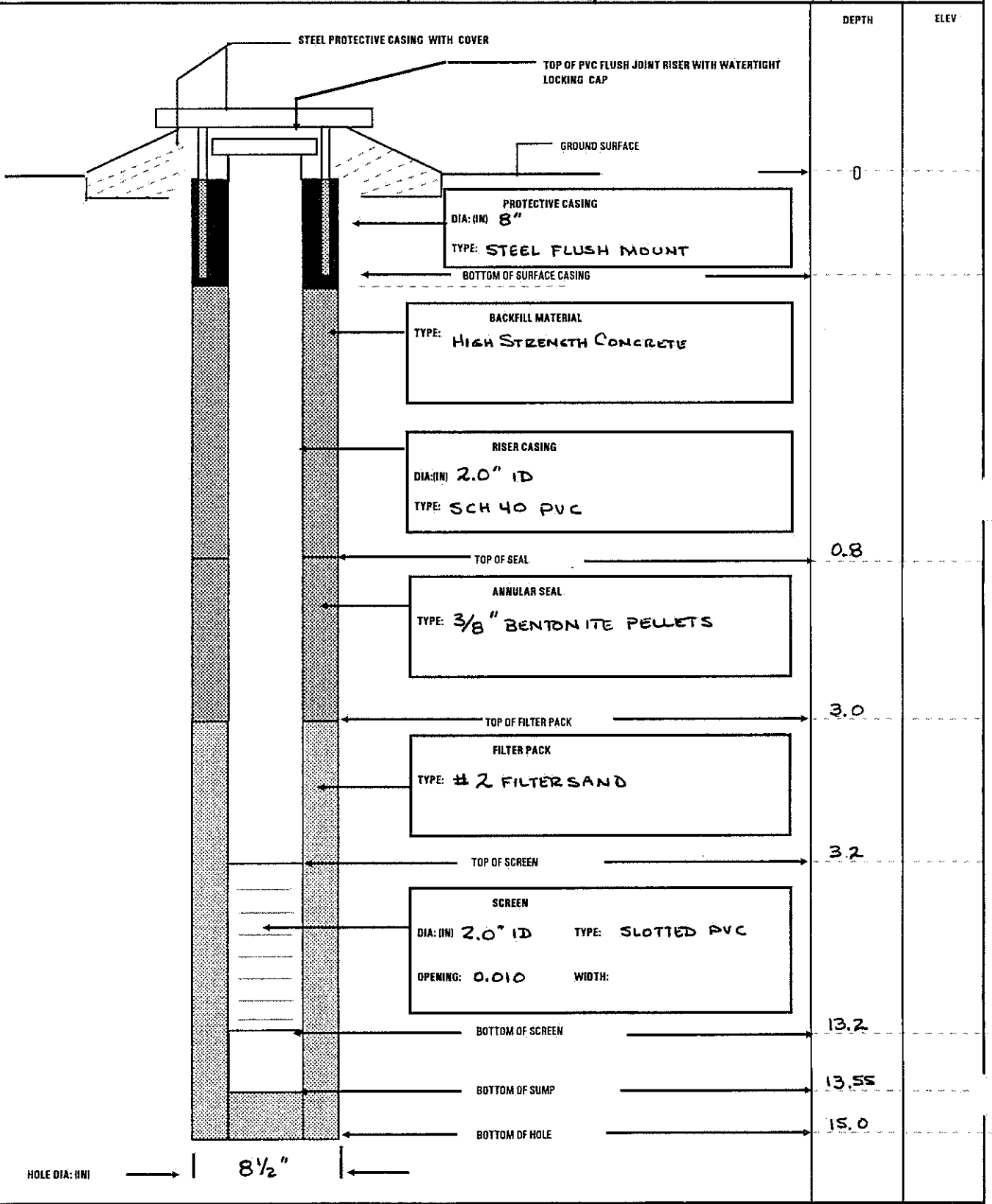
PROJECT: Fort Stewart USTs | INSPECTOR T. Coffey | SHEET 2 OF 2

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO. (F)	REMARKS (G)
	11	Clayey SAND, slightly plastic, 30% clay, moist, greenish gray (5G 6/1)			Soil Sample 141321	▽ WET BELOW 12.0 FT BGS
	12	SAND, medium grained, loose, moist, white				
	13	clayey SAND, medium grained, <30% clay, moist to wet, greenish gray (5G 6/1)		Soil Sample 141331		
	14	SAND, medium grained, loose, wet, light gray (7.5YR 7/1)				
	15					END OF DRILLING AT 15.0 FT BGS
	16					
	17					
	18					
	19					
	20					

MONITORING WELL

PROJECT: Ft. Stewart USTs

WELL NUMBER: 14-13	**BEGIN:** 2/17/99	**END:** 2/17/99
COORDINATES: N: 680818.93 E: 824025.98	**REFERENCE POINT:** TOP OF CASING	**ELEVATION:** 70.09 FT AMSL



HTRW DRILLING LOG

HOLE NUMBER 14-14

PROJECT: Fort Stewart USTs

INSPECTOR T. COFFEY

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	CLAY, stiff, plastic, mottled, moist, red (2.5YR4/8)				
	2	SAND, fine to medium grained, loose, dry to moist, very dark gray (7.5 YR3/1) to dark gray (10YR4/1)	53 ppm			
	3					
	4		0 ppm			
	5					
	6	Clayey SAND, fine to coarse grained, 20% clay, slightly plastic to non plastic, moist, lt. green gray (10Y7/2) to green gray (5G6/1)	85 ppm			
	7					
	8				Soil Sample 141411	
	9	SAND, fine to medium grained, loose, wet to moist, light brown gray (10YR6/2)	76 ppm			
	10					

HTRW DRILLING LOG

HOLE NUMBER 14-14

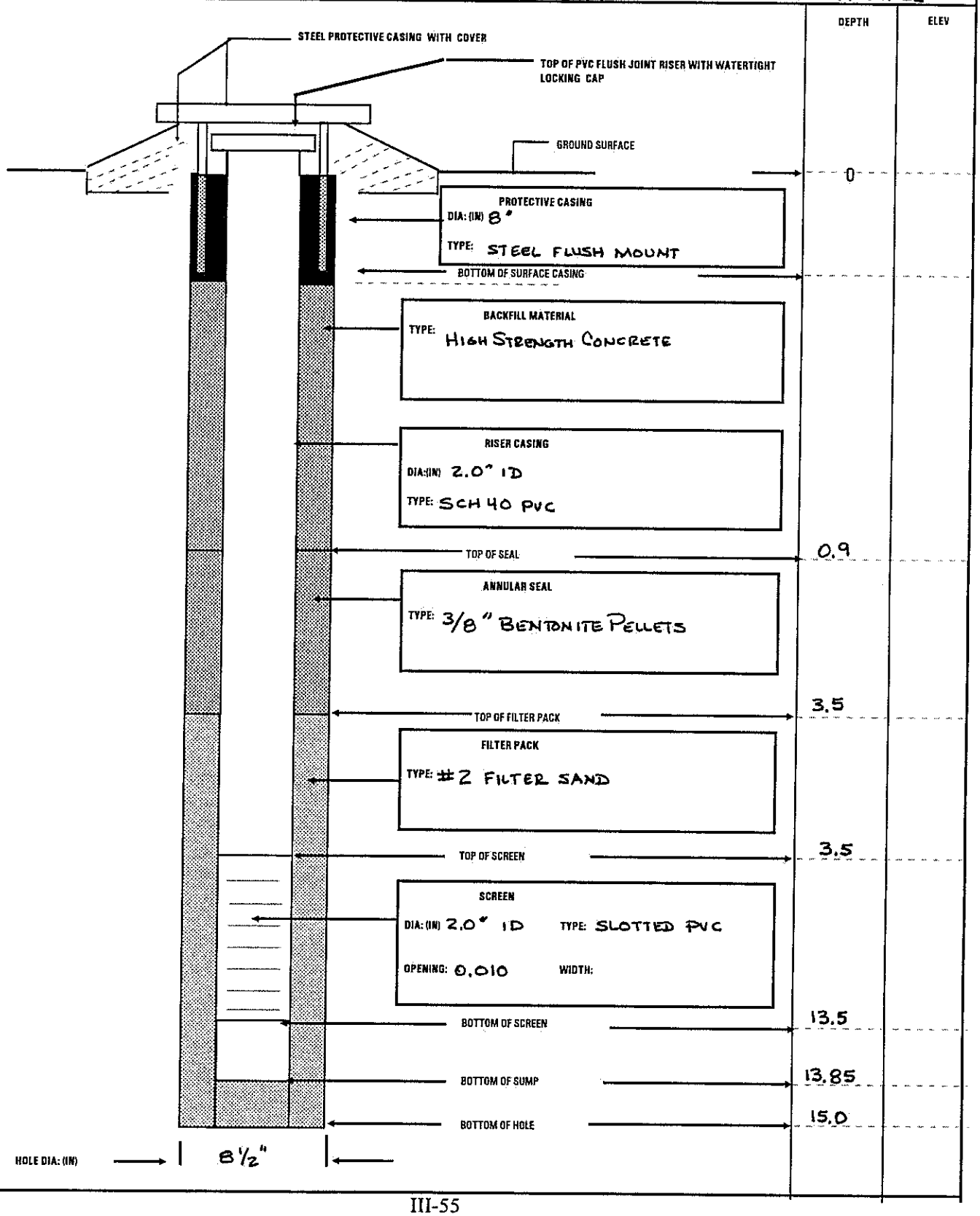
PROJECT: Fort Stewart USTs | INSPECTOR | SHEET 2 OF 2

ELEV (A)	DEPTH (B)	DESCRIPTION OF MATERIALS (C)	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX	ANALYTICAL SAMPLE NO (F)	REMARKS (G)
	11	SAND, fine to medium grained, loose, wet, light brown gray (10YR6/2)	108ppm	Soil Sample 141431	Soil Sample 141421	
	12					
	13		N/A			
	14					
	15					
	16					
	17					
	18					
	19					
	20					

MONITORING WELL

PROJECT: Ft. Stewart USTs

WELL NUMBER: 14-14	**BEGIN:** 2/17/99	**END:** 2/20/99
COORDINATES: N: 680874.97 E: 824067.01	**REFERENCE POINT:** TOP OF CASING	**ELEVATION:** 70.41 FT AMSL



SECOND SEMIANNUAL MONITORING EVENT

JULY 1999

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

140732

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSCBM04W

Matrix: (soil/water) WATER Lab Sample ID: 9907375-10

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 5R530

Level: (low/med) LOW Date Received: 07/12/99

% Moisture: not dec. _____ Date Analyzed: 07/16/99

GC Column: DB-624 ID: 0.25 (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	2.4		=
108-88-3	toluene	0.65	J	J
100-41-4	ethylbenzene	1.0	J	J
1330-20-7	xylenes (total)	6.7		=

DATA VALIDATION COPY

FORM I VOA OLM03.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

140832

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSCBM04W

Matrix: (soil/water) WATER Lab Sample ID: 9907375-11

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 5S113

Level: (low/med) LOW Date Received: 07/12/99

% Moisture: not dec. _____ Date Analyzed: 07/19/99

GC Column: DB-624 ID: 0.25 (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	83.9		U
108-88-3	toluene	2.6		U
100-41-4	ethylbenzene	77.5		U
1330-20-7	xylenes (total)	203	E	J ND3

MMF
8/11/99

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

140932

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSCBM04W

Matrix: (soil/water) WATER Lab Sample ID: 9907375-03

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 5R522

Level: (low/med) LOW Date Received: 07/12/99

% Moisture: not dec. _____ Date Analyzed: 07/16/99

GC Column: DB-624 ID: 0.25 (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	89.7	
108-88-3	toluene	2.5	
100-41-4	ethylbenzene	4.5	
1330-20-7	xylenes (total)	27.6	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141132

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSCBM04W

Matrix: (soil/water) WATER Lab Sample ID: 9907375-16

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 5S111

Level: (low/med) LOW Date Received: 07/12/99

% Moisture: not dec. _____ Date Analyzed: 07/19/99

GC Column: DB-624 ID: 0.25 (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	UJ
108-88-3	toluene	0.85	J	J
100-41-4	ethylbenzene	2.0	U	UJ
1330-20-7	xylenes (total)	3.8	J	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141232

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSCBM04W

Matrix: (soil/water) WATER Lab Sample ID: 9907375-12

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 5R532

Level: (low/med) LOW Date Received: 07/12/99

% Moisture: not dec. _____ Date Analyzed: 07/16/99

GC Column: DB-624 ID: 0.25 (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	6.4	
108-88-3	toluene	0.54	J
100-41-4	ethylbenzene	2.0	U
1330-20-7	xylenes (total)	3.9	J

JCJ

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141234

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSCBM04W

Matrix: (soil/water) WATER Lab Sample ID: 9907375-14

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 5R534

Level: (low/med) LOW Date Received: 07/12/99

% Moisture: not dec. _____ Date Analyzed: 07/17/99

GC Column: DB-624 ID: 0.25 (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	6.2	
108-88-3	toluene	2.0	U
100-41-4	ethylbenzene	2.0	U
1330-20-7	xylenes (total)	6.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141332

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSCBM04W

Matrix: (soil/water) WATER Lab Sample ID: 9907375-04

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 5R523

Level: (low/med) LOW Date Received: 07/12/99

% Moisture: not dec. _____ Date Analyzed: 07/16/99

GC Column: DB-624 ID: 0.25 (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
1330-20-7	xylenes (total)	6.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

141432

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSCBM04W

Matrix: (soil/water) WATER Lab Sample ID: 9907375-06

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 5S107

Level: (low/med) LOW Date Received: 07/12/99

% Moisture: not dec. _____ Date Analyzed: 07/19/99

GC Column: DB-624 ID: 0.25 (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	0.67	J	J
100-41-4	ethylbenzene	2.0	U	U
1330-20-7	xylenes (total)	6.0	U	U

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2013

CHAIN OF CUSTODY RECORD

COC NO.: GLTM 14

PROJECT NAME: Fort Stewart CAP B LTM

PROJECT NUMBER: 01-0331-04-8358-700

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: (843) 556-8171

	Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	BTEX, GRO	PAH, DRO	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
18	15121B	7/10/99	1606	water	2				2		99073742
19	15114Z	7/10/99	1345		2				2		
20	14091A	7/9/99	1039		2				2		
1	42054Z	7/9/99	1543		2				2		99073752
2	14091B	7/9/99	1039		2				2		
3	14093Z	7/9/99	1039		2				2		
4	14133Z	7/9/99	1330		2				2		
5	42121B	7/9/99	1657		2				2		
6	14143Z	7/9/99	1209		2				2		
7	42054B	7/9/99	1550		2				2		
8	42124Z	7/9/99	1652		2				2		
9	~~FBBolt~~	7/9/99	0745		2				2		
10	14093Z	7/9/99	1500		2				2		

REQUESTED PARAMETERS

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS:	Cooler Temperature:
Laura Lumley	7/12/99 11:15	Raymond Reed	7/12/99 11:15	Cooler ID: #324	FEDEX NUMBER:
COMPANY NAME: SAIC		COMPANY NAME: G.E.L.			
RECEIVED BY: P. Nauer	Date/Time 7/12/99 14:40	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL		COMPANY NAME:			
RELINQUISHED BY: Raymond Reed	Date/Time 7/12/99 14:40	RECEIVED BY:	Date/Time		
COMPANY NAME: GEL		COMPANY NAME:			

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3 of 3

CHAIN OF CUSTODY RECORD

COC NO.: GLTM 14

PROJECT NAME: Fort Stewart CAP B LTM

PROJECT NUMBER: 01-0331-04-8358-700

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: (843) 556-8171

REQUESTED PARAMETERS

	Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	BTEX, GRO	PAH, DRO	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
11	140832	7/9/99	1145	Water	2				2		9907375?
12	141232	7/9/99	1347		2				2		
13	42111B	7/9/99	1625		2				2		
14	141234	7/9/99	1347		2				2		
15	14111B	7/9/99	1015		2				2		
16	141132	7/9/99	1015		2				2		
17	14081B	7/9/99	1145		2				2		
18	421142	7/9/99	1625		2				2		

4/34 11

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 06	Cooler Temperature: 3°c
Laura Lumley	7/12/99	Raynal Reed	7/12/99	Cooler ID: #324	FEDEX NUMBER:
COMPANY NAME: SAIC	11:15	COMPANY NAME: GEL	11:15		
RECEIVED BY: P. Nower	Date/Time 7/12/99	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL	14:40	COMPANY NAME:			
RELINQUISHED BY: Raynal Reed	Date/Time 7/12/99	RECEIVED BY:	Date/Time		
COMPANY NAME: G.E.L.	14:40	COMPANY NAME:			

III-66

APPENDIX IV

SITE RANKING FORM

FIRST SEMIANNUAL MONITORING EVENT

JANUARY 1999

SITE RANKING FORM

Facility Name: UST 29, Building 1633 **Ranked by:** S. Stoller

County: Liberty **Facility ID #:** 9-089088 **Date Ranked:** 4/7/99

SOIL CONTAMINATION

A. Total PAHs –
Maximum Concentration found on the site
(Assume <0.660 mg/kg if only gasoline was stored on site)

☐	≤0.660 mg/kg	=	0
☐	>0.66 - 1 mg/kg	=	10
☒	>1 - 10 mg/kg	=	25
☐	>10 mg/kg	=	50

B. Total Benzene -
Maximum Concentration found on the site

☐	≤0.005 mg/kg	=	0
☒	>0.005 - .05 mg/kg	=	1
☐	>0.05 - 1 mg/kg	=	10
☐	>1 - 10 mg/kg	=	25
☐	>10 - 50 mg/kg	=	40
☐	>50 mg/kg	=	50

C. Depth to Groundwater
(bls = below land surface)

☐	>50' bls	=	1
☐	>25' - 50' bls	=	2
☐	>10' - 25' bls	=	5
☒	≤10' bls	=	10

Fill in the blanks: **(A. 25) + (B. 1) = (26) x (C. 10) = (D. 260)**

GROUNDWATER CONTAMINATION

E. Free Product (Nonaqueous-phase liquid hydrocarbons; See Guidelines For definition of "sheen").

☒	No free product =	0
☐	Sheen - 1/8" =	250
☐	>1/8" - 6" =	500
☐	>6" - 1ft. =	1,000
☐	For every additional inch, add another 100 points = 1,000 + _____	

F. Dissolved Benzene -
Maximum Concentration at the site
(One well must be located at the source of the release.)

☐	≤5 µg/L	= 0
☒	>5 - 100 µg/L	= 5
☐	>100 - 1,000 µg/L	= 50
☐	>1,000 - 10,000 µg/L	= 100
☐	>10,000 µg/L	= 250

Fill in the blanks: **(E. 0) + (F. 5) = (G. 5)**

Facility Name: UST 29, Building 1633 **County:** Liberty **Facility ID #:** 9-089088

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

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

Note: If site is in lower susceptibility area, do not use the shaded areas.

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

J. Distance from nearest Contaminant Plume boundary to downgradient Surface Waters **OR UTILITY TRENCHES & VAULTS** (a utility trench may be omitted from ranking if its invert elevation is more than 5 feet above the water table)

☐	Impacted	= 500
☒	≤500'	= 50
☐	>500' - 1,000'	= 5
☐	>1,000'	= 1

K. Distance from any Free Product to basements and crawl spaces

☐	Impacted	= 500
☐	<500'	= 50
☐	>500' - 1,000'	= 5
☒	>1,000' or no free product.	= 0

Fill in the blanks: (H. 0) + (I. 0) + (J. 50) + (K. 0) = L. 50

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

(M. 250) + (D. 260) = N. 510

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. 510) x (P. 1) = (510) + (Q. 0)

= 510 (based on CAP-Part B soil data and January 1999 groundwater data)
ENVIRONMENTAL SENSITIVITY SCORE

SECOND SEMIANNUAL MONITORING EVENT

JULY 1999

SITE RANKING FORM

Facility Name: UST 29, Building 1633 **Ranked by:** S. Stoller

County: Liberty **Facility ID #:** 9-089088 **Date Ranked:** 8/30/99

SOIL CONTAMINATION

A. Total PAHs –
Maximum Concentration found on the site
(Assume <0.660 mg/kg if only gasoline was stored on site)

☐	≤0.660 mg/kg	=	0
☐	>0.66 - 1 mg/kg	=	10
☒	>1 - 10 mg/kg	=	25
☐	>10 mg/kg	=	50

B. Total Benzene -
Maximum Concentration found on the site

☐	≤0.005 mg/kg	=	0
☒	>0.005 - .05 mg/kg	=	1
☐	>0.05 - 1 mg/kg	=	10
☐	>1 - 10 mg/kg	=	25
☐	>10 - 50 mg/kg	=	40
☐	>50 mg/kg	=	50

C. Depth to Groundwater
(bls = below land surface)

☐	>50' bls	=	1
☐	>25' - 50' bls	=	2
☐	>10' - 25' bls	=	5
☒	≤10' bls	=	10

Fill in the blanks: (A. 25) + (B. 1) = (26) x (C. 10) = (D. 260)

GROUNDWATER CONTAMINATION

E. Free Product (Nonaqueous-phase liquid hydrocarbons; See Guidelines For definition of "sheen").

☒	No free product	=	0
☐	Sheen - 1/8"	=	250
☐	>1/8" - 6"	=	500
☐	>6" - 1ft.	=	1,000
☐	For every additional inch, add another 100 points = 1,000 +		

F. Dissolved Benzene -
Maximum Concentration at the site
(One well must be located at the source of the release.)

☐	≤5 µg/L	= 0
☒	>5 - 100 µg/L	= 5
☐	>100 - 1,000 µg/L	= 50
☐	>1,000 - 10,000 µg/L	= 100
☐	>10,000 µg/L	= 250

Fill in the blanks: (E. 0) + (F. 5) = (G. 5)

Facility Name: UST 29, Building 1633 **County:** Liberty **Facility ID #:** 9-089088

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

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

Note: If site is in lower susceptibility area, do not use the shaded areas.

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

J. Distance from nearest Contaminant Plume boundary to downgradient Surface Waters **OR UTILITY TRENCHES & VAULTS** (a utility trench may be omitted from ranking if its invert elevation is more than 5 feet above the water table)

☐	Impacted	= 500
☒	≤500'	= 50
☐	>500' - 1,000'	= 5
☐	>1,000'	= 1

K. Distance from any Free Product to basements and crawl spaces

☐	Impacted	= 500
☐	<500'	= 50
☐	>500' - 1,000'	= 5
☒	>1,000' or no free product.	= 0

Fill in the blanks: (H. 0) + (I. 0) + (J. 50) + (K. 0) = L. 50

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

(M. 250) + (D. 260) = N. 510

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. 510) x (P. 1) = (510) + (Q. 0)

= 510 (based on CAP-Part B soil data and July 1999 groundwater data)
ENVIRONMENTAL SENSITIVITY SCORE

ADDITIONAL GEOLOGIC AND HYDROLOGIC DATA

The following information is presented to provide supplemental information to 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 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 4,254 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 1,970 feet thick and dominated by clastics. The Tertiary section was found to be approximately 2,170 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 V

REIMBURSEMENT APPLICATION

Fort Stewart is a federally owned facility and has funded the investigation for the UST 29 site, Building 1633, Facility ID #9-089088, using Department of Defense Environmental Restoration Account Funds. Application for Georgia Underground Storage Tank Trust Fund reimbursement is not being pursued at this time.

ATTACHMENT A

REVISED FATE AND TRANSPORT MODELING

1. FATE AND TRANSPORT MODELING

The fate and transport modeling that was performed as part of the CAP-Part B Report is based on the assumption of a continuous source of contamination of infinite duration at the site based on the maximum observed benzene concentration in groundwater. In summary, the AT123D model was used to model contaminant migration to two potential downgradient receptors: a drainage ditch located approximately 500 feet west of the site and Mill Creek located approximately 2000 feet west of the site. A catch basin for a storm drain is located approximately 60 feet downgradient of the site; the depth of the basin is approximately 2.0 feet bgs. Thus, the storm drain is above the water table and is not a potential preferential pathway for contaminant migration. The modeling results indicated that, due to dilution attenuation, benzene will not reach the drainage ditch at concentrations above the MCL or Mill Creek at detectable concentrations.

Based on modeling results the estimated dilution attenuation factor (DAF) for benzene at drainage ditch is 110 and the DAF at Mill Creek is 400,000. Simulations were also performed to predict the maximum concentrations of benzene over a simulation period of two years in the downgradient wells that will be used for long-term monitoring. The predicted two-year maximum concentrations in the wells are presented in Table A-1. The alternate concentration limits (ACLs) for the site are presented in Table A-2.

Table A-1. Predicted Two-Year Maximum Concentrations in Groundwater at the UST 29 Site

Well	Predicted Maximum Concentration (µg/L)
14-08	90
14-09	35
14-11	43
14-12	10

Table A-2. Revised ACLs for the UST 29 Site

Contaminant	MCL (µg/L)	DAF[1] (drainage ditch)	ACL[2] (µg/L)
Benzene	5	110	550

[1] DAF = Maximum Observed Concentration ÷ Predicted Concentration at the Receptor
= 239 ÷ 2.2 ≈ 110 at the drainage ditch

[2] ACL = MCL × DAF

Fate and Transport Modeling Conclusions

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 observed benzene concentration in groundwater during the CAP-Part A and CAP-Part B investigations.

- Benzene concentrations in groundwater do not exceed the ACL of 550 µg/L in any of the wells at the site indicating that the benzene concentrations at the site are not high enough to reach the drainage ditch above MCLs.

- The benzene concentration in well 14-09 exceeds its respective predicted maximum concentration of benzene, which was anticipated to occur within the first two years of the initial sampling in December 1997.

ATTACHMENT B

REFERENCES

REFERENCES

Arora, Ram 1984. *Hydrologic Evaluation for Underground Injection Control in the Coastal Plain of Georgia*, Department of Natural Resources, Environmental Protection Division, Georgia Geological Survey.

Geraghty & Miller 1993. *RCRA Facility Investigation Work Plan, Fort Stewart, Georgia.*

Herrick, S.M. and Vochis, R.C., 1963. *Subsurface Geology of the Georgia Coastal Plain*, Georgia Geologic Survey Information Circular 25.

Looper, Edward E. 1980. *Soil Survey of Liberty and Long Counties, Georgia*, U.S. Department of Agriculture, Soil Conservation Service.

McAllister, A.J., 1999. Letter to Thomas Fry (Fort Stewart Directorate of Public Works, Environmental Branch), June 1, 1999.

Miller, James A. 1990. *Groundwater Atlas of the United States*, U.S. Department of the Interior, U.S. Geological Survey, Hydrologic Inventory Atlas 730G.

ATTACHMENT C

SUMMARY OF DIFFUSION SAMPLING

The US Air Force Center for Environmental Excellence (AFCEE) is currently conducting a study to compare analytical results between diffusion sampling and other sampling methods. As a part of the UST Long Term Monitoring sampling program at Ft. Stewart, US Army Forces Command (FORSCOM), Fort Stewart, USACE-Savannah District, and SAIC assisted the AFCEE study by sampling 20 monitoring wells at selected Fort Stewart UST sites in July 1999. Analytical samples from the wells selected have historically contained BTEX values above detection limits. SAIC installed the diffusion samplers in the wells immediately prior to the installation of the low-flow pumps, and removed the diffusion samplers upon completion of the low-flow sampling. This resulted in the diffusion sampler being placed immediately below the screened intake of the low-flow pump and allowed a minimum contact time of 12 hours between the groundwater and the diffusion samplers.

The results of the diffusion sampling and the low-flow sampling for UST 29 are presented in Table C-1 and are included in this Monitoring Only Report at the request of William Logan, GA EPD USTMP. The results from the diffusion samples indicate direct correlation with low-flow sampling results and should be considered as a valid sampling technique during future sampling events at Fort Stewart or Hunter Army Airfield.

Table C-1. Summary of Diffusion Sampler and Corresponding Low-Flow Sampling Results

Sample Location	Sample ID	Date Sampled	Sample Method	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)
14-08	140832	7/9/99	low-flow	**83.9 =**	2.6 =	77.5 =	203 J	367
14-08	14081B	7/9/99	diffusion	**96.8 =**	1.6 J	90.2 =	226 J	414.6
14-09	140932	7/9/99	low-flow	**89.7 =**	2.5 =	4.5 =	27.6 =	124.3
14-09	14091B	7/9/99	diffusion	**101 J**	3.2 =	4.4 =	29.6 =	167
14-09	14091A*	7/9/99	diffusion	**90.6 =**	3 U	4.7 =	30.1 =	125.4
Maximum Contaminant Level				5	1,000	700	10,000	NRC

NOTES:

*	Duplicate diffusion sample
BTEX	Benzene, toluene, ethylbenzene, and xylenes.
ND	Not detected.
NRC	No regulatory criteria.

Laboratory Qualifiers

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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

14081B

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSCBM04W

Matrix: (soil/water) WATER Lab Sample ID: 9907375-17

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 5S114

Level: (low/med) LOW Date Received: 07/12/99

% Moisture: not dec. _____ Date Analyzed: 07/19/99

GC Column: DB-624 ID: 0.25 (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	96.8		=
108-88-3	toluene	1.6	J-	J
100-41-4	ethylbenzene	90.2		=
1330-20-7	xylenes (total)	226	E	J ND3

MAS 8/11/99

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

14091B

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSCBM04W

Matrix: (soil/water) WATER Lab Sample ID: 9907375-02

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 5R518

Level: (low/med) LOW Date Received: 07/12/99

% Moisture: not dec. _____ Date Analyzed: 07/16/99

GC Column: DB-624 ID: 0.25 (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	101	E
108-88-3	toluene	3.2	=
100-41-4	ethylbenzene	4.4	
1330-20-7	xylenes (total)	29.6	

J NØ3

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

14091A

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSCBM03W

Matrix: (soil/water) WATER Lab Sample ID: 9907374-20

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2R533

Level: (low/med) LOW Date Received: 07/12/99

% Moisture: not dec. _____ Date Analyzed: 07/17/99

GC Column: DB-624 ID: 0.25 (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	90.6		=
108-88-3	toluene	3.0	B	U FD1, FD7
100-41-4	ethylbenzene	4.7		=
1330-20-7	xylenes (total)	30.1	B	= ~~U FD1, FD7~~ FD1, FD6

NMA
8/18/99

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

14111B

Lab Name: GENERAL ENGINEERING LABOR Contract: NA

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: FSCBM04W

Matrix: (soil/water) WATER Lab Sample ID: 9907375-15

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 5R535

Level: (low/med) LOW Date Received: 07/12/99

% Moisture: not dec. _____ Date Analyzed: 07/17/99

GC Column: DB-624 ID: 0.25 (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
1330-20-7	xylenes (total)	6.0	U

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

2013

CHAIN OF CUSTODY RECORD

COC NO.: GLTM 14

PROJECT NAME: Fort Stewart CAP B LTM

PROJECT NUMBER: 01-0331-04-8358-700

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: (843) 556-8171

	Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	BTEX, GRO	PAH, DRO	REQUESTED PARAMETERS	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
18	15121B	7/10/99	1606	water	2					2		9907374?
19	15114Z	7/10/99	1345		2					2		
20	14091A	7/9/99	1039		2					2		
1	42054Z	7/9/99	1543		2					2		9907375?
2	14091B	7/9/99	1039		2					2		
3	14093Z	7/9/99	1039		2					2		
4	14133Z	7/9/99	1330		2					2		
5	42121B	7/9/99	1657		2					2		
6	14143Z	7/9/99	1209		2					2		
7	42054B	7/9/99	1550		2					2		
8	42124Z	7/9/99	1652		2					2		
9	~~TBlank~~	7/9/99	0745		2					2		
TBlank 10	14073Z	7/9/99	1500		2					2		

RELINQUISHED BY: Laura Lumley	Date/Time 7/12/99 1115	RECEIVED BY: Raymond Reed	Date/Time 7/12/99 1115	TOTAL NUMBER OF CONTAINERS:
COMPANY NAME: SAIC		COMPANY NAME: G.E.L.		Cooler ID: #324
RECEIVED BY: P. Nower	Date/Time 7/12/99 14:40	RELINQUISHED BY:	Date/Time	Cooler Temperature:
COMPANY NAME: GEL		COMPANY NAME:		FEDEX NUMBER:
RELINQUISHED BY: Raymond Reed	Date/Time 7/12/99 1440	RECEIVED BY:	Date/Time	
COMPANY NAME: GEL		COMPANY NAME:		

1

C-7

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CHAIN OF CUSTODY RECORD

COC NO.: GLTM 14

PROJECT NAME: Fort Stewart CAP B LTM

PROJECT NUMBER: 01-0331-04-8358-700

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: (843) 556-8171

	Sample ID	Date Collected	Time Collected	Matrix	BTEX	PAH	BTEX, GRO	PAH, DRO	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
11	140832	7/9/99	1145	water	2				2		9907375?
12	141232	7/9/99	1347		2				2		
13	42111B	7/9/99	1625		2				2		
14	141234	7/9/99	1347		2				2		
15	14111B	7/9/99	1015		2				2		
16	141132	7/9/99	1015		2				2		
17	140818	7/9/99	1145		2				2		
18	421142	7/9/99	1625	↓	2				2		

REQUESTED PARAMETERS

RELINQUISHED BY:	Date/Time	RECEIVED BY	Date/Time
Laura Lumley	7/12/99	Raynal Reed	7/12/99
COMPANY NAME: SAIC	11:15	COMPANY NAME: GEL	11:15
RECEIVED BY: P. Nour	Date/Time 7/12/99	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL	14:40	COMPANY NAME:	
RELINQUISHED BY: Raynal Reed	Date/Time 7/12/99	RECEIVED BY:	Date/Time
COMPANY NAME: GEL	14:40	COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 64

Cooler Temperature: 3°c

Cooler ID: #324

FEDEX NUMBER:

1