

FINAL



FIRST ANNUAL MONITORING ONLY REPORT



Underground Storage Tanks 202, 203 & 204
Facility ID #9-089045
Building 241
Fort Stewart, Georgia

Prepared for



**U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT**

Contract No. DACA21-95-D-0022
Delivery Order 0061

May 2002



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**FIRST ANNUAL MONITORING ONLY REPORT
FOR
UNDERGROUND STORAGE TANKS 202, 203, & 204
FACILITY ID #9-089045
BUILDING 241
FORT STEWART, GEORGIA**

Prepared for

**U.S. Army Corps of Engineers, Savannah District
and
Fort Stewart Directorate of Public Works
Under Contract Number DACA21-95-D-0022
Delivery Order 0061**

Prepared by

**Science Applications International Corporation
151 Lafayette Drive
Oak Ridge, Tennessee 37830**

May 2002

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List of Abbreviations and Acronyms

BTEX	benzene, toluene, ethylbenzene, and xylenes
CAP	Corrective Action Plan
EPA	U.S. Environmental Protection Agency
GA EPD	Georgia Environmental Protection Division
IWQS	In-Stream Water Quality Standard
MCL	maximum contaminant level
NFAR	no further action required
SAIC	Science Applications International Corporation
UST	underground storage tank
USTMP	Underground Storage Tank Management Program

MONITORING ONLY REPORT

Submittal Date: May 2002 Monitoring Report Number: 1st Annual

For Period Covering: January 2002 to May 2002

Facility Name: USTs 202, 203, & 204, Bldg. 241 Street Address: Bultman Ave.

Facility ID: 9-089045 City: Fort Stewart County: Liberty Zip Code: 31314

Latitude: 31° 51' 46" Longitude: 81° 37' 01"

Submitted by UST Owner/Operator:

Name: Thomas C. Fry/Environmental Branch
Company: U.S. Army/HQ 3d, Inf. Div. (Mech)
Address: Directorate of Public Works, Bldg. 1137
1550 Frank Cochran Drive
City: Fort Stewart State: GA
Zip Code: 31314-4928

Prepared by Consultant/Contractor:

Name: Patricia A. Stoll
Company: SAIC
Address: P.O. Box 2501
City: Oak Ridge State: TN
Zip Code: 37831

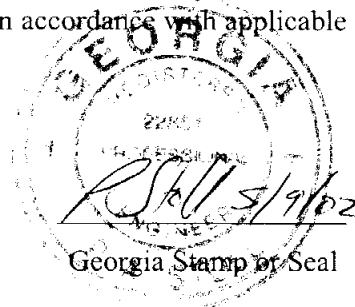
I. REGISTERED PROFESSIONAL ENGINEER OR PROFESSIONAL GEOLOGIST CERTIFICATION

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

Name: Patricia A. Stoll

Signature: *Patricia A. Stoll*

Date: 5/9/02



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.

Underground Storage Tanks (USTs) 202, 203, & 204, Facility ID #9-089045, were located near Building 241 at Fort Stewart, Georgia. USTs 202 and 203 each had a capacity of 6,000 gallons and were used for the storage of diesel fuel. UST 204 also had a capacity of 6,000 gallons but was used for the storage of gasoline. The tanks were excavated and removed on July 31, 1995, and the ancillary piping was closed in place. Science Applications International Corporation (SAIC) performed a Corrective Action Plan (CAP)–Part A investigation in 1998. Results of the 1998 investigation were documented in the *Corrective Action Plan–Part A, Underground Storage Tanks 202, 203, & 204, Facility ID #9-089045, Building 241, Fort Stewart, Georgia*, which was submitted to the Georgia Environmental Protection Division (GA EPD) in December of that year (SAIC 1998).

The GA EPD Underground Storage Tank Management Program (USTMP) conducted a technical review of the CAP–Part A Report, and in correspondence dated March 22, 1999 (McAllister 1999a), it was requested that the soil and groundwater quality maps be revised to include concentrations and that documentation of the water well survey be provided. The revisions were provided in the *Corrective Action Plan–Part A Addendum, USTs 202, 203, & 204, Facility ID #9-089045, Building 241, Fort Stewart, Georgia*, which was submitted to GA EPD in March 1999 (SAIC 1999).

GA EPD conducted a technical review of the CAP–Part A addendum report and provided comments in correspondence dated June 16, 1999 (McAllister 1999b). The comments indicated that a groundwater sampling program should be implemented to monitor the dissolved petroleum contamination. Fort Stewart responded to comments in correspondence dated July 13, 1999, and continued to request a no-further-action-required (NFAR) status for the site given the site ranking score of 250 and the maximum benzene concentration of 16 µg/L in groundwater. During a meeting with GA EPD USTMP in July 2000, the GA EPD representative indicated that an NFAR status would not be granted for the site until groundwater samples had been collected from permanent monitoring wells.

In December 2000, four monitoring wells (i.e., 90-09, 90-10, 90-11, and 90-12) were installed at the site. The results of that sampling effort are presented in the *Corrective Action Plan–Part A Addendum #2, USTs 202, 203, & 204, Facility ID #9-089045, Building 241, Fort Stewart, Georgia* (SAIC 2001) along with a recommendation for NFAR status. GA EPD conducted a technical review of the second addendum to the CAP–Part A report and provided comments in correspondence dated November 20, 2001 (Logan 2001). The comments indicated that a 1-year monitoring program was appropriate for the site due to the apparent fluctuations in groundwater flow. During a phone conversation with William Logan (GA EPD) and representatives from Fort Stewart and SAIC on February 5, 2002, Fort Stewart agreed to conduct a round of sampling at the site.

The results of the sampling event conducted in January/February 2002 indicate that maximum benzene concentration at the site is less than the maximum contaminant level (MCL) of 5 µg/L and that the site ranking score is 0; therefore, NFAR status is being recommended for this site.

III. ACTIVITIES AND ASSESSMENT OF EXISTING CONDITIONS

A. Potentiometric Data:

(Appendix I, Figures 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 sampling event in January 2002, groundwater elevations were measured in all of the monitoring wells to determine the groundwater flow direction. In January 2002, the groundwater flow direction was toward the northeast, and the groundwater gradient was approximately 0.0003 foot/foot. The groundwater flow direction in January 2002 was similar to that observed in December 2000, as shown in Figures 2a and 2b.

B. Analytical Data:

(Appendix I, Figures 3a and 3b: Groundwater Quality Maps)

(Appendix II, Table 2: Groundwater Analytical Results)

(Appendix III: Laboratory Analytical Results)

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

During the sampling event in January 2002, monitoring wells 90-10, 90-11, and 90-12 were sampled for benzene, toluene, ethylbenzene, and xylenes (BTEX) using U.S. Environmental Protection Agency (EPA) Method 8021B/8260B. Well 90-09 was not sampled in January 2002 because not enough groundwater was available for sampling; however, the well was sampled in February 2002 and analyzed for BTEX using EPA Method 8021B/8260B. Analytical results from the sampling events showed estimated concentrations or no detectable BTEX concentrations in wells 90-10, 90-11, and 90-12. BTEX compounds were present in well 90-09. In well 90-09, benzene was detected at 4.6 µg/L, toluene was detected at 1.4 µg/L, ethylbenzene was detected at 38.1 µg/L, and total xylenes were detected at 79 µg/L.

In January/February 2002, the benzene concentrations did not exceed the MCL of 5 µg/L or the In-Stream Water Quality Standard (IWQS) of 71.28 µg/L. Figure 4 shows the variations in benzene concentrations in groundwater for all the wells.

IV. SITE RANKING (Note: Re-rank site after each monitoring event.)

(Appendix IV: Site Ranking Form)

<i>Environmental Site Sensitivity Score:</i>	250 (CAP-Part A Report – 1998)
<i>(April 1999 version of the Site Ranking Form was used.)</i>	250 (CAP-Part A Addendum #2 Report – 2001)
	0 (January 2002 – First Sampling Event)

V. CONCLUSIONS/RECOMMENDATIONS

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

Fort Stewart respectfully requests that GA EPD USTMP assign Facility ID #9-089045 an NFAR status for the following reasons:

- The site score for the January/February 2002 groundwater sampling event was 0.
- BTEX constituents were present in well 90-09 and estimated to be present at concentrations below the reporting limit of 1 µg/L in well 90-12.
- The maximum benzene concentration observed in January/February 2002 was 4.6 µg/L in well 90-09, which is below the MCL and IWQS.
- The BTEX concentrations in all wells were below their respective MCLs and IWQSs.
- The closest surface water body is an unnamed tributary to Peacock Creek located approximately 1,500 feet east of the site at the closest point and 5,280 feet downgradient of the site.
- Natural attenuation will continue to take place at the site.

The monitoring only program will not be continued.

VI. REIMBURSEMENT

Attached _____ N/A X

(Appendix V: Reimbursement Application)

Fort Stewart is a federally owned facility and has funded the investigation for the Former USTs 202, 203, & 204 site, Building 241, Facility ID #9-08945, using U.S. 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

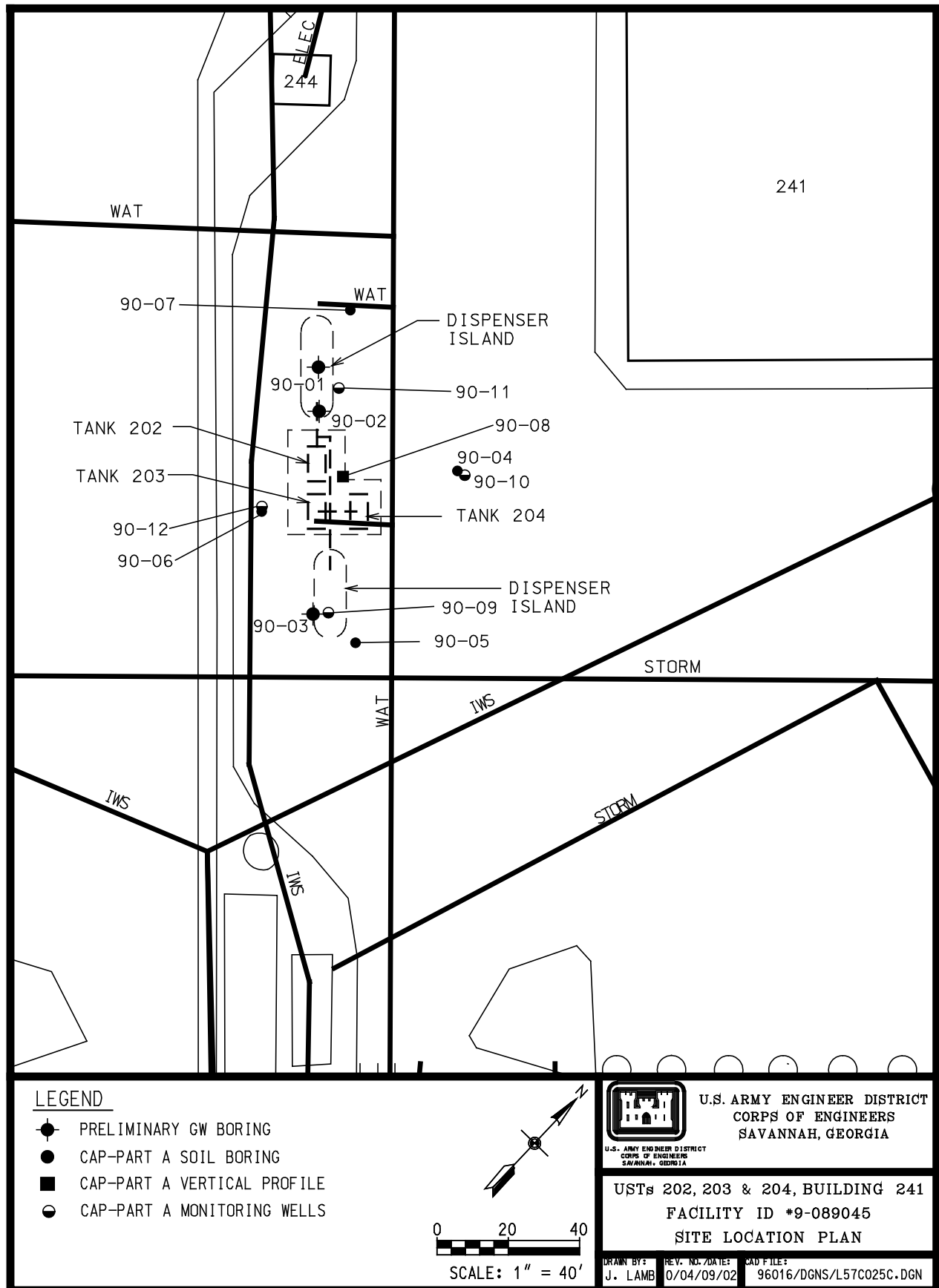


Figure 1. Location Map of USTs 202, 203, & 204 at Fort Stewart, Liberty County, Georgia

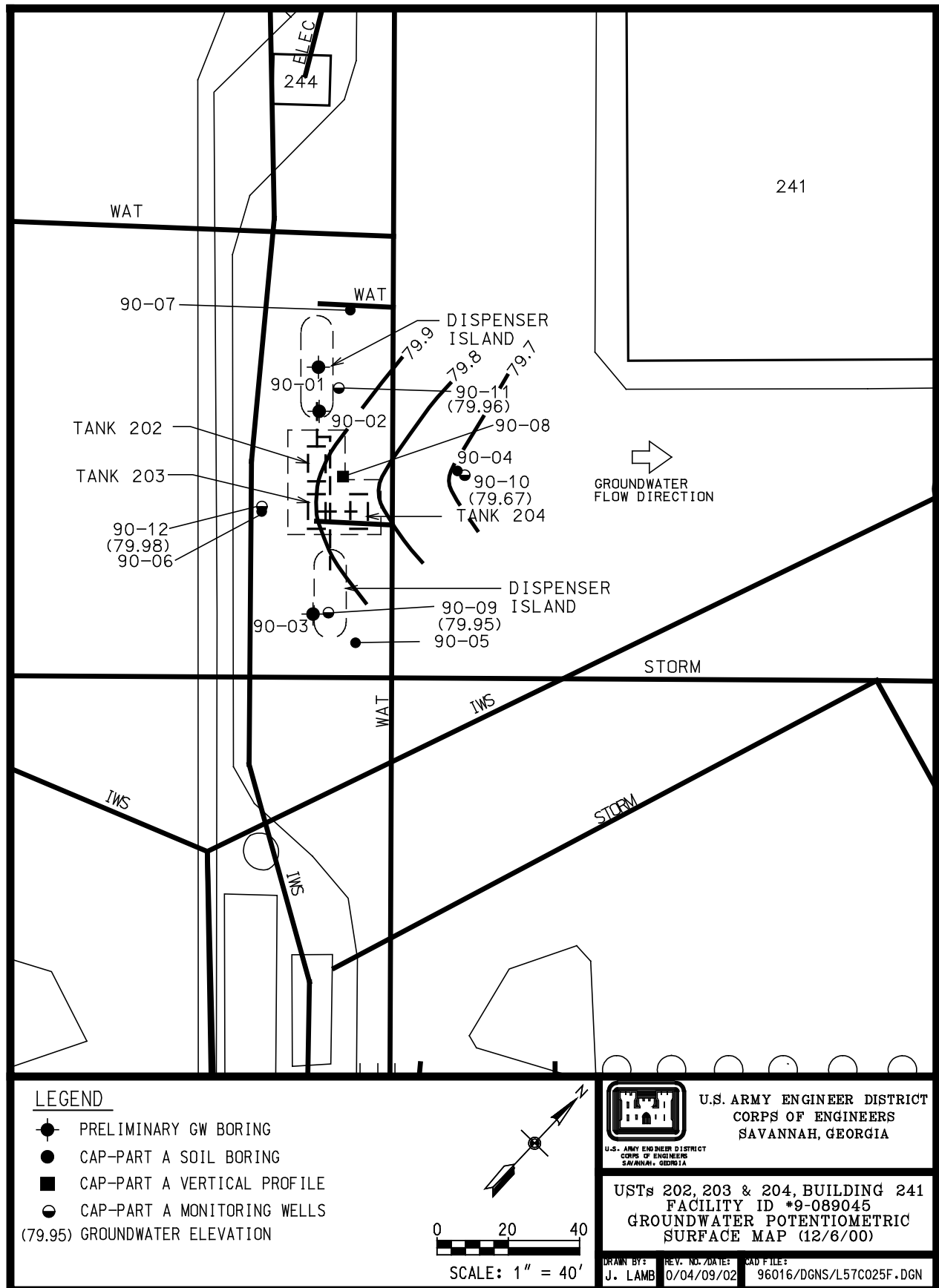


Figure 2a. Potentiometric Surface Map of the USTs 202, 203, & 204 Site (December 2000)

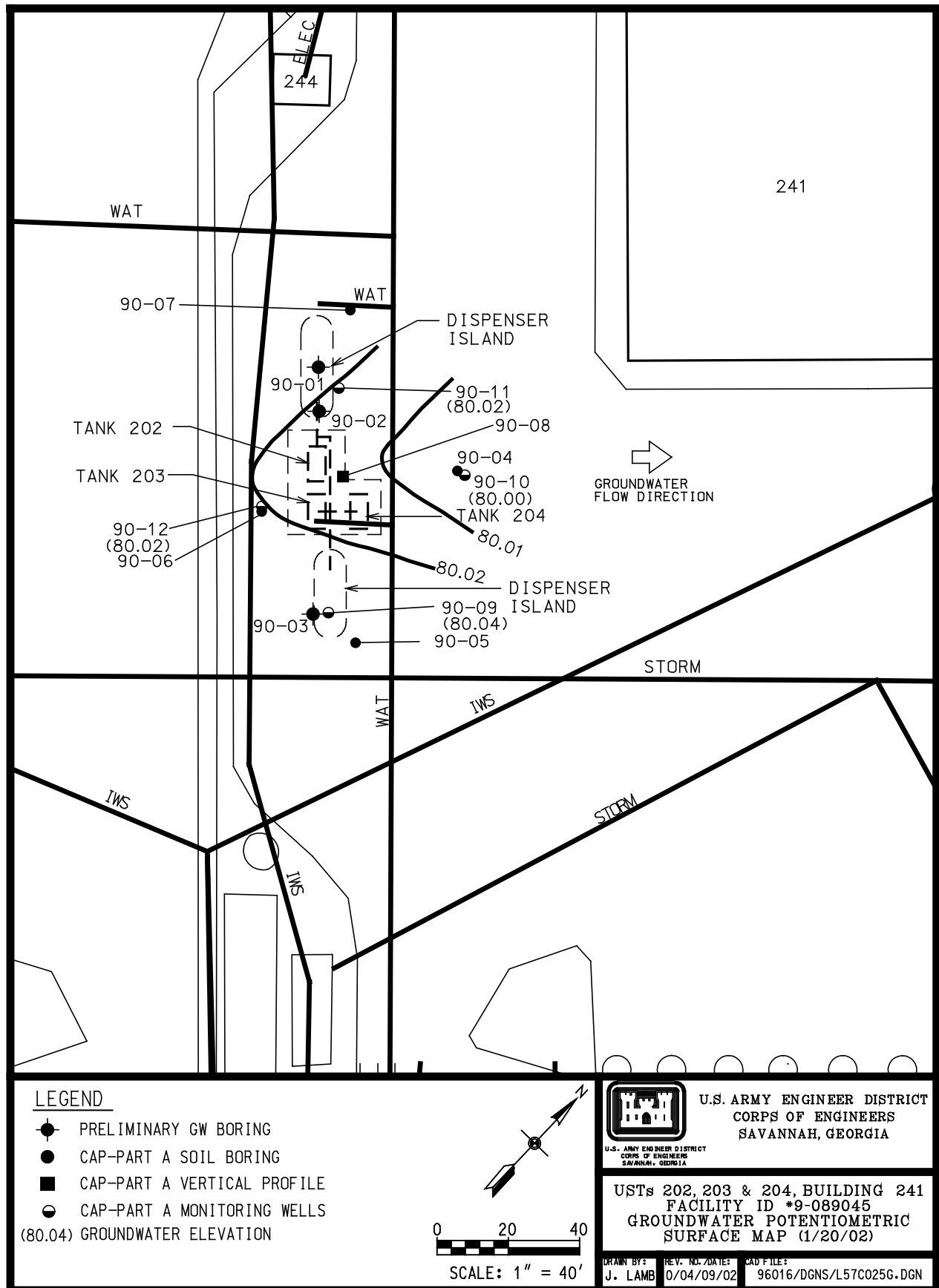


Figure 2b. Potentiometric Surface Map of the USTs 202, 203, & 204 Site (January 2002)

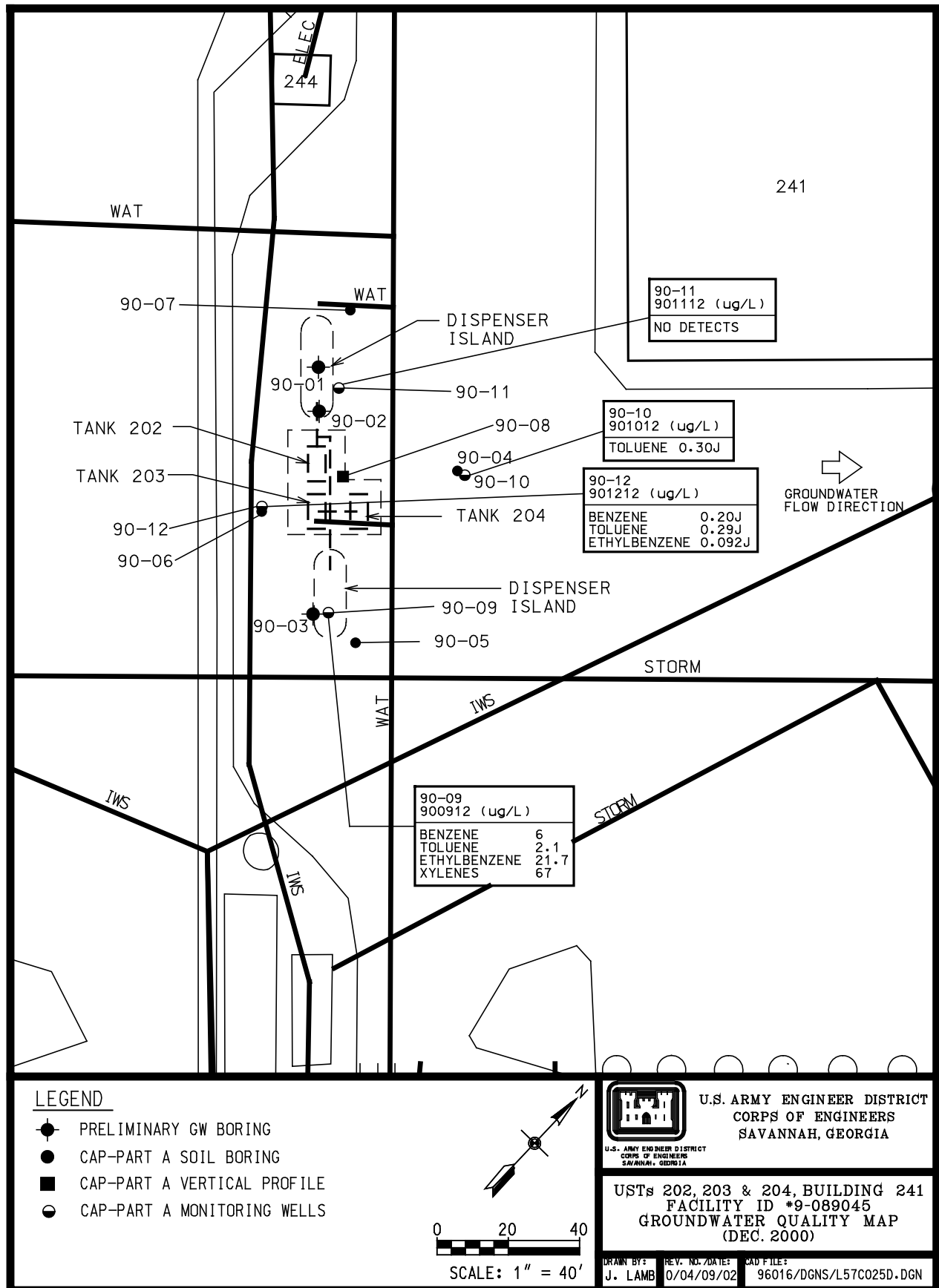


Figure 3a. Groundwater Quality Map for the USTs 202, 203, & 204 Site (December 2000)

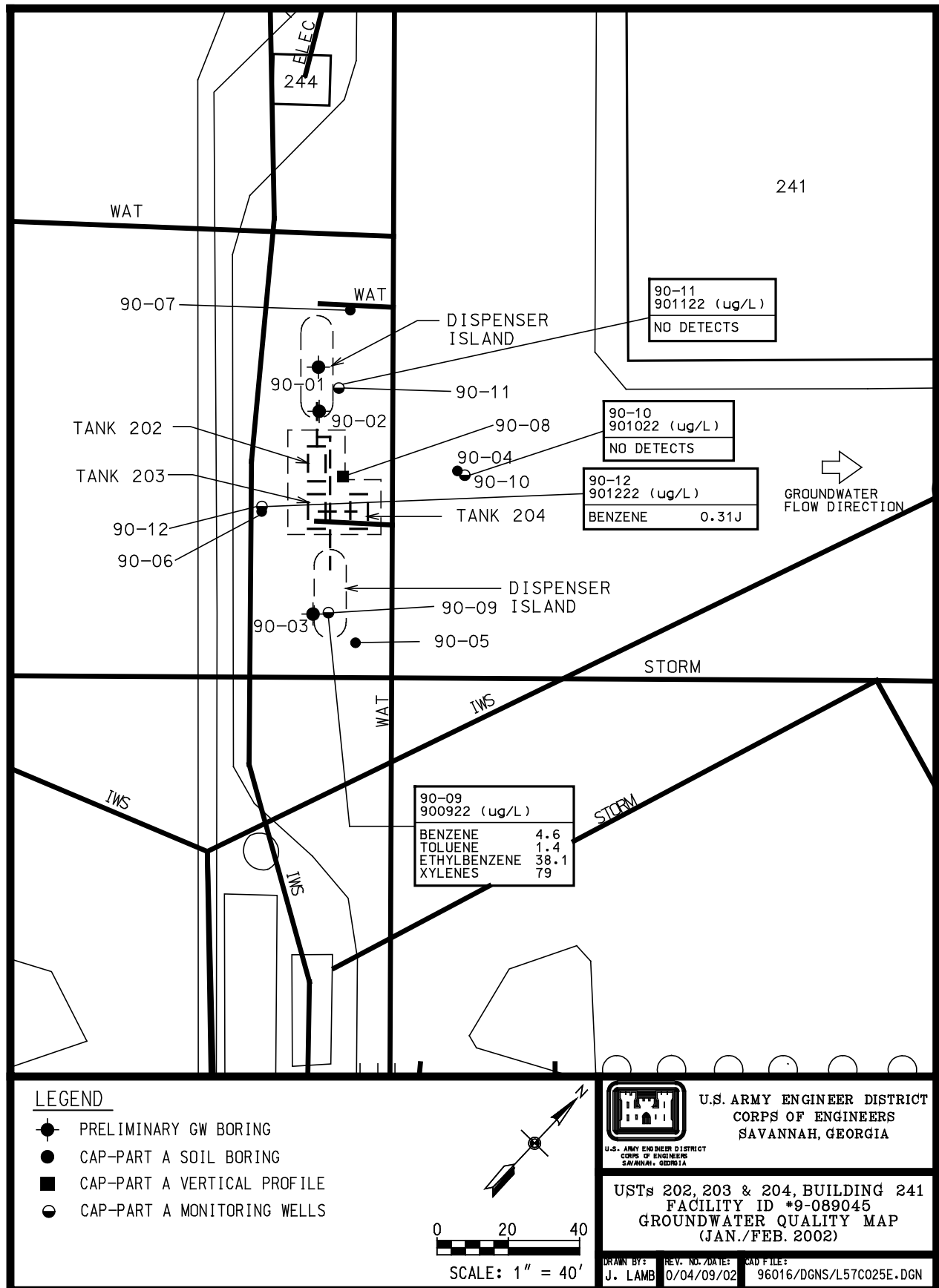


Figure 3b. Groundwater Quality Map for the USTs 202, 203, & 204 Site (January 2002)

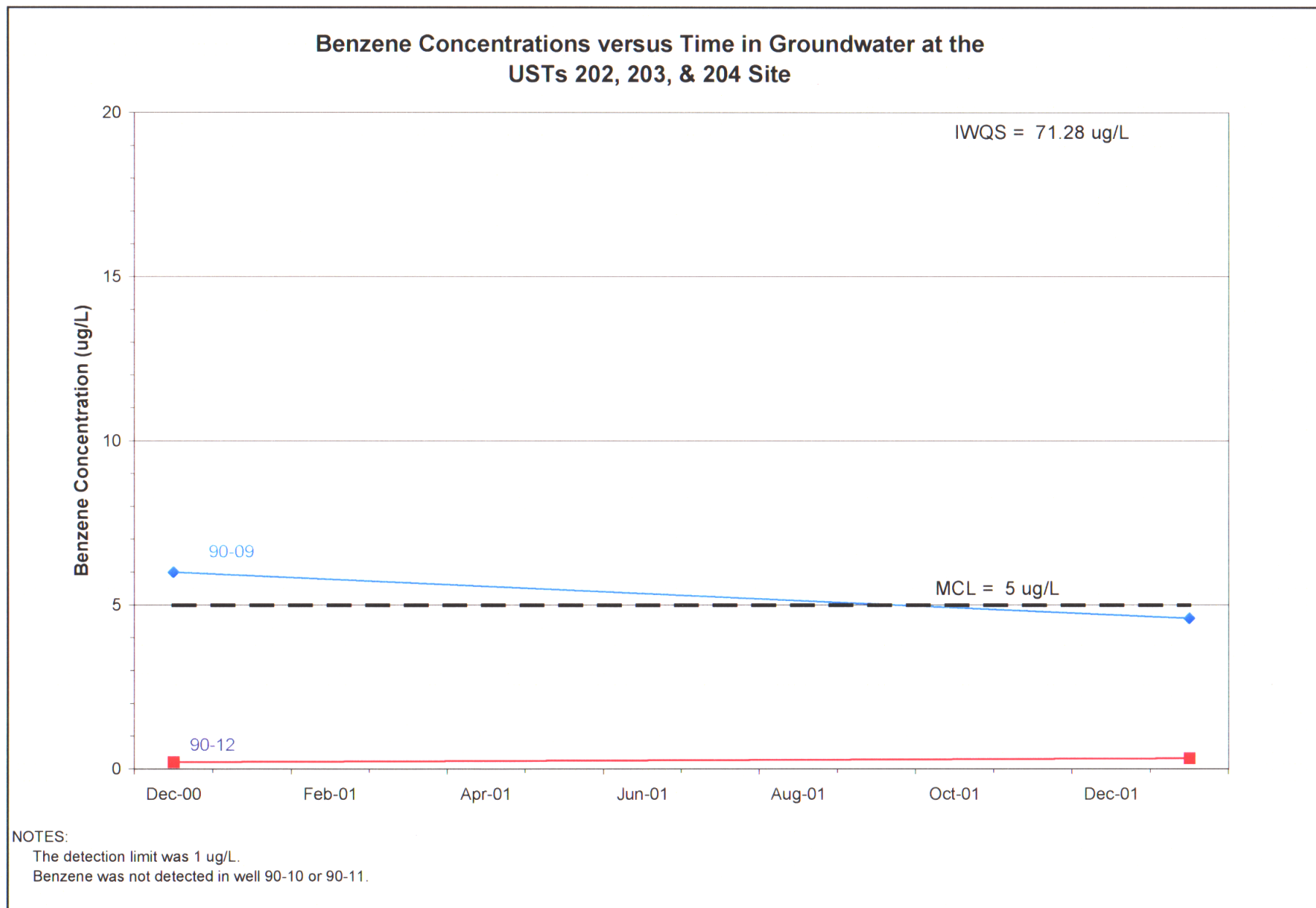


Figure 4. Trend of Contaminant Concentrations for the USTs 202, 203, & 204 Site

APPENDIX II

REPORT TABLES

Table 1. Groundwater Elevations

Well Number	Date Measured	Ground Surface Elevation (feet AMSL)	Top of Casing Elevation (feet AMSL)	Depth of Screened Interval (feet BGS)	Depth of Free Product (feet BTOC)	Water Depth (feet BTOC)	Product Thickness (feet)	Corrected Groundwater Elevation (feet AMSL)
<i>CAP-Part A Investigation – 1998</i>								
90-04	05/10/98	87.77	92.63	0.0 – 8.0	—	8.92	0	83.71
90-05	05/10/98	87.92	92.78	0.0 – 9.0	—	9.18	0	83.60
90-06	05/10/98	87.81	92.56	0.0 – 9.0	—	9.05	0	83.51
90-07	05/10/98	87.90	92.03	0.3 – 10.3	—	7.61	0	84.42
<i>CAP-Part A Investigation – 2000</i>								
90-09	12/06/00	87.98	87.76	2.0 – 9.9	—	7.81	0	79.95
90-10	12/06/00	87.78	87.55	2.1 – 9.9	—	7.88	0	79.67
90-11	12/06/00	87.86	87.63	1.5 – 11.3	—	7.67	0	79.96
90-12	12/06/00	87.79	87.60	2.1 – 10.9	—	7.62	0	79.98
<i>First Sampling Event – January/February 2002</i>								
90-09	01/20/02	87.98	87.76	2.0 – 9.9	—	7.72	0	80.04
90-10	01/20/02	87.78	87.55	2.1 – 9.9	—	7.55	0	80.00
90-11	01/20/02	87.86	87.63	1.5 – 11.3	—	7.61	0	80.02
90-12	01/20/02	87.79	87.60	2.1 – 10.9	—	7.58	0	80.02

NOTES:

AMSL Above mean sea level
BGS Below ground surface
BTOC Below top of casing
CAP Corrective Action Plan

Table 2. Groundwater Analytical Results

Sample Location	Sample ID	Screened Interval (feet BGS)	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Total BTEX (µg/L)
<i>CAP-Part A Investigation – 1998</i>								
90-01	904111	~5.0	02/04/98	5 U	5 U	5 U	4.4 J	4.4
90-02	904211	~5.0	02/04/98	5 U	5 UJ	2.7 J	5.1 J	7.8
90-03	904311	~5.0	02/04/98	16 J	21.9 J	60.4 =	256 =	354.3
90-04	900412	5.5	05/07/98	2 U	2 U	2 U	6 U	ND
90-05	900512	6.5	05/08/98	2 U	3.8 =	4 =	1.4 J	9.2
90-06	900612	2.5	05/08/98	2 U	3.9 =	2 U	6 U	3.9
90-07	900712	3.0	05/08/98	2 U	2 U	2 U	6 U	ND
<i>CAP-Part A Investigation – 2000</i>								
90-09	900912	2.0 – 9.9	12/05/00	6 =	2.1 =	21.7 =	67 =	96.8
90-10	901012	2.1 – 9.9	12/07/00	1 U	0.30 J	1 U	3 U	0.30
90-11	901112	1.5 – 11.3	12/05/00	1 U	1 U	1 U	3 U	ND
90-12	901212	2.1 – 10.9	12/05/00	0.20 J	0.29 J	0.092 J	3 U	0.582
<i>First Sampling Event – January/February 2002</i>								
90-09	900922	2.0 – 9.9	02/21/02	4.6 =	1.4 =	38.1 =	79 =	
90-10	901022	2.1 – 9.9	01/20/02	1 U	1 U	1 U	3 U	ND
90-11	901122	1.5 – 11.3	01/20/02	1 U	1 U	1 U	3 U	ND
90-12	901222	2.1 – 10.9	01/20/02	0.31 J	1 U	1 U	3 U	0.31
In-Stream Water Quality Standards (GA EPD Chapter 391-3-6)				71.28	200,000	28,718	NRC	NRC

NOTES:

BGS Below ground surface
BTEX Benzene, toluene, ethylbenzene, and xylenes
CAP Corrective Action Plan
GA EPD Georgia Environmental Protection Division
IWQS In-Stream Water Quality Standard
ND Not detected
NRC No regulatory criteria

Laboratory Qualifiers

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

**ANALYTICAL LABORATORY INFORMATION
AND
DATA VALIDATION CODES**

**STATE OF GEORGIA
ENVIRONMENTAL LABORATORY ACCREDITATION**

Name of Laboratory:	General Engineering Laboratories, Inc.
Address:	P.O. Box 30712 2040 Savage Road Charleston, SC 29407
Contact:	Bob Pullano or Wendy Dimmick
Telephone Number:	(843) 556-8171
Fax Number:	(843) 766-1178
#1 Accrediting Authority:	State of South Carolina
Accreditation Number:	SC-10120001
Effective Date:	Extension granted while recertification in process
Expiration Date:	—
Accreditation Scope:	SDWA, CWA, RCRA, CERCLA
#2 Accrediting Authority:	State of Florida
Accreditation Number:	E-87156
Effective Date:	July 1, 2001
Expiration Date:	June 30, 2002
Accreditation Scope:	SDWA, CWA, RCRA, CERCLA

DATA VALIDATION REASON CODES

Organic, Inorganic, and Radiological Analytical Data

Holding Times

- A01 Extraction holding times were exceeded.
- A02 Extraction holding times were grossly exceeded.
- A03 Analysis holding times were exceeded.
- A04 Analysis holding times were grossly exceeded.
- A05 Samples were not preserved properly.
- A06 Professional judgment was used to qualify the data.

GC/MS Tuning

- B01 Mass calibration was in error, even after applying expanded criteria.
- B02 Mass calibration was not performed every 12 hours.
- B03 Mass calibration did not meet ion abundance criteria.
- B04 Professional judgment was used to qualify the data.

Initial/Continuing Calibration – Organics

- C01 Initial calibration RRF was <0.05 .
- C02 Initial calibration RDS was $>30\%$.
- C03 Initial calibration sequence was not followed as required.
- C04 Continuing calibration RRF was <0.05 .
- C05 Continuing calibration %D was $>25\%$.
- C06 Continuing calibration was not performed at the required frequency.
- C07 Resolution criteria were not met.
- C08 RPD criteria were not met.
- C09 RDS criteria were not met.
- C10 Retention time of compounds was outside windows.
- C11 Compounds were not adequately resolved.
- C12 Breakdown of endrin or DDT was $>30\%$.
- C13 Combined breakdown of endrin/DDT was $>30\%$.
- C14 Professional judgment was used to qualify the data.

Initial/Continuing Calibration – Inorganics

- D01 ICV or CCV was not performed for every analyte.
- D02 ICV recovery was above the upper control limit.
- D03 ICV recovery was below the lower control limit.
- D04 CCV recovery was above the upper control limit.
- D05 CCV recovery was below the lower control limit.
- D06 Standard curve was not established with the minimum number of standards.
- D07 Instrument was not calibrated daily or each time the instrument was set up.
- D08 Correlation coefficient was <0.995 .
- D09 Mid-range cyanide standard was not distilled.
- D10 Professional judgment was used to qualify the data.

ICP and Furnace Requirements

- E01 Interference check sample recovery was outside the control limit.
- E02 Duplicate injections were outside the control limit.
- E03 Post-digestion spike recovery was outside the control limit.
- E04 MSA was required but not performed.
- E05 MSA correlation coefficient was <0.995 .
- E06 MSA spikes were not at the correct concentration.
- E07 Serial dilution criteria were not met.
- E08 Professional judgment was used to qualify the data.

Blanks

- F01 Sample data were qualified as a result of the method blank.
- F02 Sample data were qualified as a result of the field blank.
- F03 Sample data were qualified as a result of the equipment rinsate.
- F04 Sample data were qualified as a result of the trip blank.
- F05 Gross contamination exists.
- F06 Concentration of the contaminant was detected at a level below the CRQL.
- F07 Concentration of the contaminant was detected at a level less than the action limit, but greater than the CRQL.
- F08 Concentration of the contaminant was detected at a level that exceeded the action level.
- F09 No laboratory blanks were analyzed.
- F10 Blank had a negative value >2 times the IDL.
- F11 Blanks were not analyzed at required frequency.
- F12 Professional judgment was used to qualify the data.

Surrogate/Radiological Chemical Recovery

- G01 Surrogate/radiological chemical recovery was above the upper control limit.
- G02 Surrogate/radiological chemical recovery was below the lower control limit.
- G03 Surrogate recovery was $<10\%$.
- G04 Surrogate recovery was zero.
- G05 Surrogate/radiological chemical recovery data were not present.
- G06 Professional judgment was used to qualify the data.
- G07 Radiological chemical recovery was $<20\%$.
- G08 Radiological chemical recovery was $>150\%$.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

- H01 MS/MSD recovery was above the upper control limit.
- H02 MS/MSD recovery was below the lower control limit.
- H03 MS/MSD recovery was $<10\%$.
- H04 MS/MSD pairs exceeded the RPD limit.
- H05 No action was taken on MS/MSD limit.
- H06 Professional judgment was used to qualify the data.
- H07 Radiological MS/MSD recovery was $<20\%$.
- H08 Radiological MS/MSD recovery was $>160\%$.
- H09 Radiological MS/MSD samples were not analyzed at the required frequency.

Matrix Spike

- I01 MS recovery was above the upper control limit.
- I02 MS recovery was below the lower control limit.
- I03 MS recovery was <30%.
- I04 No action was taken on MS data.
- I05 Professional judgment was used to qualify the data.

Laboratory Duplicate

- J01 Duplicate RPD/radiological duplicate error ratio (DER) was outside the control limit.
- J02 Duplicate sample results were >5 times the CRDL.
- J03 Duplicate sample results were <5 times the CRDL.
- J04 Professional judgment was used to qualify the data.
- J05 Duplicate was not analyzed at the required frequency.

Internal Area Summary

- K01 Area counts were outside the control limits.
- K02 Extremely low area counts or performance was exhibited by a major drop-off.
- K03 IS retention time varied by more than 30 seconds.
- K04 Professional judgment was used to qualify the data.

Pesticide Cleanup Checks

- L01 10% recovery was obtained during either check.
- L02 Recoveries during either check were >120%.
- L03 GPC cleanup recoveries were outside the control limits.
- L04 Florisil cartridge cleanup recoveries were outside the control limits.
- L05 Professional judgment was used to qualify the data.

Target Compound Identification

- M01 Incorrect identifications were made.
- M02 Qualitative criteria were not met.
- M03 Cross contamination occurred.
- M04 Confirmatory analysis was not performed
- M05 No results were provided.
- M06 Analysis occurred outside 12-hour GC/MS window.
- M07 Professional judgment was used to qualify the data.
- M08 The %D between the two pesticide/PCB column checks was >25%.

Compound Quantitation and Reported CRQLs

- N01 Quantitation limits were affected by large off-scale peaks.
- N02 MDLs reported by the laboratory exceeded corresponding CRQLs.
- N03 Professional judgment was used to qualify the data.

Tentatively Identified Compounds (TICs)

- O01 Compound was suspected laboratory contaminant and was not detected in the blank.
- O02 TIC result was not above 10 times the level found in the blank.
- O03 Professional judgment was used to qualify analytical data.

Laboratory Control Samples (LCSs)

- P01 LCS recovery was above the upper control limit.
- P02 LCS recovery was below the lower control limit.
- P03 LCS recovery was <50%.
- P04 No action was taken on the LCS data.
- P05 LCS was not analyzed at the required frequency.
- P06 Radiological LCS recovery was <50% for aqueous samples, <40% for solid samples.
- P07 Radiological LCS recovery was >150% for aqueous samples, >160% for solid samples.
- P08 Professional judgment was used to qualify the data.

Field Duplicate

- Q01 Field duplicate RPDs were >30% for water and/or >50% for soil.
- Q02 Radiological field duplicate error ratio (DER) was outside the control limit.
- Q03 Duplicate sample results were >5 times the CRDL.
- Q04 Duplicate sample results were <5 times the CRDL.

Radiological Calibration

- R01 Efficiency calibration criteria were not met.
- R02 Energy calibration criteria were not met.
- R03 Resolution calibration criteria were not met.
- R04 Background determination criteria were not met.
- R05 Quench curve criteria were not met.
- R06 Absorption curve criteria were not met.
- R07 Plateau curve criteria were not met.
- R08 Professional judgment was used to qualify the data.

Radiological Calibration Verification

- S01 Efficiency verification criteria were not met.
- S02 Energy verification criteria were not met.
- S03 Resolution verification criteria were not met.
- S04 Background verification criteria were not met.
- S05 Cross-talk verification criteria were not met.
- S06 Professional judgment was used to qualify the data.

FIRST MONITORING EVENT
JANUARY/FEBRUARY 2002

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

900922

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 56517

Matrix: (soil/water) WATER Lab Sample ID: 56517001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 5Z220

Level: (low/med) LOW Date Received: 02/22/02

% Moisture: not dec. Date Analyzed: 03/05/02

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	4.6	
108-88-3-----	Toluene	1.4	
100-41-4-----	Ethylbenzene	38.1	
1330-20-7-----	Xylenes (total)	79.0	

DATA VALIDATION
COPY

FORM I VOA

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

901022

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 54912

Matrix: (soil/water) WATER Lab Sample ID: 54912003

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 7U310

Level: (low/med) LOW Date Received: 01/21/02

% Moisture: not dec. _____ Date Analyzed: 01/30/02

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	1.0	U	
108-88-3-----Toluene	<i>1.0</i> 0.71	JB	<i>u</i> <i>F01, F06</i> <i>u</i> <i>u</i>
100-41-4-----Ethylbenzene	1.0	U	
1330-20-7-----Xylenes (total)	3.0	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

901122

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 54912

Matrix: (soil/water) WATER Lab Sample ID: 54912002

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 7U309

Level: (low/med) LOW Date Received: 01/21/02

% Moisture: not dec. _____ Date Analyzed: 01/30/02

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		1.0	U	4
108-88-3-----Toluene	1.0	0.73	JB	U F01, F06
100-41-4-----Ethylbenzene		1.0	U	4
1330-20-7-----Xylenes (total)		3.0	U	4

FORM I VOA

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

901222

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 54912

Matrix: (soil/water) WATER Lab Sample ID: 54912001

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 7U308

Level: (low/med) LOW Date Received: 01/21/02

% Moisture: not dec. _____ Date Analyzed: 01/30/02

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	1.0	0.31	J	
108-88-3-----Toluene		0.87	JB	
100-41-4-----Ethylbenzene		1.0	U	
1330-20-7-----Xylenes (total)		3.0	U	

J
U Fo1, Fo2
U
U



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COC NO.: GLTM26

[illegible]



CHAIN OF CUSTODY RECORD

COC NO.: GLT M27

[illegible]

APPENDIX IV
SITE RANKING FORM

SITE RANKING FORM

Facility Name: USTs 202, 203, 204, Building 241

Ranked by: S. Stoller

County: Liberty Facility ID #: 9-089045

Date Ranked: 3/28/02

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

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 = 500
- ☐ >10,000 µg/L = 1500

* Sample 900922 (February 2002)

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

Facility Name: USTs 202, 203, 204, Building 241 County: Liberty Facility ID #: 9-089045

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' - 1/4 mi = 25
☐ 1/4 mi - 1 mi = 10
☐ >1 mi - 2 mi = 2

* ☒ > 2 mi = 0

For lower susceptibility areas only:

- ☐ >1 mi = 0

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

* For justification that withdrawal point is not hydraulically connected, see page IV-4.

I. Non-Public Water Supply

- ☐ Impacted = 1000
☐ <100' = 500
☐ >100' - 500' = 25
☐ >500' - 1/4 mi = 5
☐ >1/4 - 1/2 mi = 2

☒ >1/2 mi = 0

For lower susceptibility areas only:

- ☐ >1/4 mi = 0

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

- ☐ Impacted = 500
☒ <500' = 50
☐ >500' - 1,000' = 5
☐ >1,000' = 2

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. 0) x (L. 50) = M. 0

(M. 0) + (D. 0) = N. 0

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

= 0 (Jan. 2002 – First Monitoring Event)
ENVIRONMENTAL SENSITIVITY SCORE

ADDITIONAL GEOLOGIC AND HYDROGEOLOGIC DATA

The following information is presented to provide supplemental information to Item H of the Site Ranking Form and give detailed information relating to the geologic and hydrogeologic conditions at Fort Stewart that support 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 below ground surface (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 were 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 predominantly 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 (Floridan) Aquifer and the surficial aquifer. 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 feet 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 feet 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 feet to 50 feet BGS; thus, the effective aquifer thickness would be approximately 35 feet 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 feet 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 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 underground storage tank (UST) investigation sites is part of the surficial aquifer system. Based on the fact that all public and nonpublic water supply wells draw water from the Principal Artesian (Floridan) Aquifer and that the Hawthorn confining unit separates the Principal Artesian 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 the former UST sites and identified water supply withdrawal points at Fort Stewart.

3.0 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 and Miller 1993. *RCRA Facility Investigation Work Plan, Fort Stewart, Georgia*.
- Herrick, S.M., and R.C. Vochis 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.

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 A

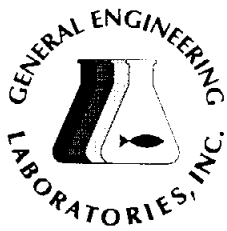
REFERENCES

REFERENCES

- Logan, William E., 2001. Letter to Gregory Stanley (Fort Stewart Directorate of Public Works, Environmental Branch) providing comments on the Corrective Action Plan–Part A Addendum #2 Report, November 21.
- McAllister, A.J., 1999a. Letter to John Spears (Fort Stewart Directorate of Public Works, Environmental Branch) providing comments on the Corrective Action Plan–Part A Report, March 22.
- McAllister, A.J., 1999b. Letter to John Spears (Fort Stewart Directorate of Public Works, Environmental Branch) providing comments on the Corrective Action Plan–Part A Addendum Report, June 16.
- SAIC (Science Applications International Corporation) 1998. *Corrective action Plan–Part A Report for Underground Storage Tanks 202, 203, & 204, Facility ID #9-089045, Building 241, Fort Stewart, Georgia*, December.
- SAIC 1999. *Corrective Action Plan–Part A Addendum Report for Underground Storage Tanks 202, 203, & 204, Facility ID #9-089045, Building 241, Fort Stewart, Georgia*, March.
- SAIC 2001. *Corrective Action Plan–Part A Addendum #2 Report for Underground Storage Tanks 202, 203, & 204, Facility ID #9-089045, Building 241, Fort Stewart, Georgia*, March.

ATTACHMENT B

CERTIFICATES OF ANALYSIS



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Certificate of Analysis

Company : SAIC
Address : 151 Lafayette Drive
Oak Ridge, Tennessee 37831

Contact: Leslie Barbour
Project: Ft. Stewart Long Term Monitoring

Report Date: March 26, 2002

Page 1 of 2

Client Sample ID: 901022
Sample ID: 54912003
Matrix: Water
Collect Date: 20-JAN-02
Receive Date: 21-JAN-02
Collector: Client

Project: SAIC03902
Client ID: SAIC038

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatiles Federal											
<i>5035/8260B BTEX in Liquid Federal</i>											
Benzene	U	ND	0.280	1.00	ug/L	1	TLW	01/30/02	2246	133450	1
Ethylbenzene	U	ND	0.170	1.00	ug/L	1					
Toluene	J	0.710	0.170	1.00	ug/L	1					
Xylenes (total)	U	ND	0.310	3.00	ug/L	1					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 8260B	8260B Volatiles In Liquid Federal	TLW	01/30/02	2246	133450

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate recovery	Test	Recovery %	Acceptable Limits
Bromofluorobenzene	5035/8260B BTEX in Liquid Federal	110%	(58%-137%)
Dibromofluoromethane	5035/8260B BTEX in Liquid Federal	106%	(56%-134%)
Toluene-d8	5035/8260B BTEX in Liquid Federal	102%	(52%-134%)

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- < Actual result is less than amount reported
- > Actual result is greater than amount reported
- B Analyte found in the sample as well as the associated blank.
- E Concentration exceeds instrument calibration range
- H Holding time exceeded
- J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
- U Indicates the compound was analyzed for but not detected above the detection limit
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier - must be fully described in case narrative and data summary package

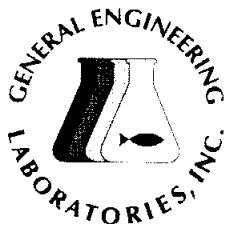
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Page 2 of 2

Client Sample ID: 901022
Sample ID: 54912003

Project: SAIC03902
Client ID: SAIC038

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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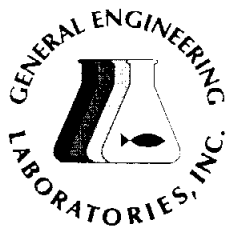
Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Valerie Davis

Reviewed by





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Page 1 of 2

Client Sample ID: 901122
Sample ID: 54912002
Matrix: Water
Collect Date: 20-JAN-02
Receive Date: 21-JAN-02
Collector: Client

Project: SAIC03902
Client ID: SAIC038

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics Federal											
<i>5035/8260B BTEX in Liquid Federal</i>											
Benzene	U	ND	0.280	1.00	ug/L	1	TLW	01/30/02	2217	133450	1
Ethylbenzene	U	ND	0.170	1.00	ug/L	1					
Toluene	J	0.733	0.170	1.00	ug/L	1					
Xylenes (total)	U	ND	0.310	3.00	ug/L	1					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 8260B	8260B Volatiles In Liquid Federal	TLW	01/30/02	2217	133450

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate recovery	Test	Recovery %	Acceptable Limits
Bromofluorobenzene	5035/8260B BTEX in Liquid Fede	113%	(58%-137%)
Dibromofluoromethane	5035/8260B BTEX in Liquid Fede	109%	(56%-134%)
Toluene-d8	5035/8260B BTEX in Liquid Fede	105%	(52%-134%)

Notes:

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- < Actual result is less than amount reported
- > Actual result is greater than amount reported
- B Analyte found in the sample as well as the associated blank.
- E Concentration exceeds instrument calibration range
- H Holding time exceeded
- J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
- U Indicates the compound was analyzed for but not detected above the detection limit
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier - must be fully described in case narrative and data summary package

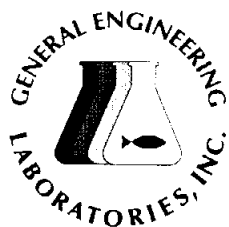
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Page 2 of 2

Client Sample ID: 901122
Sample ID: 54912002

Project: SAIC03902
Client ID: SAIC038

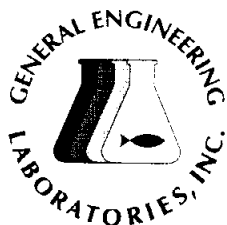
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Project: Ft. Stewart Long Term Monitoring

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Page 1 of 2

Client Sample ID: 901222
Sample ID: 54912001
Matrix: Water
Collect Date: 20-JAN-02
Receive Date: 21-JAN-02
Collector: Client
Project: SAIC03902
Client ID: SAIC038

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatiles Organics Federal											
<i>5035/8260B BTEX in Liquid Federal</i>											
Benzene	J	0.311	0.280	1.00	ug/L	1	TLW	01/30/02	2148	133450	1
Ethylbenzene	U	ND	0.170	1.00	ug/L	1					
Toluene	J	0.872	0.170	1.00	ug/L	1					
Xylenes (total)	U	ND	0.310	3.00	ug/L	1					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 8260B	8260B Volatiles In Liquid Federal	TLW	01/30/02	2148	133450

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate recovery	Test	Recovery %	Acceptable Limits
Bromofluorobenzene	5035/8260B BTEX in Liquid Federal	109%	(58%-137%)
Dibromofluoromethane	5035/8260B BTEX in Liquid Federal	110%	(56%-134%)
Toluene-d8	5035/8260B BTEX in Liquid Federal	101%	(52%-134%)

Notes:

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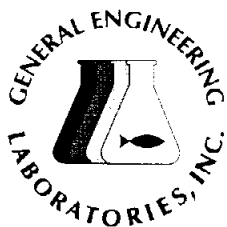
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Report Date: March 26, 2002

Page 2 of 2

Client Sample ID: 901222
Sample ID: 54912001

Project: SAIC03902
Client ID: SAIC038

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
-----------	-----------	--------	----	----	-------	----	---------	------	------	-------	--------

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Valerie Davis

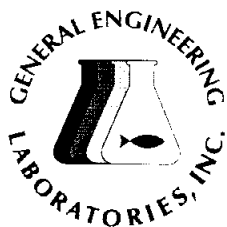
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Report Date: March 26, 2002

Page 1 of 2

Client Sample ID: TB5522
Sample ID: 54912004
Matrix: Water
Collect Date: 20-JAN-02
Receive Date: 21-JAN-02
Collector: Client

Project: SAIC03902
Client ID: SAIC038

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics Federal											
5035/8260B BTEX in Liquid Federal											
Benzene	U	ND	0.280	1.00	ug/L	1	TLW	01/29/02	2231	133450	1
Ethylbenzene	U	ND	0.170	1.00	ug/L	1					
Toluene	J	0.241	0.170	1.00	ug/L	1					
Xylenes (total)	U	ND	0.310	3.00	ug/L	1					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 8260B	8260B Volatiles In Liquid Federal	TLW	01/29/02	2231	133450

The following Analytical Methods were performed

Method	Description	Analyst Comments
I	SW846 8260B	

Surrogate recovery	Test	Recovery %	Acceptable Limits
Bromofluorobenzene	5035/8260B BTEX in Liquid Fede:	112%	(58%-137%)
Dibromofluoromethane	5035/8260B BTEX in Liquid Fede:	104%	(56%-134%)
Toluene-d8	5035/8260B BTEX in Liquid Fede:	103%	(52%-134%)

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- < Actual result is less than amount reported
- > Actual result is greater than amount reported
- B Analyte found in the sample as well as the associated blank.
- E Concentration exceeds instrument calibration range
- H Holding time exceeded
- J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
- U Indicates the compound was analyzed for but not detected above the detection limit
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier - must be fully described in case narrative and data summary package

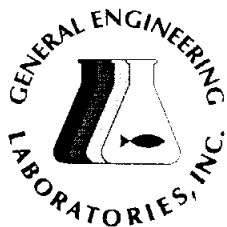
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Contact: Leslie Barbour
Project: Ft. Stewart Long Term Monitoring

Report Date: March 26, 2002

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Client Sample ID: TB5522
Sample ID: 54912004

Project: SAIC03902
Client ID: SAIC038

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Valerie Davis

Reviewed by





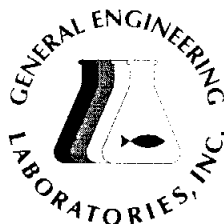
An Employee-Owned Company
Science Applications International Corporation

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

CHAIN OF CUSTODY RECORD

COC NO.: GLTH26

PROJECT NAME: Ft. Stewart Long Term Monitoring				REQUESTED PARAMETERS												LABORATORY NAME: General Engineering Laboratory							
PROJECT NUMBER: 01-1622-04-2725-240																LABORATORY ADDRESS: 2040 Savage Road Charleston, SC 29417							
PROJECT MANAGER: Patty Stoll																PHONE NO: (843) 556-8171							
Sampler (Signature) <i>Virginia H. H. H.</i>				OVA SCREENING												OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS							
Sample ID				Date Collected		Time Collected		Matrix		BTEX		No. of Bottles / Vials											
901222				1-20-02		1600		W		X		2											
901122				1-20-02		1516		W		X		2											
901422				1-20-02		1550		W		X		2											
TB5522				1-20-02		0830		W		X		2											
751132				1-20-02		1217		W		X		2											
751332				1-20-02		1140		W		X		2											
751232				1-20-02		1050		W		X		2											
370952				1-20-02		1610		W		X		2											
370754				1-20-02		1555		W		X		2											
370752				1-20-02		1555		W		X		2											
370652				1-20-02		1620		W		X		2											
				1/21/02																			
RELINQUISHED BY: <i>Virginia H. H. H.</i>				Date/Time 1-21-02		Time Collected 1220		Matrix W		BTEX X		TOTAL NUMBER OF CONTAINERS: 22											
COMPANY NAME: GREG/SAR				Date/Time 1-21-02		Time Collected 1220		Matrix W		BTEX X		Cooler ID:											
RELINQUISHED BY: <i>Greg/SAR</i>				Date/Time 1-21-02		Time Collected 1220		Matrix W		BTEX X		Cooler Temperature: 3°											
COMPANY NAME: GREG/SAR				Date/Time 1-21-02		Time Collected 1220		Matrix W		BTEX X		FEDEX NUMBER:											
RELINQUISHED BY: <i>Greg/SAR</i>				Date/Time 1-21-02		Time Collected 1220		Matrix W		BTEX X		ORIGINAL COC LOCATED											
COMPANY NAME: GREG/SAR				Date/Time 1-21-02		Time Collected 1220		Matrix W		BTEX X		IN SECOND ANNUAL											
RELINQUISHED BY: <i>Greg/SAR</i>				Date/Time 1-21-02		Time Collected 1220		Matrix W		BTEX X		MONITORING ONLY REPORT											
COMPANY NAME: GREG/SAR				Date/Time 1-21-02		Time Collected 1220		Matrix W		BTEX X		FOR UST 94A											



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Contact: Leslie Barbour
Project: Ft. Stewart Long Term Monitoring

Report Date: April 11, 2002

Page 1 of 2

Client Sample ID: 900922
Sample ID: 56517001
Matrix: Water
Collect Date: 21-FEB-02
Receive Date: 22-FEB-02
Collector: Client

Project: SAIC03902
Client ID: SAIC038

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics Federal											
5035/8260B BTEX in Liquid Federal											
Benzene		4.62	0.280	1.00	ug/L	1	CDS1	03/05/02	1558	146329	1
Ethylbenzene		38.1	0.170	1.00	ug/L	1					
Toluene	B	1.43	0.170	1.00	ug/L	1					
Xylenes (total)		79.0	0.310	3.00	ug/L	1					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 8260B	8260B Volatiles In Liquid Federal	CDS1	03/05/02	1558	146329

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate recovery	Test	Recovery%	Acceptable Limits
Bromofluorobenzene	5035/8260B BTEX in Liquid Federal	101%	(58%-137%)
Dibromofluoromethane	5035/8260B BTEX in Liquid Federal	108%	(56%-134%)
Toluene-d8	5035/8260B BTEX in Liquid Federal	111%	(52%-134%)

Notes:

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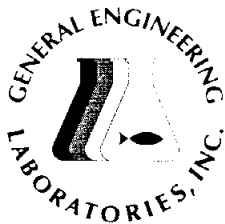
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Page 2 of 2

Client Sample ID: 900922
Sample ID: 56517001

Project: SAIC03902
Client ID: SAIC038

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
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Reviewed by

Valerie Davis

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[illegible]