FINAL

IMA

THIRD ANNUAL MONITORING ONLY REPORT

3d Inf Div (Mech)

Underground Storage Tank 82
Facility ID #9-089029
Building 1281
Fort Stewart, Georgia

Prepared for

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT

Contract No. DACA21-02-D-0004
Delivery Order 0044

January 2007

SAIC
From Science to Solutions

06-044(E)/010507

FINAL

THIRD ANNUAL MONITORING ONLY REPORT
FOR
UNDERGROUND STORAGE TANK 82
FACILITY ID #9-089029
BUILDING 1281
FORT STEWART, GEORGIA

Prepared for

U.S. Army Corps of Engineers, Savannah District
and
Fort Stewart Directorate of Public Works
Under Contract Number DACA21-02-D-0004
Delivery Order 0044

Prepared by

Science Applications International Corporation
151 Lafayette Drive
Oak Ridge, TN 37830

January 2007

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List of Abbreviations and Acronyms

ACL	alternate concentration limit
BTEX	benzene, toluene, ethylbenzene, and xylene
CAP	Corrective Action Plan
EPA	U. S. Environmental Protection Agency
F&T	fate and transport
GA EPD	Georgia Environmental Protection Division
IWQS	In-Stream Water Quality Standard
MCL	maximum contaminant level
NFAR	no further action required
PAH	polynuclear aromatic hydrocarbon
USACE	U. S. Army Corps of Engineers
UST	underground storage tank
USTMP	Underground Storage Tank Management Program

MONITORING ONLY REPORT

Submittal Date: January 2007 Monitoring Report Number: 3rd Annual

For Period Covering: July 2004 to July 2005

Facility Name: UST 82, Building 1281 Street Address: McFarland Avenue between Divarty Avenue and W. 8th Street

Facility ID: 9-089029 City: Fort Stewart County: Liberty Zip Code: 31314

Latitude: 32° 16′ 03″ Longitude: 82° 05′ 08″

Submitted by UST Owner/Operator:		Prepared by Consultant/Contractor:	
Name:	Thomas C. Fry/ Environmental Branch	Name:	Patricia A. Stoll
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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: 1/8/07

1/8/07
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 Underground Storage Tank (UST) 82, Facility ID #9-089029, was located near Building 1281 at Fort Stewart, Georgia. The tank and piping were excavated and removed on February 15, 1995. Science Applications International Corporation performed a Corrective Action Plan (CAP)–Part A investigation in 1996 and a CAP–Part B investigation in 1997 and 1998 to determine the extent of petroleum contamination at the site. Seven monitoring wells and five soil borings were installed during these investigations. The CAP–Part B Report was submitted in March 1999 and recommended semiannual monitoring of four monitoring wells: 32-07, 32-08, 32-10, and 32-11 (SAIC 1999a).

The fate and transport (F&T) modeling performed as part of the CAP–Part B Report reflected a continuous source of contamination. The results were summarized in the First Annual Monitoring Only Report (SAIC 1999b), and a summary is also presented in Attachment A of this document. Upon completion of the fourth semiannual monitoring event in June 2000, the F&T modeling results were revised using the results from the semiannual monitoring events to calibrate the model. Based on the revised F&T modeling results presented in Attachment A, the benzene alternate concentration limit (ACL) would be infinity at the drainage ditch. To be conservative, a storm drain located 100 ft downgradient of the site and above the water table was considered the closest receptor in the revised F&T modeling; therefore, the site-specific remedial level for benzene was revised to use the dilution attenuation factor at the storm drain, resulting in a revised benzene ACL of 1,990 µg/L. During the last 2 years of semiannual sampling, the benzene concentrations at the site have been below the revised ACL.

As recommended in the First Annual Monitoring Only Report, a soil boring (32-13) was installed in the vicinity of well 32-08, the location of the highest soil concentrations, and a soil sample was collected from the boring and analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) and polynuclear aromatic hydrocarbons (PAHs). The analytical data from this boring were provided in the Second Annual Monitoring Only Report (SAIC 2000a) and are summarized in Table 3. The soil sample collected from soil boring 32-13, which is adjacent to well 32-08, indicated that BTEX constituents are present in the soil above the soil/water interface at concentrations above the soil threshold levels (Table A, Column 2 of Georgia UST Rule 391-5-15). These soil data will supercede all previous soil data in the Site Ranking Form.

A request for no-further-action-required (NFAR) status was made in the Second Annual Monitoring Only Report because the benzene concentrations were below the ACL and the plume was not expanding. The Georgia Environmental Protection Division (GA EPD) Underground Storage Tank Management Program (USTMP) responded with comments in correspondence dated August 31, 2001 (Logan 2001), and the request for NFAR status was denied due to the presence of free product and no significant decline in benzene concentrations.

The site was returned to the monitoring only program in July 2004. The site was not sampled in January 2005 because Fort Stewart had planned on excavating the former tank pit area. Due to funding limitations, the former tank pit area has not been excavated. The

U. S. Army Corps of Engineers (USACE) sampled the site in July 2005. This document summarizes the results of the July 2004 and July 2005 sampling events.

III. ACTIVITIES AND ASSESSMENT OF EXISTING CONDITIONS

A. Potentiometric Data:

(Appendix I, Figure 2: Potentiometric Surface Map)
(Appendix II, Table 1: Groundwater Elevations)

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

Free product was initially observed in well 32-08 in December 1998 during the CAP–Part B investigation. The absorbent socks have been removed and replaced during the monitoring program, as described in Table 1.

During the fifth sampling event in July 2004, groundwater elevations were measured in all of the monitoring wells to determine the groundwater flow direction. In July 2004, the groundwater flow direction was toward the south, and the groundwater gradient was approximately 0.0066 ft/ft. Free product was present in well 32-08 in July 2004 at a thickness of 0.3 ft (3.6 in.).

During the sixth sampling event in July 2005, groundwater elevations were measured in all of the monitoring wells to determine the groundwater flow direction. In July 2005, the groundwater flow direction was toward the south, and the groundwater gradient was approximately 0.0059 ft/ft. Free product not observed in any of the wells in July 2005.

B. Analytical Data:

(Appendix I, Figure 3: Groundwater Quality Map)
(Appendix I, Figure 4: Trend of Contaminant Concentrations)
(Appendix II, Table 2: Groundwater Analytical Results)
(Appendix II, Table 3: Soil Analytical Results)
(Appendix III: Laboratory Analytical Results)

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

During the fifth sampling event in July 2004, monitoring wells 32-07, 32-08, 32-10, and 32-11 were sampled, and the samples were analyzed for BTEX using U. S. Environmental Protection Agency (EPA) Method 8021B/8260B. Analytical results from the fifth sampling event are summarized below.

- Benzene was detected in two of four groundwater samples at concentrations of 377 µg/L (32-07) and 252 µg/L (37-08). Both of these concentrations exceeded the In-Stream Water Quality Standard (IWQS), but did not exceed the ACL.

- Toluene was detected in two of four groundwater samples at concentrations of 526 µg/L (32-07) and 1,070 µg/L (37-08). The concentrations did not exceed the IWQS.

- Ethylbenzene was detected in two of four groundwater samples at concentrations of 101 µg/L (32-07) and 160 µg/L (37-08). The concentrations did not exceed the IWQS.

- Total xylenes were detected in two of four groundwater samples at concentrations of 367 µg/L (32-07) and 743 µg/L (37-08). The concentrations did not exceed the maximum contaminant level (MCL).

The benzene concentrations in wells 32-07 and 32-08 were below the ACL of 1,990 µg/L. None of the other constituents exceeded the respective IWQS. Figure 4 shows the variations in benzene concentrations in groundwater for the wells in the monitoring only program.

During the sixth sampling event in July 2005, monitoring wells 32-07, 32-08, 32-10, and 32-11 were sampled by USACE, and the samples were analyzed for BTEX and naphthalene using EPA Method 8021B/8260B. Analytical results from the sixth sampling event are summarized below.

- Benzene was detected in two of four groundwater samples at concentrations of 329 µg/L (32-07) and 154 µg/L (37-08). Both of these concentrations exceeded the IWQS, but did not exceed the ACL.

- Toluene was detected in two of four groundwater samples at concentrations of 513 µg/L (32-07) and 787 µg/L (37-08). The concentrations did not exceed the IWQS.

- Ethylbenzene was detected in two of four groundwater samples at concentrations of 96.2 µg/L (32-07) and 154 µg/L (37-08). The concentrations did not exceed the IWQS.

- Total xylenes were detected in two of four groundwater samples at concentrations of 433 µg/L (32-07) and 833 µg/L (37-08). The concentrations did not exceed MCL.

- Naphthalene was detected in two of four groundwater samples at concentrations of 121 µg/L (32-07) and 168 µg/L (37-08). There is no IWQS or ACL for this constituent.

The benzene concentrations in wells 32-07 and 32-08 were below the ACL of 1,990 µg/L. None of the other constituents exceeded the respective IWQS. Figure 4 shows the variations in benzene concentrations in groundwater for the wells in the monitoring only program.

As recommended in the First Annual Monitoring Only Report, PAH analysis was discontinued for the site beginning with the second semiannual sampling event in July 1999.

IV. SITE RANKING (Note: Re-Rank Site After Each Monitoring Event.)

(Appendix IV: Site Ranking Form)

Environmental Site Sensitivity Score:
(April 1999 version of the Site Ranking Form was used for January 2000 score.)

3,250 (Jan. 1999 – First Monitoring Event)
15,750 (July 1999 – Second Monitoring Event)
25,100 (Jan. 2000 – Third Monitoring Event)
15,100 (June 2000 – Fourth Monitoring Event)
27,600 (July 2004 – Fifth Monitoring Event)
2,600 (July 2005 – Sixth Monitoring Event)

V. CONCLUSIONS/RECOMMENDATIONS

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

The Monitoring Only Plan was conducted in accordance with Section III.D of the CAP–Part B Report (SAIC 1999a) and approved by GA EPD USTMP in correspondence dated January 25, 2000 (Logan 2000a). Termination conditions presented in the CAP–Part B Report and the First Annual Monitoring Only Report (SAIC 1999b), and approved in correspondence dated April 3, 2000, (Logan 2000b) indicated that termination would be requested once the measured benzene concentrations were below the ACL. The monitoring only program was terminated following the June 2000 monitoring event, and NFAR status was requested in the Second Annual Monitoring Only Report (SAIC 2000a). GA EPD denied this request because of the presence of free product at the site and no significant decline in benzene concentrations, even though the benzene concentrations were less than the approved ACL. The site was returned to the monitoring only program in 2004.

Fort Stewart respectfully requests that GA EPD USTMP assign Facility ID #9-089029 an NFAR status for the following reasons:

- The Monitoring Only Plan was conducted in accordance with Section III.D of the CAP–Part B Report (SAIC 1999a) and approved by GA EPD USTMP in correspondence dated April 3, 2000 (Logan 2000b).
- The benzene concentrations in all wells have been below the ACL of 1,990 µg/L since December 1997.
- Free product was not present at the site in July 2005.
- Even though the free product as been present intermittently in 32-08, the benzene concentrations have been declining since January 2000, thus indicating that natural attenuation is taking place.
- Both various F&T models presented in historical documents indicated that benzene will never reach the nearest surface water body (i.e., a drainage ditch) at a concentration above the IWQS of 71.28 µg/L.
- The closest preferential pathway (i.e., a storm drain) is located approximately 100 ft downgradient of the site, while the closest surface water body is located approximately 1,000 ft downgradient.

The monitoring only program at the site will be discontinued.

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 82 site, Building 1281, Facility ID #9-089029, using U. S. Department of Defense Environmental Restoration Account Funds. Application for Georgia UST Trust Fund reimbursement is not being pursued at this time.

APPENDIX I

REPORT FIGURES

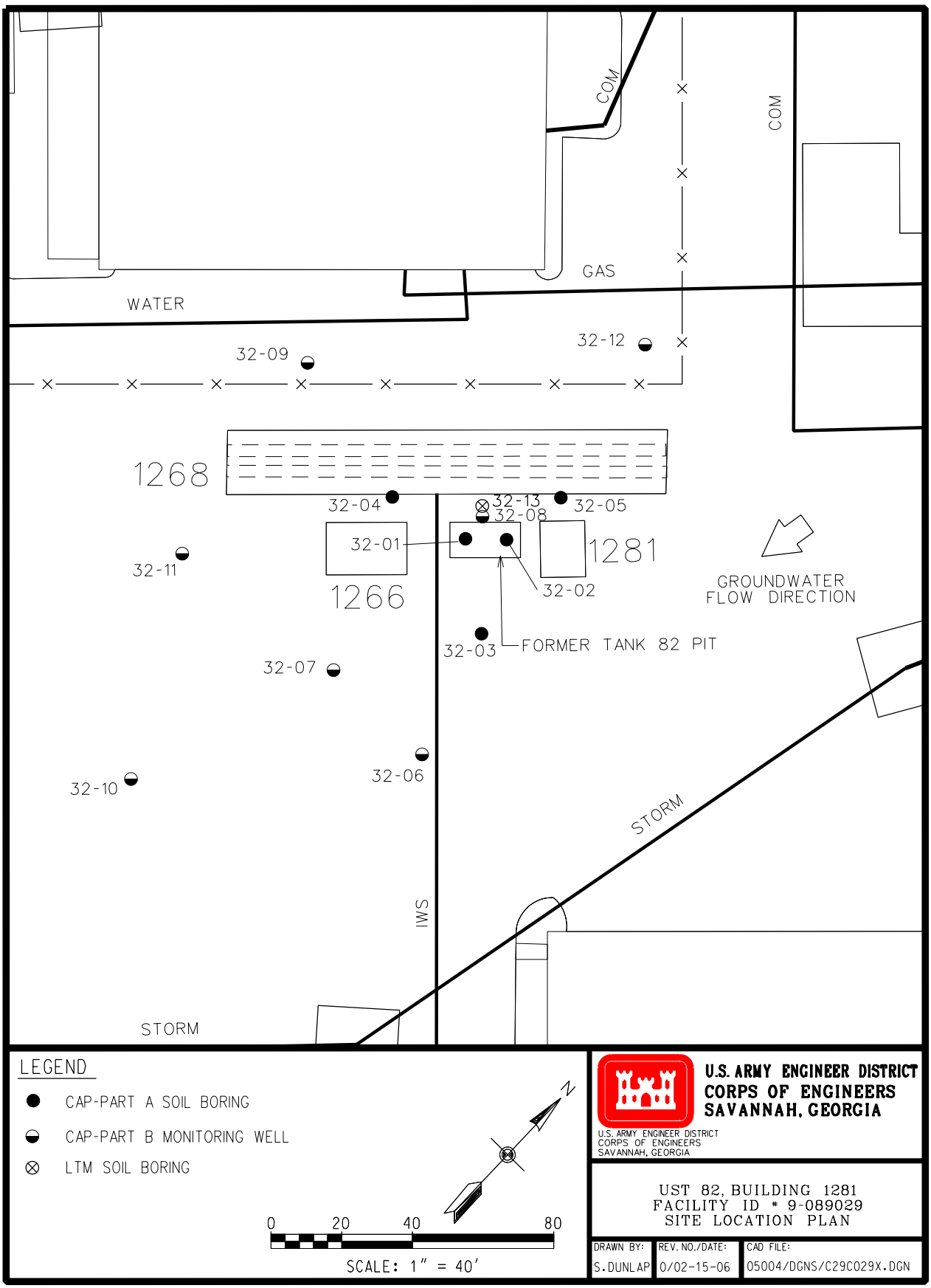

Figure 1. Location Map of UST 82 at Fort Stewart, Liberty County, Georgia

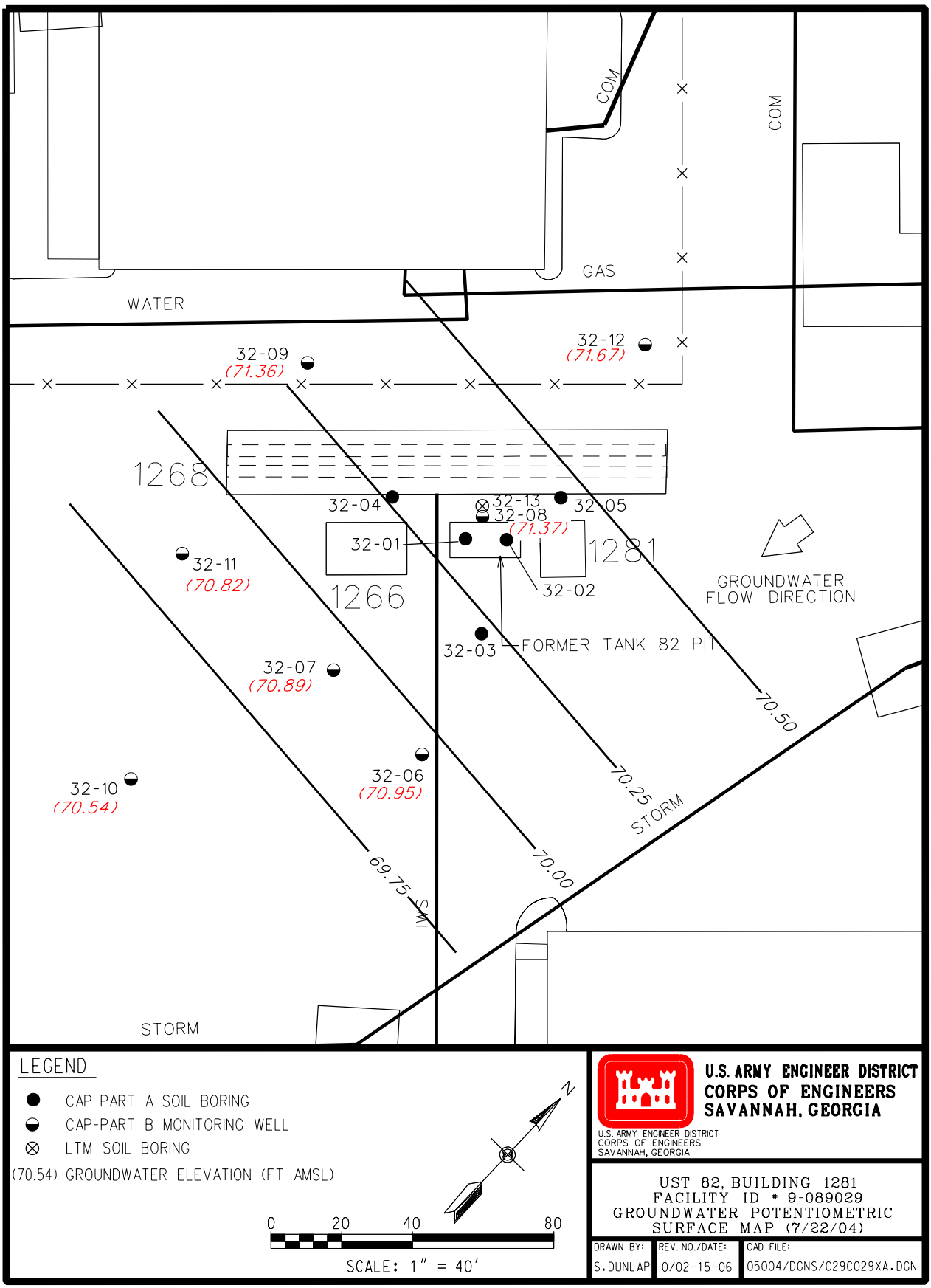

Figure 2a. Potentiometric Surface Map of the UST 82 Site (July 2004)

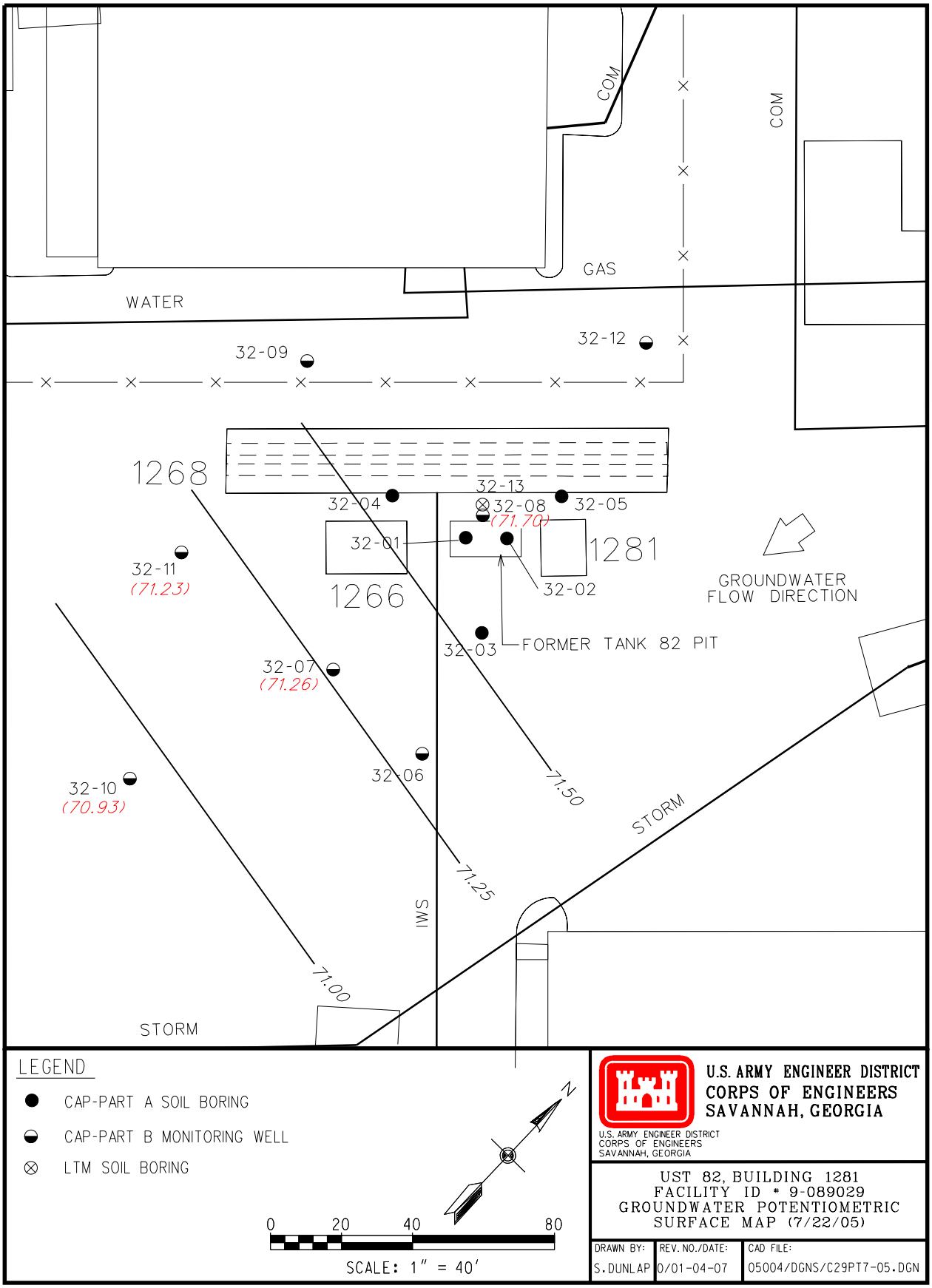

Figure 2b. Potentiometric Surface Map of the UST 82 Site (July 2005)

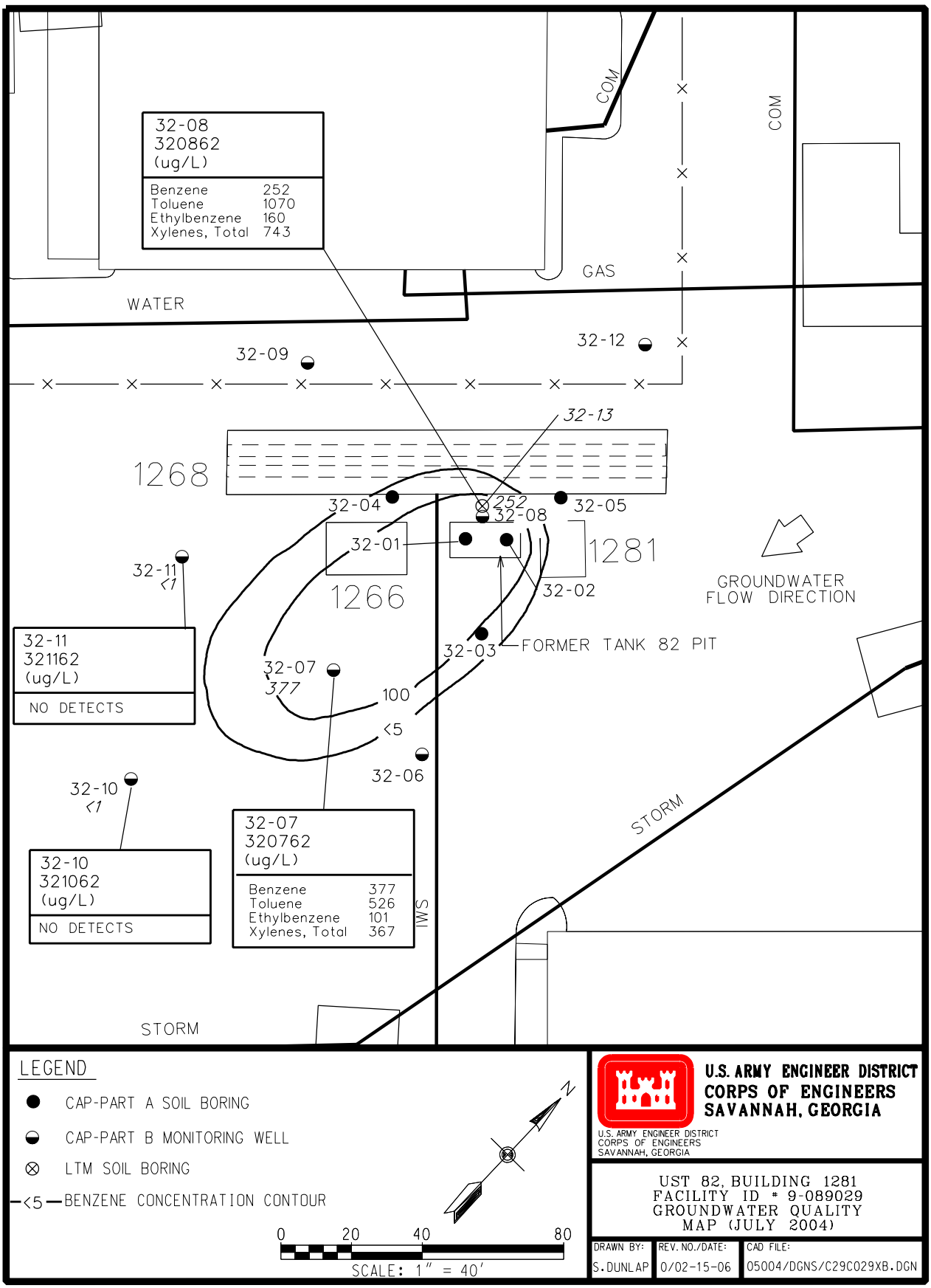

Figure 3a. Groundwater Quality Map for the UST 82 Site (July 2004)

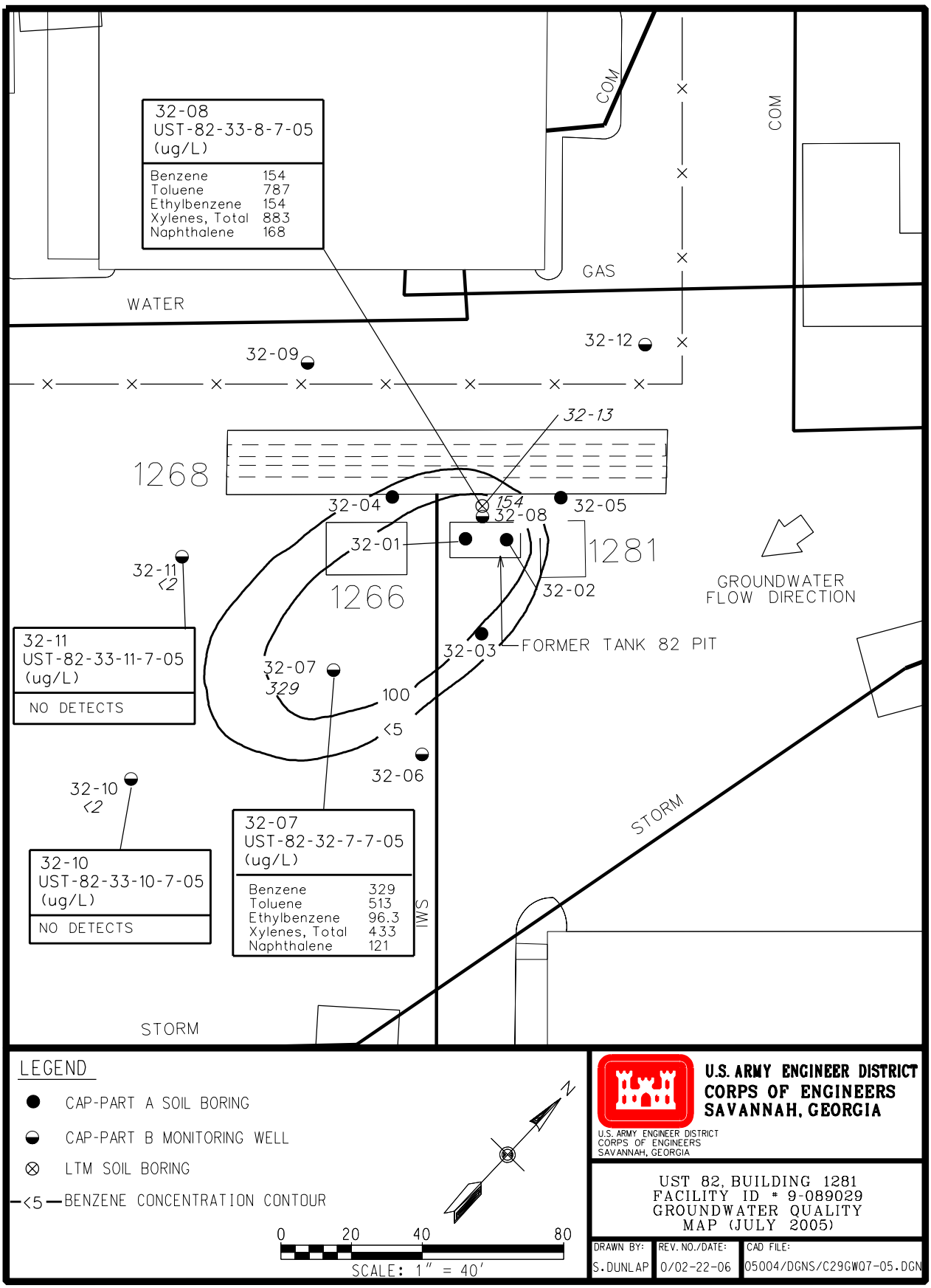

Figure 3b. Groundwater Quality Map for the UST 82 Site (July 2005)

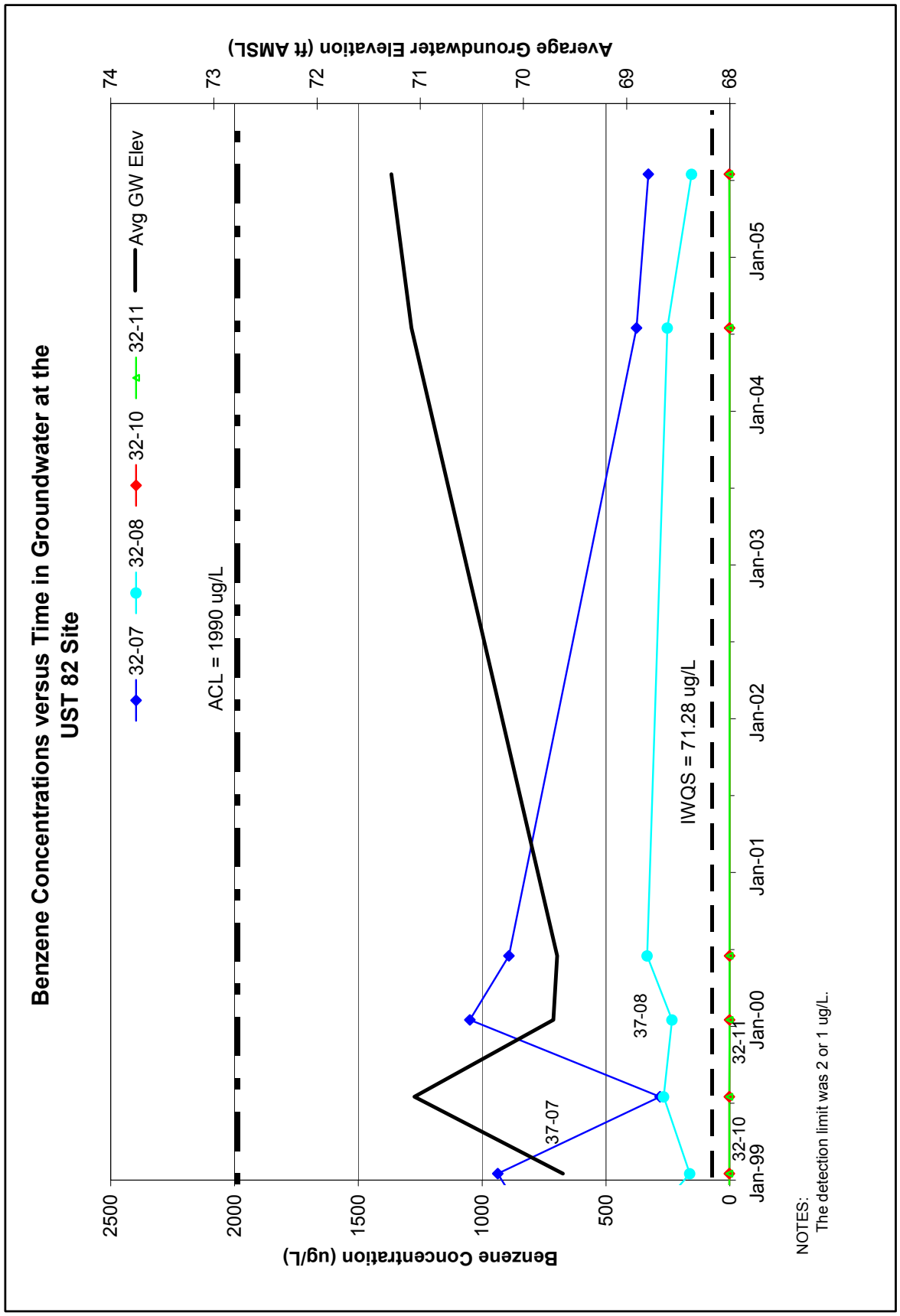

Figure 4. Trend of Benzene Concentrations at the UST 82 Site

APPENDIX II

REPORT TABLES

Table 1. Groundwater Elevations

Well Number	Date Measured	Top of Casing Elev. (ft AMSL)	Depth of Screened Interval (ft BGS)	Depth to Free Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)
First Monitoring Event – January 1999							
32-06	01/07/99	76.51	5.0 – 15.0	—	6.96	0	69.55
32-07	01/07/99	76.49	5.0 – 15.0	—	7.00	0	69.49
32-08[a]	01/07/99	76.67	5.0 – 15.0	—	6.73	0	69.94
32-09	01/07/99	75.74	4.0 – 14.0	—	5.93	0	69.81
32-10	01/07/99	75.84	3.7 – 13.7	—	6.71	0	69.13
32-11	01/07/99	76.02	3.8 – 13.8	—	6.88	0	69.14
32-12	01/07/99	75.93	4.1 – 14.1	—	5.67	0	70.26
Second Monitoring Event – July/August 1999							
32-06	08/24/99	76.51	5.0 – 15.0	—	6.10	0	70.41
32-07	08/24/99	76.49	5.0 – 15.0	—	6.12	0	70.37
32-08[b]	08/24/99	76.67	5.0 – 15.0	5.80	5.83	0.03	70.87[c]
32-09	08/24/99	75.74	4.0 – 14.0	—	4.96	0	70.78
32-10	08/24/99	75.84	3.7 – 13.7	—	5.86	0	69.98
32-11	08/24/99	76.02	3.8 – 13.8	—	5.86	0	70.16
32-12	08/24/99	75.93	4.1 – 14.1	—	4.72	0	71.21
Third Monitoring Event – January/February 2000							
32-06	02/22/00	76.51	5.0 – 15.0	—	6.86	0	69.65
32-07	02/22/00	76.49	5.0 – 15.0	—	6.89	0	69.60
32-08[d]	02/22/00	76.67	5.0 – 15.0	—	6.65	0	70.02
32-09	02/22/00	75.74	4.0 – 14.0	—	5.89	0	69.85
32-10	02/22/00	75.84	3.7 – 13.7	—	6.59	0	69.25
32-11	02/22/00	76.02	3.8 – 13.8	—	6.77	0	69.25
32-12	02/22/00	75.93	4.1 – 14.1	—	5.58	0	70.35

NOTES:
[a] The absorbent sock was removed from well 32-08 on January 6, 1999. No free product was observed on January 7, 1999, and an absorbent sock was replaced in the well on January 8, 1999.
[b] The absorbent sock was removed from well 32-08 on July 7, 1999. Free product approximately 0.03 ft thick was observed on August 24, 1999, and an absorbent sock was replaced in the well on August 24, 1999.
[c] The groundwater elevation was corrected using a density of 912 kg/m^3 for the product.
[d] The absorbent sock was removed from well 32-08 on January 25, 2000, and was not replaced in January/February 2000.
[e] On May 26, 2000, a sheen of free product was observed in well 32-08, and an absorbent sock was placed in the well on May 26, 2000. The absorbent sock was removed from well 32-08 before sampling on June 22, 2000, and there was no free product present at that time. The absorbent sock was replaced during water level measurements on June 29, 2000.
[f] An absorbent sock was removed from well 32-08 before water level measurements on July 22, 2004.
AMSL Above mean sea level.
BGS Below ground surface.
BTOC Below top of casing.
NR Not recorded.

Table 1. Groundwater Elevations (continued)

Well Number	Date Measured	Top of Casing Elev. (ft AMSL)	Depth of Screened Interval (ft BGS)	Depth to Free Product (ft BTOC)	Depth to Water (ft BTOC)	Product Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)
Fourth Monitoring Event – June 2000							
32-06	06/29/00	76.51	5.0 – 15.0	—	6.96	0	69.55
32-07	06/29/00	76.49	5.0 – 15.0	—	6.99	0	69.50
32-08[e]	06/29/00	76.67	5.0 – 15.0	sheen	6.59	sheen	70.08
32-09	06/29/00	75.74	4.0 – 14.0	—	5.87	0	69.87
32-10	06/29/00	75.84	3.7 – 13.7	—	6.68	0	69.16
32-11	06/29/00	76.02	3.8 – 13.8	—	6.76	0	69.26
32-12	06/29/00	75.93	4.1 – 14.1	—	5.63	0	70.30
Fifth Monitoring Event – July 2004							
32-06	07/22/04	76.51	5.0 – 15.0	—	5.56	0	70.95
32-07	07/22/04	76.49	5.0 – 15.0	—	5.60	0	70.89
32-08[f]	07/22/04	76.67	5.0 – 15.0	5.27	5.57	0.3	71.37[c]
32-09	07/22/04	75.74	4.0 – 14.0	—	4.38	0	71.36
32-10	07/22/04	75.84	3.7 – 13.7	—	5.30	0	70.54
32-11	07/22/04	76.02	3.8 – 13.8	—	5.20	0	70.82
32-12	07/22/04	75.93	4.1 – 14.1	—	4.26	0	71.67
Sixth Monitoring Event – July 2005							
32-06	07/22/05	76.51	5.0 – 15.0	NR	NR	NR	NR
32-07	07/22/05	76.49	5.0 – 15.0	—	5.23	0	71.26
32-08	07/22/05	76.67	5.0 – 15.0	—	4.97	0	71.70
32-09	07/22/05	75.74	4.0 – 14.0	NR	NR	NR	NR
32-10	07/22/05	75.84	3.7 – 13.7	—	4.91	0	70.93
32-11	07/22/05	76.02	3.8 – 13.8	—	4.79	0	71.23
32-12	07/22/05	75.93	4.1 – 14.1	NR	NR	NR	NR

NOTES:
[a] The absorbent sock was removed from well 32-08 on January 6, 1999. No free product was observed on January 7, 1999, and an absorbent sock was replaced in the well on January 8, 1999.
[b] The absorbent sock was removed from well 32-08 on July 7, 1999. Free product approximately 0.03 ft thick was observed on August 24, 1999, and an absorbent sock was replaced in the well on August 24, 1999.
[c] The groundwater elevation was corrected using a density of 912 kg/m^3 for the product.
[d] The absorbent sock was removed from well 32-08 on January 25, 2000, and was not replaced in January/February 2000.
[e] On May 26, 2000, a sheen of free product was observed in well 32-08, and an absorbent sock was placed in the well on May 26, 2000. The absorbent sock was removed from well 32-08 before sampling on June 22, 2000, and there was no free product present at that time. The absorbent sock was replaced during water level measurements on June 29, 2000.
[f] An absorbent sock was removed from well 32-08 before water level measurements on July 22, 2004.
AMSL Above mean sea level.
BGS Below ground surface.
BTOC Below top of casing.
NR Not recorded.

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)
First Monitoring Event – January 1999								
32-07	320722	01/08/99	**937 =**	909 =	146 =	639 =	2,631	ND
32-08	320822	01/08/99	**162 =**	525 =	72.4 =	370 =	1,129.4	49.1
32-10	321022	01/08/99	1.5 J	2.1 U	2.0 U	1.2 J	2.7	ND
32-11	321122	01/08/99	1.9 J	2.6 U	2.0 U	1.6 J	3.5	ND
Second Monitoring Event – July/August 1999								
32-07	320732	07/10/99	**282 =**	376 =	66.3 =	296 =	1,020.3	NA
32-08	320832	07/10/99	**267 =**	900 =	113 =	590 =	1,870	NA
32-10	321032	07/10/99	2 U	2 U	2 U	3.2 J	3.2	NA
32-11	321132	07/12/99	2 U	2 U	2 U	3.2 J	3.2	NA
Third Monitoring Event – January/February 2000								
32-07	320742	01/28/00	**1,050 J**	1,040 J	154 =	684 =	2,928	NA
32-08	320842	01/28/00	**233 =**	754 =	122 =	593 =	2,002	NA
32-10	321042	01/28/00	1 U	1 U	0.071 J	3 U	0.071	NA
32-11	321142	01/28/00	1 U	1 U	1 U	3 U	ND	NA
Fourth Monitoring Event – June 2000								
32-07	320752	06/22/00	**892 =**	992 =	152 =	689 =	2,655	NA
32-08	320852	06/22/00	**334 =**	767 =	119 =	563 =	1,783	NA
32-10	321052	06/22/00	1 U	0.27 J	1 U	3 U	0.27	NA
32-11	321152	06/22/00	1 U	0.43 J	1 U	3 U	0.43	NA
Fifth Monitoring Event – July 2004								
32-07	320762	07/16/04	**377 =**	526 =	101 =	367 =	1,371	NA
32-08	320862	07/16/04	**252 =**	1,070 =	160 =	743 =	2,225	NA
32-10	321062	07/16/04	1 U	1.6 U	1 U	1 U	ND	NA
32-11	321162	07/16/04	1 U	2.1 U	1 U	1 U	ND	NA
Sixth Monitoring Event – July 2005								
32-07	UST-82-32-7-7-05	07/22/05	**329 =**	513 =	96.2 =	433 =	1,371.2	121
32-08	UST-82-32-8-7-05	07/22/05	**154 =**	787 =	154 =	883 =	1,978	168
32-10	UST-82-32-10-7-05	07/22/05	2 U	2 U	2 U	2 U	ND	ND
32-11	UST-82-32-11-7-05	07/22/05	2 U	2 U	2 U	2 U	ND	ND
In-Stream Water Quality Standards (GA EPD Chapter 391-3-6)			71.28	200,000	28,178	NRC	NRC	NRC
Alternate Concentration Limit			1,990	—	—	—	—	—

NOTES:

Bold values exceed In-Stream Water Quality Standards.

BTEX Benzene, toluene, ethylbenzene, and xylenes.

GA EPD Georgia Environmental Protection Division.

NA Not analyzed; PAH compounds were not required as part of the Monitoring Only Plan.

ND Not detected.

NRC No regulatory criteria.

PAH Polynuclear aromatic hydrocarbon.

UST Underground storage tank.

Laboratory Qualifiers

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

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

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

Table 3. Soil Analytical Results

Sample Location	Sample ID	Sample Depth (ft BGS)	Date Sampled	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	Total PAH (mg/kg)
Third Semiannual Monitoring Event – January/February 2000									
32-13	321311	3.5 – 5.0	02/21/00	0.942 J	13.2 J	6.06 J	39.2 J	59.402	ND
GUST Soil Threshold Levels				0.008	6.0	10.0	700.0	NRC	NRC

NOTES:

BTEX	Benzene, toluene, ethylbenzene, and xylenes.
BGS	Below ground surface.
GUST	Georgia Underground Storage Tank.
ND	Not detected; the detection limit for PAH compounds was 0.035 mg/kg.
NRC	No regulatory criteria.
PAH	Polynuclear aromatic hydrocarbon.

Laboratory Qualifier

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

APPENDIX III

LABORATORY ANALYTICAL RESULTS

ANALYTICAL LABORATORY INFORMATION

The analytical laboratory use by SAIC was General Engineering Laboratories, Inc. (GEL) and the certification information is provided below.

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, January 27, 2003
	Expiration Date:	March 26, 2006
	Accreditation Scope:	SDWA, CWA, RCRA, CERCLA
#2	Accrediting Authority:	**State of Florida**
	Accreditation Number:	E-87156
	Effective Date:	July 1, 2001 (initial and reaccredited on July 1 each year thereafter)
	Expiration Date:	June 30, 2006
	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.

Gas Chromatography/Mass Spectroscopy 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 relative response factor (RRF) was <0.05.
C02 Initial calibration relative standard deviation (RSD) was >30%.
C03 Initial calibration sequence was not followed as required.
C04 Continuing calibration RRF was <0.05.
C05 Continuing calibration percent difference (%D) was >25%.
C06 Continuing calibration was not performed at the required frequency.
C07 Resolution criteria were not met.
C08 Relative percent difference (RPD) criteria were not met.
C09 RSD criteria were not met.
C10 Retention time of compounds was outside windows.
C11 Compounds were not adequately resolved.
C12 Breakdown of endrin or dichlorodiphenyltrichloroethane (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 Initial calibration verification (ICV) or continuing calibration verification (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.

Inductively Coupled Plasma 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 Method of standard additions (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 contract-required quantitation limit (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 exceeds the action level.
F09 No laboratory blanks were analyzed.
F10 Blank had a negative value >2 times the instrument detection limit.
F11 Blanks were not analyzed at the 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

H01 Matrix spike (MS)/matrix spike duplicate (MSD) recovery was above the upper control limit.
H02 MS/MSD recovery was below the lower control limit.
H03 MD/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.

DATA VALIDATION REASON CODES (continued)

Organic, Inorganic, and Radiological Analytical Data

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 contract-required detection limit (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 sec. 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 Gel permeation chromatography 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 gas chromatography/mass spectroscopy window. M07 Professional judgment was used to qualify the data. M08 The %D between the two pesticide/polychlorinated biphenyl column checks was >25%.	**Compound Quantitation and Reported CRQLs** N01 Quantitation limits were affected by large off-scale peaks. N02 Method detection limits reported by the laboratory exceeded corresponding CRQLs. N03 Professional judgment was used to qualify the data.
Tentatively Identified Compounds O01 Compound was suspected laboratory contaminant and was not detected in the blank. O02 Tentatively identified compound result was not above 10 times the level found in the blank. O03 Professional judgment was used to qualify analytical data.	**Laboratory Control Samples** P01 Laboratory control sample (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 waters and/or >50% for soils. Q02 Radiological 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.	

FIFTH MONITORING EVENT

JULY 2004

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

320762

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 117165-1

Matrix: (soil/water) WATER Lab Sample ID: 117166008

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 7U333

Level: (low/med) LOW Date Received: 07/19/04

% Moisture: not dec. _____ Date Analyzed: 07/29/04

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 20.0

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	377		=
108-88-3	Toluene	526		= F04, F08
100-41-4	Ethylbenzene	101		=
1330-20-7	Xylenes (total)	367		=

FORM I VOA OLM03.0

DATA VALIDATION COPY

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

320862

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 117165-1

Matrix: (soil/water) WATER Lab Sample ID: 117166012

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 7U337

Level: (low/med) LOW Date Received: 07/19/04

% Moisture: not dec. _____ Date Analyzed: 07/29/04

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 20.0

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	252		=
108-88-3	Toluene	1070		= F04, F08
100-41-4	Ethylbenzene	160		=
1330-20-7	Xylenes (total)	743		=

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

320864

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 117165-1

Matrix: (soil/water) WATER Lab Sample ID: 117166013

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 7U338

Level: (low/med) LOW Date Received: 07/19/04

% Moisture: not dec. _____ Date Analyzed: 07/29/04

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 20.0

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	245		=
108-88-3	Toluene	1110		= F04, F08
100-41-4	Ethylbenzene	161		=
1330-20-7	Xylenes (total)	761		=

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

321062

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 117165-1

Matrix: (soil/water) WATER Lab Sample ID: 117166015

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 7U417

Level: (low/med) LOW Date Received: 07/19/04

% Moisture: not dec. _____ Date Analyzed: 07/29/04

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	U
108-88-3	Toluene	1.6		U F04, F07
100-41-4	Ethylbenzene	1.0	U	U
1330-20-7	Xylenes (total)	1.0	U	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

321162

Lab Name: GEL, LLC. Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 117165-1

Matrix: (soil/water) WATER Lab Sample ID: 117166014

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 7U416

Level: (low/med) LOW Date Received: 07/19/04

% Moisture: not dec. _____ Date Analyzed: 07/29/04

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	U
108-88-3	Toluene	2.1		U FO4, FO7
100-41-4	Ethylbenzene	1.0	U	U
1330-20-7	Xylenes (total)	1.0	U	U

FORM I VOA OLM03.0

DATA VALIDATION COPY

My 09 3

SAIC An Employee Owned Company
Science Applications International Corporation
PO Box 2501, 151 Lafayette Dr., Tennessee 37830 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: GLTM43

PROJECT NAME: Fort Stewart LTM, D.O. 44

PROJECT NUMBER: 01-1055-04-8991-200

PROJECT MANAGER: ~~Patty Stoll~~ Sharon Stoller

Sampler (Signature): Patricia A. Stoll (Printed Name): PATRICIA A. STOLL

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29407

PHONE NO: (843) 556-8171

REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	BTEX	VOC	SVOC	Nitrite, Nitrate,Sulfate	Sulfide	Total Iron	Methane	Carbon Dioxide	Total Phosphorus	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
33Ø866	7/16/04	1450	water	2									2		
32Ø762		1125		2									2		
33Ø762		1335		2									2		
33Ø862		1300		2									2		
33Ø662		1220		2									2		
32Ø862		1050		2									2		
32Ø864		1050		2									2		
321162		0945		2									2		
321Ø62		0910		2									2		
TBØ4Ø2		0745		2									2		
					P. Stoll 7/19/04										

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 72	Cooler Temperature: 4°
COMPANY NAME: SAIC	7/19/04 1140	COMPANY NAME: GGL	7/19/04 1430	Cooler ID: 123	FEDEX NUMBER: N/A
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GGL	7/19/04 1140	COMPANY NAME:			
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time		
COMPANY NAME: GGL	7/19/04 1430	COMPANY NAME:			

III-11

SIXTH MONITORING EVENT

JULY 2005

1A - Equivalent

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: Analytical Managment Laboratories
Client ID: CESAS
Matrix: W
Sample g/ml: 25
% Solids: not dec.
Instrument ID V5973B
Analytical Method: 8260B
Prep Method: EPA 5030
Analytical Batch: 2687

Sample ID: UST-82-32-7-7-05
Project ID Ft Stewart, DO# 0005
Project Num 7326
Lab Sample ID: 732617
Date Collected: 7/22/05 Time: 9:42
Dilution Factor: 25
Date Analyzed: 8/3/05 Time: 17:46
Date Received: 7/26/05 8:00:00 AM

CAS NO.	COMPOUND	RESULT	Units	Q	LLR	MQL
71-43-2	Benzene	329	µg/l		3.48	50
100-41-4	Ethylbenzene	96.2	µg/l		2.5	50
1634-04-4	Methyl-tert-butyl-ether	76.2	µg/l		2.5	50
m+p xylene	m-Xylene and p-Xylene	280	µg/l		5.4	50
91-20-3	Naphthalene	121	µg/l		3.48	50
95-47-6	o-Xylene	153	µg/l		2.55	50
108-88-3	Toluene	513	µg/l		2.62	50

EPA Lab Code:KS00902

Kansas Certification:E-10254

FORM I VOA - Equivalent

0049

1A - Equivalent

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: Analytical Managment Laboratories
Client ID: CESAS
Matrix: W
Sample g/ml: 25
% Solids: not dec.
Instrument ID V5973B
Analytical Method: 8260B
Prep Method: EPA 5030
Analytical Batch: 2687

Sample ID: UST-82-32-8-7-05
Project ID Ft Stewart, DO# 0005
Project Num 7326
Lab Sample ID: 732618
Date Collected: 7/22/05 Time: 10:25
Dilution Factor: 50
Date Analyzed: 8/3/05 Time: 18:10
Date Received: 7/26/05 8:00:00 AM

CAS NO.	COMPOUND	RESULT	Units	Q	LLR	MQL
71-43-2	Benzene	154	µg/l		6.95	100
100-41-4	Ethylbenzene	154	µg/l		5	100
1634-04-4	Methyl-tert-butyl-ether		µg/l	U	5	100
m+p xylene	m-Xylene and p-Xylene	601	µg/l		10.8	100
91-20-3	Naphthalene	168	µg/l		6.95	100
95-47-6	o-Xylene	282	µg/l		5.1	100
108-88-3	Toluene	787	µg/l		5.25	100

EPA Lab Code:KS00902
Kansas Certification:E-10254

FORM I VOA - Equivalent

AR5A

1A - Equivalent

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: Analytical Managment Laboratories
Client ID: CESAS
Matrix: W
Sample g/ml: 25
% Solids: not dec.
Instrument ID V5973B
Analytical Method: 8260B
Prep Method: EPA 5030
Analytical Batch: 2666

Sample ID: UST-82-32-10-7-05
Project ID Ft Stewart, DO# 0005
Project Num 7326
Lab Sample ID: 732613
Date Collected: 7/22/05 Time: 8:00
Dilution Factor: 1
Date Analyzed: 7/27/05 Time: 21:30
Date Received: 7/26/05 8:00:00 AM

CAS NO.	COMPOUND	RESULT	Units	Q	LLR	MQL
71-43-2	Benzene		µg/l	U	0.139	2
100-41-4	Ethylbenzene		µg/l	U	0.1	2
1634-04-4	Methyl-tert-butyl-ether		µg/l	U	0.1	2
m+p xylene	m-Xylene and p-Xylene		µg/l	U	0.216	2
91-20-3	Naphthalene		µg/l	U	0.139	2
95-47-6	o-Xylene		µg/l	U	0.102	2
108-88-3	Toluene		µg/l	U	0.105	2

EPA Lab Code:KS00902
Kansas Certification:E-10254

FORM I VOA - Equivalent

RR33

1A - Equivalent

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: Analytical Managment Laboratories
Client ID: CESAS
Matrix: W
Sample g/ml: 25
% Solids: not dec.
Instrument ID V5973B
Analytical Method: 8260B
Prep Method: EPA 5030
Analytical Batch: 2667

Sample ID: UST-82-32-11-7-05
Project ID Ft Stewart, DO# 0005
Project Num 7326
Lab Sample ID: 732614
Date Collected: 7/22/05 Time: 8:44
Dilution Factor: 1
Date Analyzed: 7/28/05 Time: 11:51
Date Received: 7/26/05 8:00:00 AM

CAS NO.	COMPOUND	RESULT	Units	Q	LLR	MQL
71-43-2	Benzene		µg/l	U	0.139	2
100-41-4	Ethylbenzene		µg/l	U	0.1	2
1634-04-4	Methyl-tert-butyl-ether		µg/l	U	0.1	2
m+p xylene	m-Xylene and p-Xylene		µg/l	U	0.216	2
91-20-3	Naphthalene		µg/l	U	0.139	2
95-47-6	o-Xylene		µg/l	U	0.102	2
108-88-3	Toluene		µg/l	U	0.105	2

EPA Lab Code:KS00902

Kansas Certification:E-10254

FORM I VOA - Equivalent

RR35

AML
Analytical Management Laboratories, Inc.
15130 South Keeler
Olathe, Kansas 66062
Phone (913) 829-0101
Fax (913) 829-1181

33722

Chain of Custody Record / Request for Analysis

Client Contact Name: Mark Harvison
Company Name: USACE
Address: 100 W. Oglethorpe Ave.
City, State, Zip: Savannah GA. 31401
Phone #: (912) 652-5151 Ext:
Fax #: (912) 652-5311
Email:

Project Name: Ft. Stewart
Project Number: 0005
Purchase Order Number:
Project Due Date:
Project Comments:
Sampler's Signature: Steve Wilcup

Laboratory Project Number: 3326

Analyses/Method to be Performed (Check all that apply)

Specify method # --->

Lab ID	Sample Description	Date	Time	Matrix	Total # Containers	Preservative: HCl	HNO3	NaOH	H2SO4	Unpreserved	4° C	8260 VOCs	SVOCs	Pesticides	PCBs	Herbicides	Metals (specify)	DRO	GRO	Explosives	Anions (specify)	Comments
3326-11	UST-33-35-15-13-7-05	7-21-05	1730	AQ	3	3					3	3										
3326-12	UST-33-35-BLK1-7-05	7-21-05	1800	AQ	3	3					3	3										
3326-13	UST-82-32-10-7-05	7-22-05	0800	AQ	3	3					3	3										
3326-14	UST-82-32-11-7-05	7-22-05	0844	AQ	9	9					9	9										
3326-15	Trip Blank			AQ	2	2					2	2										MS/MSD
3326-16	UST-82-Apt-7-05	7-22-05	0815	AQ	3	3					3	3										
3326-17	UST-82-32-7-7-05	7-22-05	0942	AQ	3	3					3	3										
3326-18	UST-82-32-8-7-05	7-22-05	1025	AQ	3	3					3	3										
3326-19	UST-82-BLK1-7-05	7-22-05	1030	AQ	3	3					3	3										
3326-20	UST-210-43-09-7-05	7-22-05	1230	AQ	6	6					6	6										MS/MSD

Please include any information that may be useful in the analysis of the sample.
Example: high concentration
List analytes
MS/MSD

CUSTODY						
Relinquished By:	Steve Wilcup	Date/Time:	7-25-05/1800	Received By:	Shipped	Date/Time:
Relinquished By:		Date/Time:		Received By:		Date/Time: 07/26/05 0800am

By signing the request (chain of custody) you are ordering work from Analytical Management Laboratories, Inc. which constitutes the acceptance of the terms and conditiions on the back of this form.

Delivery Method: ☐ Delivered in Person ☑ Courier ☐ Airbill #: 785937621001 5576 UPS
Custody Seals: ☐ Yes ☐ No ☑ Intact ☐ Broken
Coolers: ☐ Blue Ice ☐ Wet
Cooler Temp.: 2.1 °C ☐ Temp. Blank
Receiving Comments:

III-17

APPENDIX IV

SITE RANKING FORMS

FIFTH MONITORING EVENT

JULY 2004

SITE RANKING FORM

Facility Name: UST 82, Building 1281 **Ranked by:** S. Stoller

County: Liberty **Facility ID #:** 9-089029 **Date Ranked:** 09/07/2004

SOIL CONTAMINATION (Revised using soil data collected February 2000)

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

** Sample 321311 which supercedes CAP-Part B Sample 320811*

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

** Sample 321311 which supercedes CAP-Part B Sample 320811*

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

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

Fill in the blanks: (A. 0) + (B. 10) = (10) x (C. 10) = (D. 100)

GROUNDWATER CONTAMINATION

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 +		

* 0.3 ft (3.6 in) in well 32-08 (July 2004)

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

* *LTM Sample 320762 (July 2004)*

Fill in the blanks: (E. 500) + (F. 50) = (G. 550)

Facility Name: UST 82, Building 1281 **County:** Liberty **Facility ID #:** 9-089029

POTENTIAL RECEPTORS (MUST BE FIELD-VERIFIED)

Distance from nearest contaminant plume boundary to the nearest downgradient and hydraulically connected Point of Withdrawal for water supply. **If the point of withdrawal is not hydraulically connected, evidence as outlined in the CAP-A guidance document MUST be presented to substantiate this claim.**

H. Public Water Supply

☐	Impacted	=	2000
☐	≤500'	=	500
☐	>500' - ¼ mi	=	25
☐	¼ mi - 1 mi	=	10
☐	>1 mi - 2 mi	=	2
* ☒	> 2 mi	=	0

For lower susceptibility areas only:

☐	>1 mi	=	0

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

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

I. Non-Public Water Supply

☐	Impacted	=	1000
☐	≤100'	=	500
☐	>100' - 500'	=	25
☐	>500' - ¼ mi	=	5
☐	>¼ - ½ mi	=	2
☒	>½ mi	=	0

For lower susceptibility areas only:

☐	>¼ mi	=	0

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

☐	Impacted	=	500
☒	≤500'	=	50
☐	>500' - 1,000'	=	5
☐	>1,000'	=	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. 550) x (L. 50) = M. 27500

(M. 27500) + (D. 100) = N. 26700

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. 27600) x (P. 1) = (27600) + (Q. 0)

= 27600 (July 2004 - Fifth Monitoring Event)
ENVIRONMENTAL SENSITIVITY SCORE

SIXTH MONITORING EVENT

JULY 2005

SITE RANKING FORM

Facility Name: UST 82, Building 1281 **Ranked by:** S. Stoller

County: Liberty **Facility ID #:** 9-089029 **Date Ranked:** 02/10/2006

SOIL CONTAMINATION (Revised using soil data collected February 2000)

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

** Sample 321311 which supercedes CAP-Part B Sample 320811*

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

** Sample 321311 which supercedes CAP-Part B Sample 320811*

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

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

Fill in the blanks: (A. 0) + (B. 10) = (10) x (C. 10) = (D. 100)

GROUNDWATER CONTAMINATION

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 +		

* No free product in July 2005 *

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

LTM Sample UST-82-32-7-7-05 (July 2005)

Fill in the blanks: (E. 0) + (F. 50) = (G. 50)

Facility Name: UST 82, Building 1281 **County:** Liberty **Facility ID #:** 9-089029

POTENTIAL RECEPTORS (MUST BE FIELD-VERIFIED)

Distance from nearest contaminant plume boundary to the nearest downgradient and hydraulically connected Point of Withdrawal for water supply. **If the point of withdrawal is not hydraulically connected, evidence as outlined in the CAP-A guidance document MUST be presented to substantiate this claim.**

H. Public Water Supply

☐	Impacted	=	2000
☐	≤500'	=	500
☐	>500' - ¼ mi	=	25
☐	¼ mi - 1 mi	=	10
☐	>1 mi - 2 mi	=	2
* ☒	> 2 mi	=	0

For lower susceptibility areas only:

☐	>1 mi	=	0

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

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

I. Non-Public Water Supply

☐	Impacted	=	1000
☐	≤100'	=	500
☐	>100' - 500'	=	25
☐	>500' - ¼ mi	=	5
☐	>¼ - ½ mi	=	2
☒	>½ mi	=	0

For lower susceptibility areas only:

☐	>¼ mi	=	0

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

☐	Impacted	=	500
☒	≤500'	=	50
☐	>500' - 1,000'	=	5
☐	>1,000'	=	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. 50) x (L. 50) = M. 2500

(M. 2500) + (D. 100) = N. 2600

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. 2600) x (P. 1) = (2600) + (Q. 0)

= 2600 (July 2005 - Sixth Monitoring Event)
ENVIRONMENTAL SENSITIVITY SCORE

ADDITIONAL GEOLOGIC AND HYDROGEOLOGIC DATA

The following provides supplemental information to Item H of the Site Ranking Form. It also provides details relating to the geologic and hydrogeologic conditions at Fort Stewart that support Fort Stewart's determination that the water withdrawal points located at the site 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 ft at the fall line, located approximately 150 miles inland from the Atlantic coast, to approximately 4,200 ft 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 ft 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 ft thick and dominated by clastics. The Tertiary section was found to be approximately 2,170 ft thick and dominated by limestone, with a 175-ft-thick cap of dark green phosphatic clay. This clay is regionally extensive and is known as the Hawthorn Group. The interval from approximately 110 ft 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 1/4 mile north of the runway at Wright Army Airfield within the Fort Stewart Military Reservation. The log for this well describes a 410-ft section, the lowermost 110 ft of which consisted predominantly of limestone sediments, above which 245 ft 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 ft 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 in. in depth. The surface layer is underlain by material consisting of pale yellow loamy sand and extends to a depth of approximately 29 in. The subsoil is predominantly sandy clay loam and extends to a depth of 72 in. 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, Ocala Group, and Suwannee Limestone. These formations are approximately 800 ft 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 ft in thickness. This aquifer is used primarily for domestic lawn and agricultural irrigation. The top of the water table ranges from approximately 2 to 10 ft 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 ft BGS; therefore, the effective aquifer thickness would be approximately 35 to 45 ft. 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 ft. 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, Markshead, and Parachula, listed from youngest to oldest.

The Coosawhatchie Formation is predominantly composed of clay but also has sandy clay, argillaceous sand, and phosphorite units. The formation is approximately 170 ft 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 ft 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 ft 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 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.

APPENDIX V

REIMBURSEMENT APPLICATION

Fort Stewart is a federally owned facility and has funded the investigation for the Underground Storage Tank (UST) 82 site, Building 1281, Facility ID #9-089029, using U. S. Department of Defense Environmental Restoration Account Funds. Application for Georgia UST Trust Fund reimbursement is not being pursued at this time.

ATTACHMENT A

SUMMARY OF FATE AND TRANSPORT MODELING RESULTS

A.1 FATE AND TRANSPORT MODELING

In summary, the Analytical Transient 1-, 2-, 3-Dimensional Model was used to model contaminant migration to two potential downgradient receptors: a drainage ditch located approximately 1,000 ft southwest of the site and Mill Creek located approximately 3,300 ft southwest of the site. An industrial wastewater line and a storm drain located 5 and 100 ft, respectively, south of the site are above the water table and were not considered potential preferential pathways for contaminant migration during the fate and transport (F&T) modeling conducted during the Corrective Action Plan (CAP)–Part B Report (SAIC 1999).

A.1.1 Summary of CAP–Part B Report Fate and Transport Modeling Results

The F&T modeling performed as part of the CAP–Part B Report reflected a continuous source of contamination of infinite duration at the site based on the maximum observed benzene concentration in groundwater (i.e., 3,450 µg/L in temporary piezometer 32-01 in September 1996). Based on the modeling results, the estimated dilution attenuation factor (DAF) for benzene at the drainage ditch is 84,000, while the DAF at Mill Creek is infinity. The modeling results indicated that benzene would not reach the drainage ditch at concentrations above the In-Stream Water Quality Standard (IWQS). No detectable concentrations of benzene were predicted to reach Mill Creek. An alternate concentration limit (ACL) of 420,000 µg/L was developed during the CAP–Part B Report based on the maximum contaminant level (MCL) for benzene and the DAF for the drainage ditch determined during the CAP–Part B F&T modeling. The IWQS could have been used as the regulatory level because the surficial aquifer is not a drinking water aquifer, and the most likely receptor for the surficial aquifer is a surface water body.

A.1.2 Summary of Second Annual Monitoring Only Report Fate and Transport Modeling Results

As a result of the benzene concentrations observed during the 2 years of semiannual monitoring, the F&T modeling results were revised in the Second Annual Monitoring Only Report (SAIC 2000) to reflect more recent site conditions assuming a continuous source of contamination and using the maximum observed benzene concentration in groundwater during the semiannual monitoring events (i.e., 1,050 µg/L in well 32-07 during the third semiannual sampling event in January 2000). The benzene concentrations in wells 32-07 and 32-08 were used in calibrating the model. Well 32-07 is located approximately 50 ft south of the tank pit; therefore, the source area was assumed to be located between wells 32-07 and 32-08, and the maximum predicted concentration of benzene in the assumed source area was 2,440 µg/L. A near steady-state source was assumed for conservatism. The source, together with hydraulic conductivity and longitudinal dispersivity, was re-evaluated through the calibration process and modified from the original F&T modeling presented in the CAP–Part B Report. The source was calibrated as a 26.8-mg/hr continuous pulse for 5 years and was assumed to be a 20- by 10-ft area located between wells 32-07 and 32-08.

The receptor locations remained the same as those in the previous F&T modeling and included the storm drain to provide a more conservative DAF. Based on the revised modeling results, the DAF for benzene is 27.9 at the storm drain, infinity at the drainage ditch, and infinity at Mill Creek. Benzene is the only constituent that exceeds its IWQS of 71.28 µg/L. By using the results of the F&T modeling performed as part of this Second Annual Monitoring Only Report, the ACL would become infinity as a result of the infinite DAF at the drainage ditch; therefore, a DAF to the storm drain was calculated and used as a conservative approach to revising the ACL in conjunction with the IWQS. The revised ACL for benzene is 1,990 µg/L.

A.1.1 FATE AND TRANSPORT MODELING CONCLUSIONS

The conclusions presented in the bulleted list below are based on the revised F&T modeling, which assumed that the source was a continuous pulse for 5 years at the site based on the maximum observed benzene concentration (i.e., 1,050 µg/L) in groundwater during the semiannual monitoring events. The continuous pulse was used to calibrate the model based on the results of semiannual sampling.

- Benzene concentrations in groundwater do not exceed the ACL of 1,990 µg/L in any of the wells at the site and have not exceeded the ACL during the CAP–Part A investigation, CAP–Part B investigation, and four semiannual sampling events.

- Benzene does not impact the closest downgradient receptors—a storm drain located 100 ft downgradient of the site and a drainage ditch located 1,000 ft downgradient—at concentrations above the IWQS.

A.2 REFERENCES

SAIC (Science Applications International Corporation) 1999. *CAP–Part B Report for UST 82, Facility ID #9-089029, Building 1281, Fort Stewart, Georgia*, Oak Ridge, Tennessee, March.

SAIC 2000. *Second Annual Monitoring Only Report for UST 82, Facility ID #9-089029, Building 1281, Fort Stewart, Georgia*, Oak Ridge, Tennessee, November.

ATTACHMENT B

REFERENCES

REFERENCES

Logan, William E., 2000a. Letter to Ovidio Perez (Fort Stewart Directorate of Public Works, Environmental Branch) with approval of the First Annual Monitoring Only Report for UST 82, January 25.

Logan, William E., 2000b. Letter to Ovidio Perez (Fort Stewart Directorate of Public Works, Environmental Branch) with Notice to Implement the Corrective Action Plan–Part B for UST 82, April 3.

Logan, William E., 2001. Letter to Gregory Stanley (Fort Stewart Directorate of Public Works, Environmental Branch) with review comments on the Second Annual Monitoring Only Report for UST 82, August 31.

SAIC (Science Applications International Corporation) 1997. *CAP–Part A Report for UST 82, Facility ID #9-089029, Building 1281, Fort Stewart, Georgia*, Oak Ridge, Tennessee, May.

SAIC 1999a. *CAP–Part B Report for UST 82, Facility ID #9-089029, Building 1281, Fort Stewart, Georgia*, Oak Ridge, Tennessee, March.

SAIC 1999b. *First Annual Monitoring Only Report for UST 82, Facility ID #9-089029, Building 1281, Fort Stewart, Georgia*, Oak Ridge, Tennessee, October.

SAIC 1999c. *First Semiannual Monitoring Progress Report UST 82, Facility ID #9-089029, Building 1281, Fort Stewart, Georgia*, Oak Ridge, Tennessee, May.

SAIC 2000a. *Second Annual Monitoring Only Report for UST 82, Facility ID #9-089029, Building 1281, Fort Stewart, Georgia*, Oak Ridge, Tennessee, November.

SAIC 2000b. *Third Semiannual Monitoring Only Report UST 82, Facility ID #9-089029, Building 1281, Fort Stewart, Georgia*, Oak Ridge, Tennessee, May.

SAIC 2004. *Fifth Semiannual Monitoring Only Report UST 82, Facility ID #9-089029, Building 1281, Fort Stewart, Georgia*, Oak Ridge, Tennessee, September.

ATTACHMENT C

CERTIFICATES OF ANALYSIS

CERTIFICATES OF ANALYSIS AND CHAIN-OF-CUSTODY FORM

JULY 2004

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

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

Report Date: August 30, 2004

Contact: Ms. Leslie Barbour
Project: **Ft. Stewart LTM D.O. 44**

Client Sample ID: 320762
Sample ID: 117166008
Matrix: Water
Collect Date: 16-JUL-04 11:25
Receive Date: 19-JUL-04
Collector: Client

Project: SAIC06001
Client ID: SAIC060

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics Federal											
5035/8260B BTEX in Liquid Federal											
Benzene		377	6.60	20.0	ug/L	20	DLS	07/29/04	0318	352911	1
Ethylbenzene		101	4.20	20.0	ug/L	20					
Toluene		527	7.80	20.0	ug/L	20					
Xylenes (total)		367	5.00	20.0	ug/L	20					

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Bromofluorobenzene	5035/8260B BTEX in Liquid Federal	92	(76%-115%)
Dibromofluoromethane	5035/8260B BTEX in Liquid Federal	99	(72%-136%)
Toluene-d8	5035/8260B BTEX in Liquid Federal	101	(80%-116%)

Notes:
The Qualifiers in this report are defined as follows :

B Target analyte was detected in the sample as well as the associated blank.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
P The response between the confirmation column and the primary column is >40%D.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
Y QC Samples were not spiked with this compound.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

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

Report Date: August 30, 2004

Contact: Ms. Leslie Barbour
Project: **Ft. Stewart LTM D.O. 44**

Client Sample ID: 320762
Sample ID: 117166008

Project: SAIC06001
Client ID: SAIC060

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

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, LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Valerie Davis

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

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

Report Date: August 30, 2004

Contact: Ms. Leslie Barbour
Project: **Ft. Stewart LTM D.O. 44**

Client Sample ID: 320862
Sample ID: 117166012
Matrix: Water
Collect Date: 16-JUL-04 10:50
Receive Date: 19-JUL-04
Collector: Client

Project: SAIC06001
Client ID: SAIC060

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics Federal											
5035/8260B BTEX in Liquid Federal											
Benzene		252	6.60	20.0	ug/L	20	DLS	07/29/04	0506	352911	1
Ethylbenzene		160	4.20	20.0	ug/L	20					
Toluene		1070	7.80	20.0	ug/L	20					
Xylenes (total)		743	5.00	20.0	ug/L	20					

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Bromofluorobenzene	5035/8260B BTEX in Liquid Federal	93	(76%-115%)
Dibromofluoromethane	5035/8260B BTEX in Liquid Federal	103	(72%-136%)
Toluene-d8	5035/8260B BTEX in Liquid Federal	95	(80%-116%)

Notes:
The Qualifiers in this report are defined as follows :

B Target analyte was detected in the sample as well as the associated blank.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
P The response between the confirmation column and the primary column is >40%D.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
Y QC Samples were not spiked with this compound.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

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

Report Date: August 30, 2004

Contact: Ms. Leslie Barbour
Project: **Ft. Stewart LTM D.O. 44**

Client Sample ID: 320862
Sample ID: 117166012

Project: SAIC06001
Client ID: SAIC060

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

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, LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

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

Report Date: August 30, 2004

Contact: Ms. Leslie Barbour
Project: **Ft. Stewart LTM D.O. 44**

Client Sample ID: 320864
Sample ID: 117166013
Matrix: Water
Collect Date: 16-JUL-04 10:50
Receive Date: 19-JUL-04
Collector: Client

Project: SAIC06001
Client ID: SAIC060

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics Federal											
5035/8260B BTEX in Liquid Federal											
Benzene		245	6.60	20.0	ug/L	20	DLS	07/29/04	0533	352911	1
Ethylbenzene		161	4.20	20.0	ug/L	20					
Toluene		1110	7.80	20.0	ug/L	20					
Xylenes (total)		761	5.00	20.0	ug/L	20					

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Bromofluorobenzene	5035/8260B BTEX in Liquid Federal	93	(76%-115%)
Dibromofluoromethane	5035/8260B BTEX in Liquid Federal	105	(72%-136%)
Toluene-d8	5035/8260B BTEX in Liquid Federal	95	(80%-116%)

Notes:
The Qualifiers in this report are defined as follows :

B Target analyte was detected in the sample as well as the associated blank.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
P The response between the confirmation column and the primary column is >40%D.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
Y QC Samples were not spiked with this compound.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

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

Report Date: August 30, 2004

Contact: Ms. Leslie Barbour
Project: **Ft. Stewart LTM D.O. 44**

Client Sample ID: 320864
Sample ID: 117166013

Project: SAIC06001
Client ID: SAIC060

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

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, LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

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

Report Date: August 30, 2004

Contact: Ms. Leslie Barbour
Project: **Ft. Stewart LTM D.O. 44**

Client Sample ID: 321062
Sample ID: 117166015
Matrix: Water
Collect Date: 16-JUL-04 09:10
Receive Date: 19-JUL-04
Collector: Client

Project: SAIC06001
Client ID: SAIC060

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics Federal											
5035/8260B BTEX in Liquid Federal											
Benzene	U	ND	0.330	1.00	ug/L	1	DLS	07/29/04	1841	352911	1
Ethylbenzene	U	ND	0.210	1.00	ug/L	1					
Toluene		1.57	0.390	1.00	ug/L	1					
Xylenes (total)	U	ND	0.250	1.00	ug/L	1					

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Bromofluorobenzene	5035/8260B BTEX in Liquid Federal	93	(76%-115%)
Dibromofluoromethane	5035/8260B BTEX in Liquid Federal	107	(72%-136%)
Toluene-d8	5035/8260B BTEX in Liquid Federal	96	(80%-116%)

Notes:
The Qualifiers in this report are defined as follows :

B Target analyte was detected in the sample as well as the associated blank.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
P The response between the confirmation column and the primary column is >40%D.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
Y QC Samples were not spiked with this compound.
h Sample preparation or preservation holding time exceeded.

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Certificate of Analysis

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

Report Date: August 30, 2004

Contact: Ms. Leslie Barbour
Project: **Ft. Stewart LTM D.O. 44**

Client Sample ID: 321062
Sample ID: 117166015

Project: SAIC06001
Client ID: SAIC060

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

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, LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

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

Report Date: August 30, 2004

Contact: Ms. Leslie Barbour
Project: **Ft. Stewart LTM D.O. 44**

Client Sample ID: 321162
Sample ID: 117166014
Matrix: Water
Collect Date: 16-JUL-04 09:45
Receive Date: 19-JUL-04
Collector: Client

Project: SAIC06001
Client ID: SAIC060

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Volatile Organics Federal											
5035/8260B BTEX in Liquid Federal											
Benzene	U	ND	0.330	1.00	ug/L	1	DLS	07/29/04	1814	352911	1
Ethylbenzene	U	ND	0.210	1.00	ug/L	1					
Toluene		2.10	0.390	1.00	ug/L	1					
Xylenes (total)	U	ND	0.250	1.00	ug/L	1					

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 8260B	

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Bromofluorobenzene	5035/8260B BTEX in Liquid Federal	87	(76%-115%)
Dibromofluoromethane	5035/8260B BTEX in Liquid Federal	102	(72%-136%)
Toluene-d8	5035/8260B BTEX in Liquid Federal	92	(80%-116%)

Notes:
The Qualifiers in this report are defined as follows :

B Target analyte was detected in the sample as well as the associated blank.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
P The response between the confirmation column and the primary column is >40%D.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
Y QC Samples were not spiked with this compound.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on an "as received" basis.

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

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

Report Date: August 30, 2004

Contact: Ms. Leslie Barbour
Project: **Ft. Stewart LTM D.O. 44**

Client Sample ID: 321162
Sample ID: 117166014

Project: SAIC06001
Client ID: SAIC060

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

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, LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

SAIC An Employee-Owned Company
Science Applications International Corporation
PO Box 2501, 151 Lafayette Dr., Tennessee 37830 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: GLTM43

PROJECT NAME: Fort Stewart LTM, D.O. 44

PROJECT NUMBER: 01-1055-04-8991-200

PROJECT MANAGER: ~~Patty Stoll~~ Sharon Stoller

Sampler (Signature) P A Stoll **(Printed Name)** PATRICIA A. STOLL

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29407

PHONE NO: (843) 556-8171

REQUESTED PARAMETERS

	Sample ID	Date Collected	Time Collected	Matrix	BTEX	VOC	SVOC	Nitrite, Nitrate, Sulfate	Sulfide	Total Iron	Methane	Carbon Dioxide	Total Phosphorus	No. of Bottles/ Vials:	OVA SCREENING	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
007	33Φ866	7/16/04	1450	wtr	2									2		
008	32Φ762		1125		2									2		
009	33Φ762		1335		2									2		
010	33Φ862		1300		2									2		
011	33Φ662		1220		2									2		
012	32Φ862		1050		2									2		
013	32Φ864		1050		2									2		
014	321162		0945		2									2		
015	321Φ62		0910		2									2		
016	TBΦ4Φ2		0745		2									2		

P A Stoll 7/19/04

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
P A Stoll	7/19/04	M. Chandler	7/19/04
COMPANY NAME: SAIC	1140	COMPANY NAME: GEL	1430
RECEIVED BY:	Date/Time	RELINQUISHED BY:	Date/Time
[illegible]	7/19/04		
COMPANY NAME: GEL	1140	COMPANY NAME:	
RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
[illegible]	7/19/04		
COMPANY NAME: GEL	1430	COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 72

Cooler ID: 123

Cooler Temperature: 4°C

FEDEX NUMBER: N/A

ORIGINAL COC LOCATED IN UST 89 FIFTH ANNUAL MONITORING ONLY REPORT

CERTIFICATES OF ANALYSIS AND CHAIN-OF-CUSTODY FORM

JULY 2005

Analytical Management Laboratories, Inc.
est. 1993

Certificate of Analysis

August 22, 2005

Mr. Mark Harvison
Project Chemist, CESAS-EN-GG
U.S. Army Corps of Engineers, Savannah District
100 W. Oglethorpe Ave.
P. O. Box 889
Savannah, GA 31401-3640
Phone: 912-652-5151
Fax: 912-652-5311

Dear Mr. Harvison:

Project Name: **Ft Stewart**
W912-HN-05-D-0013, Task Order No. 0005
AML Work Order Number: **7326**

Attached, please find the hardcopy analytical report (__111____ total pages) for environmental samples collected by USACE-SAV for the project described above. Problems encountered in the analysis of these samples are documented in the laboratory case narrative. The electronic data deliverables (EDDs) for this report will be e-mailed within a few days of this report. Please feel free to contact me by phone (913-829-0101-ext. 24), fax (913-829-1181) or email (klindquist@amlabinc.com) if you have any questions.

Respectfully Submitted,

Kendall L. Lindquist, MBA
Operations Manager

The test results contained within this report meet or exceed the requirements of NELAC and/or the specific certification program that is applicable. NELAP Accrediting Authority : Kansas Department of Health and Environment

- **Safe Drinking Water Act (Drinking Water)**
- **Clean Water Act (Waste Water)**
- **Soil/Hazardous Waste**

Certificate Number: E-10254 - Effective Date: 05/01/2005 - Expiration Date: 04/30/200
Florida: E87892 North Carolina: 627 South Carolina: 76003001

ACCREDITED IN ACCORDANCE WITH nela

1A - Equivalent

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: Analytical Managment Laboratories

Client ID: CESAS

Matrix: W

Sample g/ml: 25

% Solids: not dec.

Instrument ID V5973B

Analytical Method: 8260B

Prep Method: EPA 5030

Analytical Batch: 2687

Sample ID: UST-82-32-7-7-05

Project ID Ft Stewart, DO# 0005

Project Num 7326

Lab Sample ID: 732617

Date Collected: 7/22/05 Time: 9:42

Dilution Factor: 25

Date Analyzed: 8/3/05 Time: 17:46

Date Received: 7/26/05 8:00:00 AM

CAS NO.	COMPOUND	RESULT	Units	Q	LLR	MQL
71-43-2	Benzene	329	µg/l		3.48	50
100-41-4	Ethylbenzene	96.2	µg/l		2.5	50
1634-04-4	Methyl-tert-butyl-ether	76.2	µg/l		2.5	50
m+p xylene	m-Xylene and p-Xylene	280	µg/l		5.4	50
91-20-3	Naphthalene	121	µg/l		3.48	50
95-47-6	o-Xylene	153	µg/l		2.55	50
108-88-3	Toluene	513	µg/l		2.62	50

EPA Lab Code:KS00902

Kansas Certification:E-10254

FORM I VOA - Equivalent

1A - Equivalent

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:	Analytical Managment Laboratories	Sample ID:	UST-82-32-8-7-05
Client ID:	CESAS	Project ID	Ft Stewart, DO# 0005
Matrix:	W	Project Num	7326
Sample g/ml:	25	Lab Sample ID:	732618
% Solids: not dec.		Date Collected:	7/22/05 Time: 10:25
Instrument ID	V5973B	Dilution Factor:	50
Analytical Method:	8260B	Date Analyzed:	8/3/05 Time: 18:10
Prep Method:	EPA 5030	Date Received:	7/26/05 8:00:00 AM
Analytical Batch:	2687		

CAS NO.	COMPOUND	RESULT	Units	Q	LLR	MQL
71-43-2	Benzene	154	µg/l		6.95	100
100-41-4	Ethylbenzene	154	µg/l		5	100
1634-04-4	Methyl-tert-butyl-ether		µg/l	U	5	100
m+p xylene	m-Xylene and p-Xylene	601	µg/l		10.8	100
91-20-3	Naphthalene	168	µg/l		6.95	100
95-47-6	o-Xylene	282	µg/l		5.1	100
108-88-3	Toluene	787	µg/l		5.25	100

EPA Lab Code:KS00902

Kansas Certification:E-10254

FORM I VOA - Equivalent

AR5A

1A - Equivalent

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name:	Analytical Managment Laboratories	Sample ID:	UST-82-32-10-7-05
Client ID:	CESAS	Project ID	Ft Stewart, DO# 0005
Matrix:	W	Project Num	7326
Sample g/ml:	25	Lab Sample ID:	732613
% Solids: not dec.		Date Collected:	7/22/05 Time: 8:00
Instrument ID	V5973B	Dilution Factor:	1
Analytical Method:	8260B	Date Analyzed:	7/27/05 Time: 21:30
Prep Method:	EPA 5030	Date Received:	7/26/05 8:00:00 AM
Analytical Batch:	2666		

CAS NO.	COMPOUND	RESULT	Units	Q	LLR	MQL
71-43-2	Benzene		µg/l	U	0.139	2
100-41-4	Ethylbenzene		µg/l	U	0.1	2
1634-04-4	Methyl-tert-butyl-ether		µg/l	U	0.1	2
m+p xylene	m-Xylene and p-Xylene		µg/l	U	0.216	2
91-20-3	Naphthalene		µg/l	U	0.139	2
95-47-6	o-Xylene		µg/l	U	0.102	2
108-88-3	Toluene		µg/l	U	0.105	2

EPA Lab Code:KS00902

Kansas Certification:E-10254

FORM I VOA - Equivalent

AA33

1A - Equivalent

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: Analytical Managment Laboratories
Client ID: CESAS
Matrix: W
Sample g/ml: 25
% Solids: not dec.
Instrument ID V5973B
Analytical Method: 8260B
Prep Method: EPA 5030
Analytical Batch: 2667

Sample ID: UST-82-32-11-7-05
Project ID Ft Stewart, DO# 0005
Project Num 7326
Lab Sample ID: 732614
Date Collected: 7/22/05 Time: 8:44
Dilution Factor: 1
Date Analyzed: 7/28/05 Time: 11:51
Date Received: 7/26/05 8:00:00 AM

CAS NO.	COMPOUND	RESULT	Units	Q	LLR	MQL
71-43-2	Benzene		µg/l	U	0.139	2
100-41-4	Ethylbenzene		µg/l	U	0.1	2
1634-04-4	Methyl-tert-butyl-ether		µg/l	U	0.1	2
m+p xylene	m-Xylene and p-Xylene		µg/l	U	0.216	2
91-20-3	Naphthalene		µg/l	U	0.139	2
95-47-6	o-Xylene		µg/l	U	0.102	2
108-88-3	Toluene		µg/l	U	0.105	2

EPA Lab Code:KS00902
Kansas Certification:E-10254

FORM I VOA - Equivalent

0035

AML
Analytical Management Laboratories, Inc.
15130 South Keeler
Olathe, Kansas 66062
Phone (913) 829-0101
Fax (913) 829-1181

33722

Chain of Custody Record / Request for Analysis

Client Contact Name: Mark Harvison
Company Name: USACE
Address: 100 W. Oglethorpe Ave.
City, State, Zip: Savannah GA. 31401
Phone #: (912) 652-5151 Ext:
Fax #: (912) 652-5311
Email:

Project Name: Ft. Stewart
Project Number: 0005
Purchase Order Number:
Project Due Date:
Project Comments:
Sampler's Signature: Steve Wishop

Analyses/Method to be Performed (Check all that apply)

Specify method # ---> 8260

Sample Description	Date	Time	Matrix	Total # Containers	Preservative: HCl	HNO_3	NaOH	H_2SO_4	Unpreserved	4°C	VOCs	SVOCs	Pesticides	PCBs	Herbicides	Metals (specify)	DRO	GRO	Explosives	Anions (specify)	Comments:
UST-33-35-15-13-7-05	7-21-05	1730	AQ	3	3					3	3										
UST-33-35-BLK1-7-05	7-21-05	1800	AQ	3	3					3	3										
UST-82-32-10-7-05	7-22-05	0800	AQ	3	3					3	3										
UST-82-32-11-7-05	7-22-05	0844	AQ	9	9					9	9										
Trip Blank			AQ	2	2					2	2										MS/MSD
UST-82-Ave1-7-05	7-22-05	0815	AQ	3	3					3	3										
UST-82-32-7-7-05	7-22-05	0942	AQ	3	3					3	3										
UST-82-32-8-7-05	7-22-05	1025	AQ	3	3					3	3										
UST-82-BLK1-7-05	7-22-05	1030	AQ	3	3					3	3										
UST-210-43-09-7-05	7-22-05	1230	AQ	6	6					6	6										MS/MSD

Please include any information that may be useful in the analysis of the sample.
Example: high concentration
List analytes
MS/MSD

CUSTODY							
Relinquished By:	Steve Wishop	Date/Time:	7-25-05/1800	Received By:	Shipped	Date/Time:	
Relinquished By:		Date/Time:		Received By:		Date/Time:	07/26/05 0800am

By signing the request (chain of custody) you are ordering work from Analytical Management Laboratories, Inc. which constitutes the acceptance of the terms and conditions on the back of this form.

Courier
Airbill #: 8557 9211 0055

C-20