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CORRECTIVE ACTION PLAN PROGRESS REPORT FOR CALENDAR YEAR 2003

3d Inf Div (Mech)

FOR

SOLID WASTE MANAGEMENT UNIT 24B, OLD RADIATOR SHOP/PAINT BOOTH AT FORT STEWART, GEORGIA

Prepared for

U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT

Contract No. DACA21-02-D-0004
Delivery Order 0025

September 2004

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Prepared by

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

September 2004

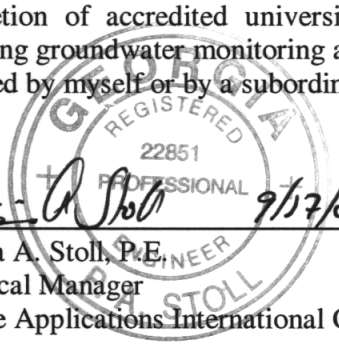
SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

contributed to the preparation of this document and should not be considered an eligible contractor for its review.

CERTIFICATION

This *Corrective Action Plan Progress Report for Calendar Year 2003 for Solid Waste Management Unit 24B, Old Radiator Shop/Paint Booth at Fort Stewart, Georgia*, has been prepared in accordance with Title 40, *Code of Federal Regulations,* Part 264 and Hazardous Waste Facility Permit No. HW-45(S&T), as renewed August 14, 1997.

The undersigned certifies that I am a qualified groundwater scientist who has received a baccalaureate or postgraduate degree in the natural sciences or engineering and that I have sufficient training and experience in groundwater hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, to enable me to make sound professional judgments regarding groundwater monitoring and contaminant fate and transport. I further certify that this report was prepared by myself or by a subordinate working under my direction.



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Technical Manager
Science Applications International Corporation

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FIGURES

TABLES

ACRONYMS

CAP	Corrective Action Plan
COC	constituent of concern
CY	calendar year
DPW	Directorate of Public Works
EPA	U.S. Environmental Protection Agency
GEPD	Georgia Environmental Protection Division
PRG	preliminary remediation goal
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
SAIC	Science Applications International Corporation
SAP	Sampling and Analysis Plan
SRC	site-related constituent
SVOC	semivolatile organic compound
SWMU	solid waste management unit
USACE	U.S. Army Corps of Engineers
VOC	volatile organic compound

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1.0 INTRODUCTION

This Corrective Action Plan (CAP) progress report for calendar year (CY) 2003 for Solid Waste Management Unit (SWMU) 24B, Old Radiator Shop/Paint Booth at Fort Stewart, Georgia, presents the results of the groundwater sampling performed July 2003. This report was prepared in accordance with the requirements of the final CAP for the site (SAIC 2002).

This report has been prepared by Science Applications International Corporation (SAIC) for the U.S. Army Corps of Engineers (USACE), Savannah District under contract DACA21-02-D-0004, delivery order 0025. The groundwater sampling was conducted in accordance with Addendum #3 to the Sampling and Analysis Plan (SAP) for Phase II Resource Conservation and Recovery Act (RCRA) facility investigations (RFIs) of 16 SWMUs (SAIC 2003) and the SAP for 16 SWMUs (SAIC 1997), which were developed in accordance with USACE Guidance EM 200-1-3 (USACE 2001).

1.1 SITE BACKGROUND AND OPERATIONAL HISTORY

SWMU 24B, the Old Radiator Shop/Paint Booth, is located in Building 1056, which is in the southern portion of the garrison area on the eastern side of Tilton Avenue (Figure 1-1). Building 1056 housed a radiator shop and a paint booth in the past and is currently used for equipment repair and storage. The location of the paint booth in relation to Building 1056 and site features of SWMU 24B are presented in Figure 1-2. Current plans for the area around the SWMU 24B site include demolition of Building 1056 within the next 5 years under a military construction project involving upgrading of maintenance facilities. An RFI was conducted for SWMU 24B, and the results were reported in the *Addendum for SWMU 24B: Old Radiator Shop/Paint Booth to the Revised Final Phase II RCRA Facility Investigation Report for 16 Solid Waste Management Units at Fort Stewart, Georgia* (SAIC 2001).

The operational history of the site is vague. Building 1056 used to be a radiator shop. The area is currently used as an equipment repair and storage area. In 1993 long-time Building 1056 workers were interviewed regarding their knowledge of the history of former operations at this facility. One employee reported that an old paint booth had been located in the northern corner of the building, but that it had been out of use for about 18 years. Before use as a paint booth, the area reportedly housed the old radiator shop. Other employees indicated that they did not know what materials had been used in the old paint booth and were not aware of a radiator shop having been located in the building.

Other research into former operations at Building 1056 has indicated that a drainpipe led from the building and discharged into a ditch (Figure 1-2). It is unknown whether the drainpipe originally discharged to a ditch running parallel to Building 1056 or to the ditch on the west side of Tilton Avenue. It was reported that the Directorate of Engineering and Housing installed a pipe under Tilton Avenue that connected the drainpipe in Building 1056 to the industrial wastewater pipeline located on the west side of Tilton Avenue (Geraghty and Miller 1992), at which point the discharge was no longer routed to the ditch. The Fort Stewart Plumbing/Mechanical and Electrical Department was not able to determine when the piping from Building 1056 was connected to the industrial wastewater treatment plant drainage system or where the connection was located. There is a visible cut in the asphalt across Tilton Avenue approximately 15 ft southeast of the northwestern corner of Building 1056. It is believed that this is the location of the connection.

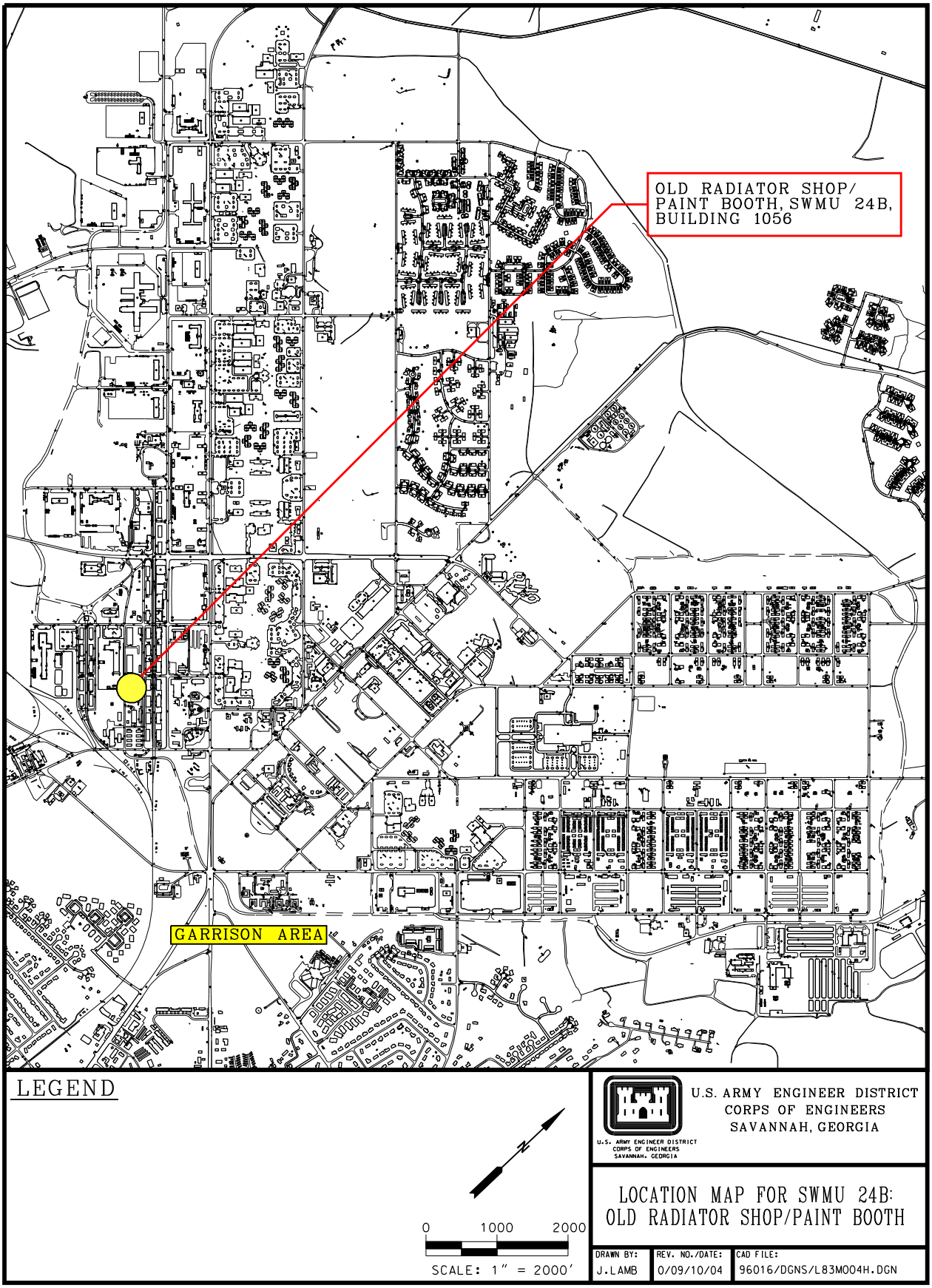

Figure 1-1. Location of SWMU 24B at Fort Stewart, Georgia

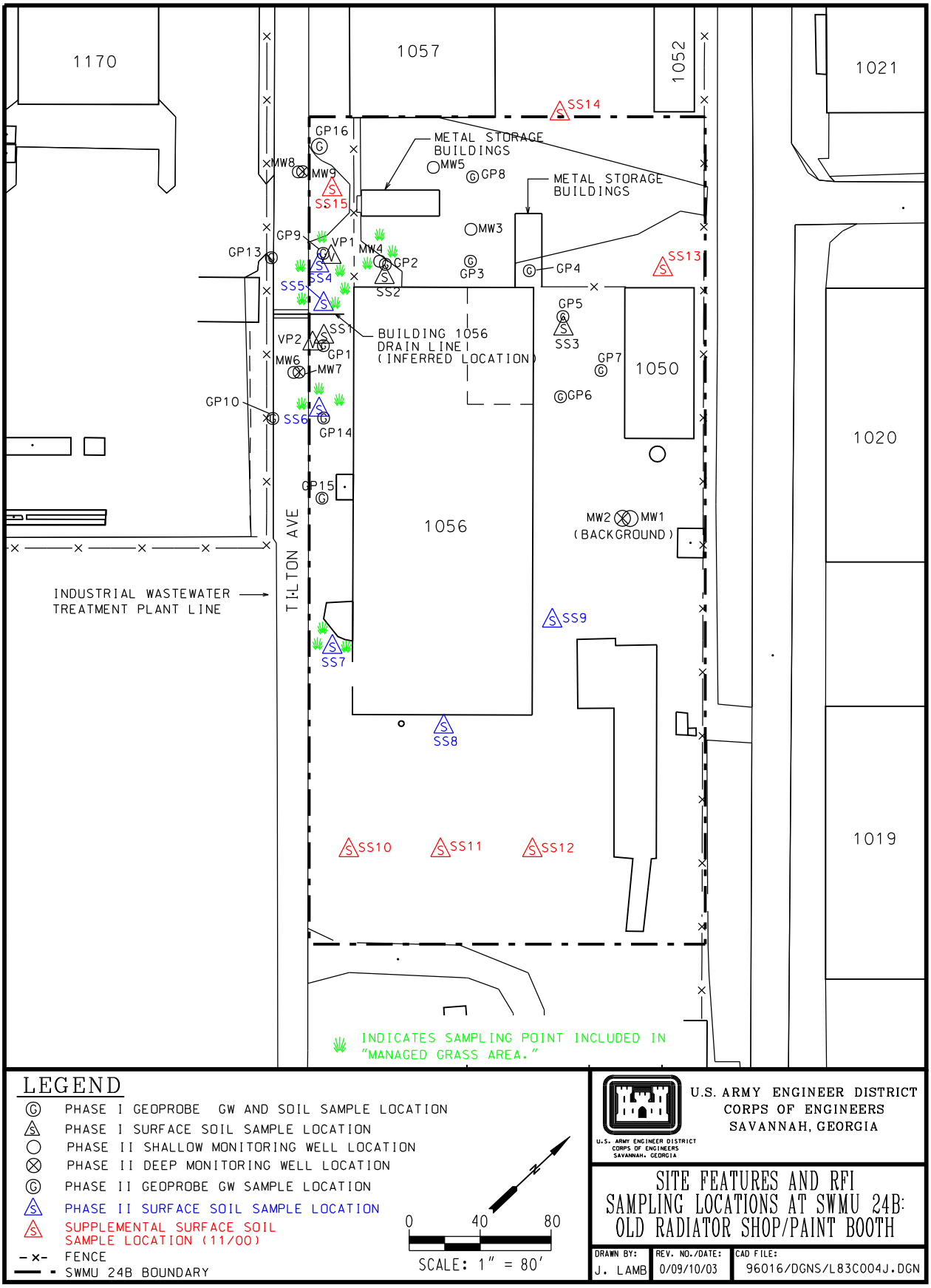

Figure 1-2. Site Features and RFI Sampling Locations at SWMU 24B

If the facility was previously used as a radiator repair shop, the wastes generated would probably have been the same as those generated under its current operations as an engine equipment repair facility. These wastes include caustic cleaning solution, sodium hydroxide, water-based fluorescein dye solution, and spent recirculation wastes from the wet-curtain spray paint booth.

SWMU 24B is generally level and covered with concrete or gravel around Building 1056. The site is heavily congested with stored equipment (e.g., motors, metal boxes). The surface elevation of the site is approximately 85.5 ft above mean sea level.

Groundwater was encountered at approximately 6 to 8 ft below ground surface. The shallow surficial groundwater flow direction across the site is generally to the west. The deep surficial groundwater generally flows to the southwest to south. There are no surface water/sediment migration pathways at the site. Former drain lines from the facility might have discharged to a ditch alongside Building 1056 that is no longer present or a ditch alongside Tilton Avenue. The closest surface water feature is an approximately 6-ft-deep man-made drainage ditch located approximately 500 ft to the west. This ditch is capable of intercepting the shallow groundwater from the site. The drainage ditch ultimately discharges into Mill Creek, approximately 2,600 ft to the west. In addition, a tributary of Mill Creek is located approximately 1,200 ft to the south. The deep surficial groundwater might intercept this tributary.

1.2 SUMMARY OF PHASE I AND II RCRA FACILITY INVESTIGATIONS

A Phase I RFI was conducted at SWMU 24B in 1998 by SAIC. During the investigation five surface soil samples, four subsurface soil samples, and six groundwater samples were collected using direct-push technology techniques (Figure 1-2). The samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and RCRA metals.

A Phase II RFI was performed by SAIC in January 1999 and consisted of collecting eight groundwater screening samples to determine horizontal extent, collecting two vertical profiles to determine vertical extent, installing and sampling nine (six shallow and three deep) monitoring wells, sampling surface and subsurface soil during the installation of the monitoring wells, and collecting an additional six surface soil samples. The sampling locations from the Phase II investigations are shown in Figure 1-2. Supplemental groundwater sampling of all nine monitoring wells for VOCs and SVOCs was performed in November 2000.

1.2.1 Nature and Extent of Surface Soil Contamination

Four VOCs—carbon disulfide, butanone, acetone, and toluene—were detected in surface soil during the Phase I and Phase II RFIs. The Phase II RFI confirmed SVOC contamination in the shallow soil samples. Seventeen SVOCs were detected in surface soil: 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(*a*)anthracene, benzo(*a*)pyrene, benzo(*b*)fluoranthene, benzo(*g,h,i*)perylene, benzo(*k*)fluoranthene, chrysene, di-*N*-octylphthalate, fluoranthene, fluorine, indeno(*1,2,3-cd*)pyrene, naphthalene, phenanthrene, and pyrene. Arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver were detected at concentrations above their reference concentrations in at least one of the surface soil samples during the Phase I or Phase II RFI. Of the site-related constituents (SRCs) in surface soil, benzo(*a*)pyrene, benzo(*a*)anthracene, benzo(*b*)fluoranthene, and indeno(*1,2,3-cd*)pyrene were determined to be human health constituents of concern (COCs), and cadmium, chromium, and lead were determined to be contaminant migration COCs in surface soil requiring corrective action.

1.2.2 Nature and Extent of Subsurface Soil Contamination

In the subsurface soil, the VOCs detected were carbon disulfide, methylene chloride, tetrachloroethene, trichloroethene, and toluene. Only one SVOC, pyrene, was detected in the subsurface soil. The only metals detected at concentrations above their reference background criteria were mercury and selenium. None of the SRCs in subsurface soil was determined to be a COC requiring corrective action.

1.2.3 Nature and Extent of Groundwater Contamination

Low concentrations of three VOCs (methylene chloride, tetrachloroethene, and trichloroethene) were detected sporadically in groundwater from monitoring wells through the supplemental groundwater sampling of November 2000 (Table C-1 in Appendix C). No SVOCs were detected in groundwater.

Only one metal, chromium, was detected at concentrations above its reference background criterion in the shallow surficial groundwater. Two metals (chromium and barium) were detected at concentrations above their reference background criteria in the deep groundwater. None of the SRCs in groundwater was determined to be a COC requiring corrective action.

1.3 CORRECTIVE ACTION PLAN FOR SWMU 24B

In accordance with the recommendations of the Phase II RFI, a CAP was developed for SWMU 24B to evaluate potential remedial alternatives to address human health COCs in surface soil [benzo(*a*)pyrene, benzo(*a*)anthracene, benzo(*b*)fluoranthene, and indeno(*1,2,3-cd*)pyrene] and contaminant migration COCs (cadmium, chromium, and lead) (SAIC 2001).

Corrective action technologies were identified for contaminants [benzo(*a*)pyrene, benzo(*a*)anthracene, benzo(*b*)fluoranthene, and indeno(*1,2,3-cd*)pyrene] and metals (cadmium, chromium, and lead) in surface soil at SWMU 24B. The screened technologies for surface soil were combined to form remedial alternatives to meet the remedial response objective to minimize human contact with surface soil containing SVOCs at concentrations greater than the remedial levels as developed in the revised final *Addendum for SWMU 24B: Old Radiator Shop/Paint Booth to the Revised Final Phase II RCRA Facility Investigation Report for 16 Solid Waste Management Units at Fort Stewart, Georgia,* (SAIC 2001) within the boundaries of SWMU 24B. The recommended soil remedial levels are presented in Table 1-1. In addition, Building 1056 is scheduled to be demolished in 2007; therefore, no definitive decision can be made about surface soil contamination until soil samples have been collected from below Building 1056 and their results evaluated to determine whether the activities in Building 1056 contributed to the surface soil contamination. Implementation of institutional controls will restrict access to surface soil until the soil below the building can be sampled so that any previously undiscovered contamination can be addressed. Groundwater monitoring was included as part of the remedial alternatives even though no groundwater contaminants were identified to ensure that contaminants are not leaching to the groundwater table.

The following three corrective action alternatives were evaluated for surface soil contamination at SWMU 24B:

- Alternative 1: Institutional Controls and Groundwater Monitoring,
- Alternative 2: Concrete Cap with Institutional Controls and Groundwater Monitoring, and
- Alternative 3: Excavation with Institutional Controls and Groundwater Monitoring.

Table 1-1. Remedial Levels for COCs at SWMU 24B

COC	COC Type	Remedial Level (mg/kg)
Benzo(*a*)pyrene	HHCOC	0.89
Benzo(*a*)anthracene	HHCOC	8.93
Benzo(*b*)fluoranthene	HHCOC	8.93
Indeno(*1,2,3-cd*)pyrene	HHCOC	8.93
Cadmium	CMCOC	1.9
Chromium	CMCOC	11.6
Lead	CMCOC	11.1

COC = Constituent of concern.
CMCOC = Contaminant migration constituent of concern.
HHCOC = Human health constituent of concern.
SWMU = Solid waste management unit.

The selected corrective action alternative for remediation of surface soil was Alternative 1: Institutional Controls and Groundwater Monitoring. Implementation of this alternative will be coordinated with the demolition activities scheduled for the area. Building 1056 is scheduled to be demolished in CY 2004. Following demolition of Building 1056, soil under the slab will be sampled and analyzed for VOCs, SVOCs, and RCRA metals. Following analysis of the data from soil collected under the slab, an addendum to the CAP will be prepared recommending additional actions and/or monitoring based on the new data and coordinating these actions with the final construction design and schedule. This alternative was selected for remediation because it will meet the remedial response objective. The specific features of the alternative include those described below.

- Land-use restrictions will be used to prohibit excavation and groundwater use and construction within the property boundaries. Signs warning of the contamination will be posted approximately every 200 ft along Tilton Avenue and along existing fences around the site. During a site walkover in September 2003, the Georgia Environmental Protection Division (GEPD) indicated to the Fort Stewart Directorate of Public Works (DPW) that installation of the warning signs could be postponed until the completion of the demolition of Building 1056, which is presently scheduled for CY 2004.

- Groundwater monitoring will be conducted on a biannual basis (every other year) until Building 1056 has been demolished (scheduled to occur within the next 5 years) because of the potential for contaminants in soil under the slab to migrate to groundwater. Groundwater monitoring will consist of low-flow sampling of the six shallow surficial groundwater wells (MW1, MW3, MW4, MW5, MW6, and MW8). The groundwater samples will be analyzed for VOCs, SVOCs, and RCRA metals. VOCs and RCRA metals are not COCs at the site; however, they are the classes of chemicals most likely to be associated with the paint booth and, therefore, the most likely to be present under the building slab.

- A CAP progress report will be issued annually to report the results of site inspection and maintenance. In years in which groundwater monitoring is performed (biannually), the CAP progress report will include the results of the groundwater monitoring.

- With GEPD's concurrence, all groundwater monitoring wells will be abandoned when concentrations are below remedial levels and the remediation is determined to be complete.

The CAP is presently under review by GEPD. The Fort Stewart DPW has elected to implement the alternative to ensure protectiveness of human health in anticipation of concurrence from GEPD with no major revisions.

1.4 REPORT ORGANIZATION

The report organization presented in this section provides an outline of the information required by the soil and groundwater monitoring for CY 2002. This report is organized as follows:

- Chapter 1.0: site background, operational history, and summary of Phase I and Phase II RFIs, supplemental groundwater sampling, and CAP;
- Chapter 2.0: groundwater sampling (July 2003) and data evaluation;
- Chapter 3.0: conclusions and recommendations; and
- Chapter 4.0: references.

Appendix A contains the chain-of-custody forms and the analytical results for the groundwater sampling conducted in July 2003 at SWMU 24B. Appendix B contains the protocol approved by GEPD for establishing remedial levels after GEPD has approved the RFI and CAP. Appendix C presents a summary of all analytes detected in groundwater from the shallow surficial groundwater wells.

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2.0 GROUNDWATER SAMPLING AND EVALUATION

In accordance with the corrective action recommended in the CAP, groundwater samples were collected from six shallow monitoring wells at SWMU 24B. As discussed in Section 1.3, GEPD has agreed that installation of the warning signs can be postponed until after the demolition of Building 1056, which is scheduled for CY 2004; therefore, no site inspection was performed for CY 2003. The following sections present the results of the groundwater sampling.

2.1 GROUNDWATER SAMPLING (JULY 2003)

All six shallow surficial groundwater monitoring wells (MW1, MW3, MW4, MW5, MW6, and MW8) were sampled using low-flow techniques. Groundwater samples were collected for VOCs, SVOCs, and RCRA metals. Summaries of the groundwater analytical results are presented in Table 2-1 and Figure 2-1. The complete groundwater analytical results and chain-of-custody forms are presented in Appendix A.

Dissolved oxygen, pH, turbidity, temperature, oxidation-reduction potential, and conductivity were measured in the field during sampling, and the results are presented in Table 2-2.

Measurements of water levels were taken at all existing shallow and deep wells at SWMU 24B to develop a comprehensive understanding of groundwater flow of the entire area during groundwater sampling. Water levels were measured upon opening of the well. Water-level measurements and groundwater elevations for the baseline sampling are presented in Table 2-3.

2.2 GROUNDWATER FLOW AND DIRECTION

The water-level measurements (see Table 2-3) from the monitoring wells were used to develop shallow and deep groundwater potentiometric maps for SWMU 24B. The groundwater elevations and the potentiometric maps for the shallow and deep surficial groundwater are presented in Figures 2-2 and 2-3, respectively. The shallow surficial groundwater flow direction across the site is generally to the west, with an average hydraulic gradient of 0.01 ft/ft. The deep surficial groundwater generally flows to the southwest to south, with an average hydraulic gradient of 0.009 ft/ft.

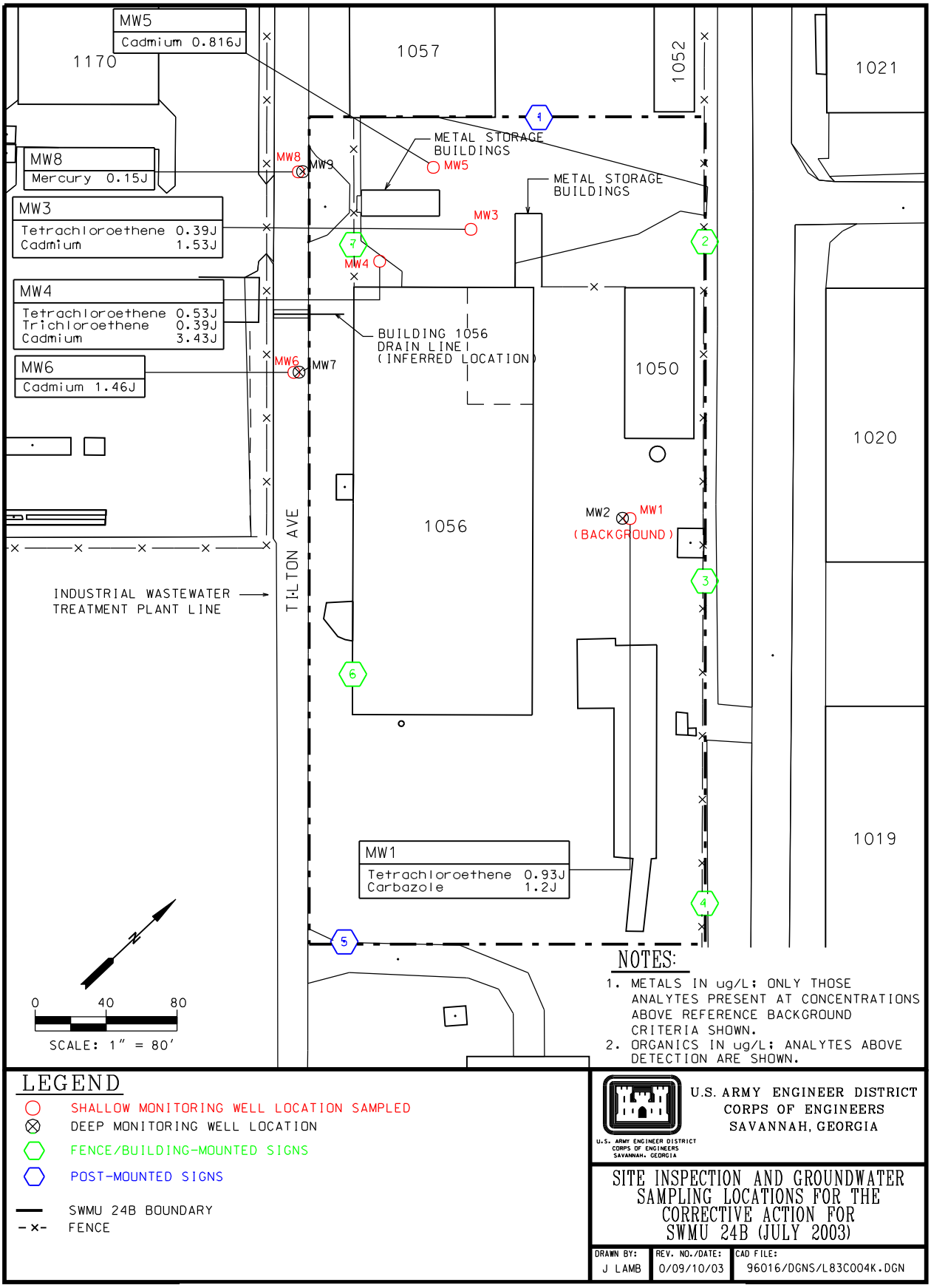

Figure 2-1. Site Inspection and Groundwater Sampling Locations for the Corrective Action for SWMU 24B (July 2003)

Table 2-1. Summary of Analytes Detected in Groundwater (July 2003), SWMU 24B

Station	EPA Region 3 Tap Water PRG[a]	Federal MCL	Site-Wide Background Criteria	24BMW1[b]	24BMW3	24BMW4	24BMW5	24BMW6	24BMW8
Sample ID				244113	244313	244413	244513	244613	244813
Date				07/17/03	07/21/03	07/19/03	07/22/03	07/17/03	07/21/03
Volatile Organic Compounds (µg/L)									
Tetrachloroethene	0.1 ca	5	0.00	0.93 J	0.39 J	0.53 J			
Trichloroethene	0.028 ca	5	0.00			0.39 J			
Semivolatile Organic Compounds (µg/L)									
Carbazole	3.4 ca		0.00	1.2 J					
RCRA Metals (µg/L)									
Barium	260 nc	2,000	71.72	35.5	12.4	24.2	24.8	8.56	6.42
Cadmium	1.8 nc	5	0.43		1.53 J	3.43 J	0.816 J	1.46 J	
Mercury	1.1 nc	2	0.14						0.15 J

[a]EPA Region 3 tap water PRGs were updated as of October 16, 2003, from the EPA Mid-Atlantic Hazardous Site Cleanup Website (http://www.epa.gov/reg3hwmd/risk/index.htm).
[b]Site-specific background location.
ca = Tap water PRG is based on carcinogenic factor.
EPA = U.S. Environmental Protection Agency.
J = Estimated value.
MCL = Maximum contaminant level.
nc = Tap water PRG is 0.1 times the PRG based on noncarcinogenic toxicity.
PRG = Preliminary remediation goal.
RCRA = Resource Conservation and Recovery Act.
SWMU = Solid waste management unit.

Table 2-2. Field Parameter Measurements during Groundwater Sampling (July 2003), SWMU 24B

Field Reading at Monitoring Well							
Location	Date	pH (s.u.)	Conductivity (mS/cm)	Temperature (°C)	Turbidity (NTUs)	DO (mg/L)	Redox (mV)
24BMW1	07/17/03	5.63	0.116	24.93	9.9	1.22	108
24BMW3	07/21/03	4.63	0.056	35.65	10.0	0.93	208
24BMW4	07/19/03	4.27	0.095	31.61	7.2	0.55	168
24BMW5	07/18/03	4.66	0.082	31.35	9.7	1.26	196
24BMW6	07/17/03	4.44	0.140	25.93	4.1	1.00	83
24BMW8	07/21/03	5.59	0.120	38.02	196	0.66	185

DO = Dissolved oxygen.
NTU = Nephelometric turbidity unit.
Redox = Oxidation-reduction potential.
s.u. = Standard units.
SWMU = Solid waste management unit.

Table 2-3. Water-Level Data for Monitoring Wells, SWMU 24B

Well	Date	Screened Interval (ft BGS)	Depth to Water (ft below MP)	Elevation of Measuring Point (ft AMSL)	Elevation of Potentiometric Surface (ft AMSL)
24BMW1	07/17/03	4.00 to 14.00	4.17	87.40	83.23
24BMW2	07/17/03	35.50 to 45.50	4.90	87.20	82.30
24BMW3	07/17/03	3.40 to 13.40	4.36	86.19	81.83
24BMW4	07/17/03	3.60 to 13.60	4.72	86.20	81.48
24BMW5	07/17/03	2.80 to 12.80	3.88	85.48	81.60
24BMW6	07/17/03	3.90 to 13.90	5.70	86.82	81.12
24BMW7	07/17/03	34.30 to 44.30	6.40	86.83	80.43
24BMW8	07/17/03	3.75 to 13.75	5.53	86.42	80.89
24BMW9	07/17/03	33.65-43.65	5.33	86.22	80.89

AMSL = Above mean sea level.
BGS = Below ground surface.
MP = Measuring point (top of casing).
SWMU = Solid waste management unit.

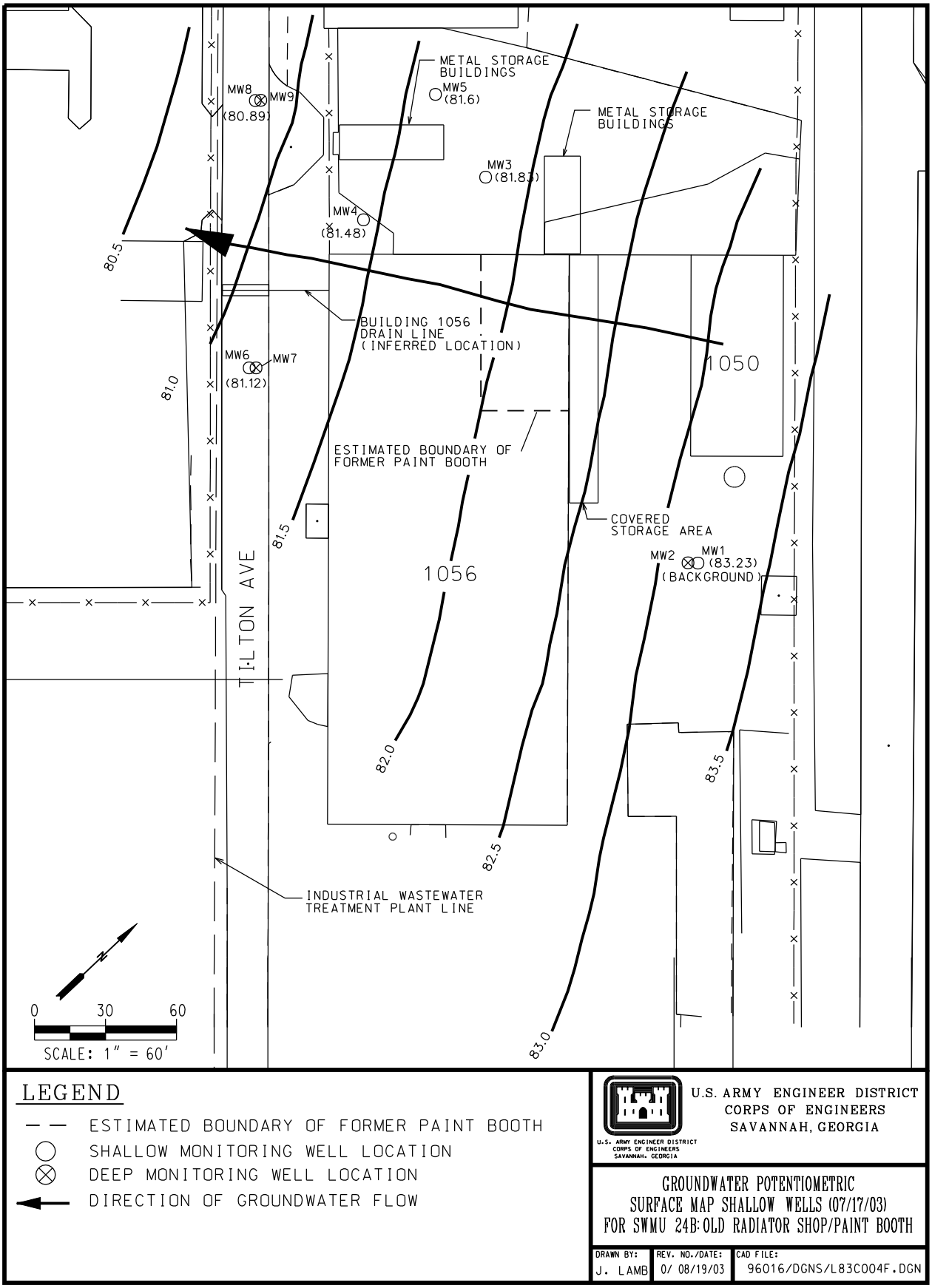

Figure 2-2. Shallow Groundwater Potentiometric Surface Map of SWMU 24B (July 17, 2003)

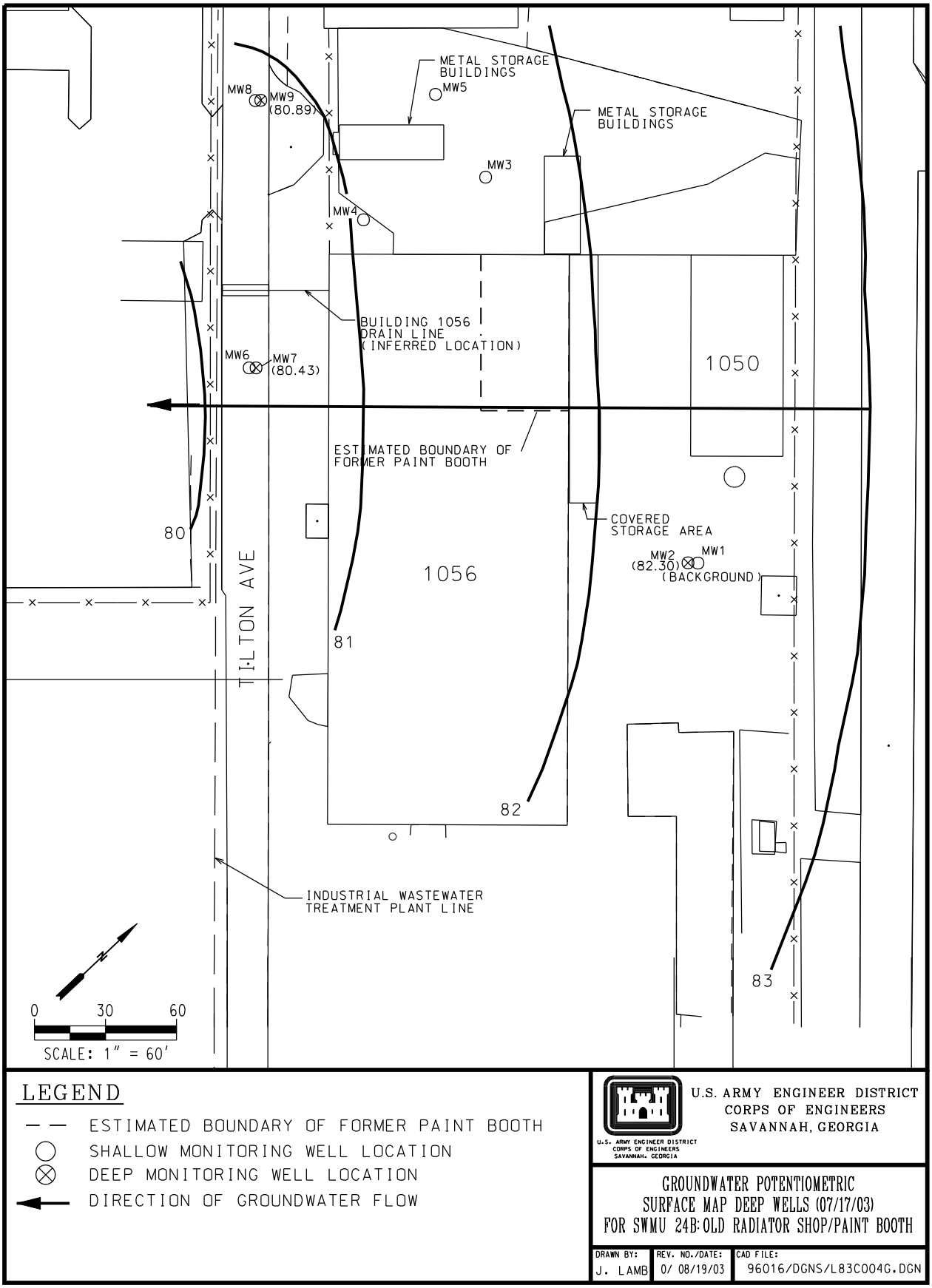

Figure 2-3. Deep Groundwater Potentiometric Surface Map of SWMU 24B (July 17, 2003)

2.3 ANALYTICAL RESULTS AND EVALUATION

Groundwater samples were collected from six shallow groundwater monitoring wells (MW1, MW3, MW4, MW5, MW6, and MW8) and analyzed for VOCs, SVOCs, and RCRA metals. The results of the groundwater analysis are presented in Table 2-1 and Figure 2-1.

VOCs. Two VOCs (tetrachloroethene and trichloroethene) were estimated in groundwater at SWMU 24B. Tetrachloroethene was estimated at three locations—MW1 (shallow site-specific background location), MW3, and MW4—at concentrations of 0.93J, 0.39J, and 0.53J µg/L, respectively. Trichloroethene was estimated at a concentration of 0.39J µg/L at MW4. Tetrachloroethene and trichloroethene were considered SRCs in groundwater during the July 2003 sampling event.

SVOCs. One SVOC, carbazole, was estimated at a concentration of 0.39J µg/L at MW1, the shallow site-specific background location. Carbazole is not considered an SRC because it was detected at only the site-specific background location.

RCRA Metals. Three RCRA metals (barium, cadmium, and mercury) were detected or estimated in the groundwater at SWMU 24B; however, only two (cadmium and mercury) were estimated above the site-wide background criteria established for Fort Stewart in the Phase II RFI for 16 SWMUs (SAIC 2000). Barium was detected at all six groundwater locations at concentrations ranging from 6.42 µg/L at MW8 to 35.5 µg/L at MW1, the shallow site-specific background location. None of the detected barium concentrations was above the site-wide background criterion of 71.72 µg/L. Cadmium was estimated at four locations (MW3, MW4, MW5, and MW6) at concentrations above the site-wide background criterion (0.43 µg/L). The cadmium concentration ranged from 0.816J µg/L at MW5 to 3.43J µg/L at MW3. Mercury was estimated at one location, MW8, at a concentration of 0.15J µg/L, which was slightly greater than the site-wide background criterion of 0.14 µg/L. Only cadmium and mercury were considered SRCs at SWMU 24B during the July 2003 sampling because they were detected above site-wide background criteria.

Data Evaluation. A protocol and a decision flowchart for evaluating concentrations of SRCs identified in media collected after the establishment of remedial levels through either an RFI report and/or a CAP were approved by GEPD in an e-mail dated May 4, 2001 (Appendix B). This protocol was used to evaluate the groundwater data collected in July 2003.

The groundwater evaluation for this CAP Progress Report identified concentrations of tetrachloroethene that had inadvertently been indicated as nondetect in the *Addendum for SWMU 24B: Old Radiator Shop/Paint Booth to the Revised Final Phase II RCRA Facility Investigation Report for 16 Solid Waste Management Units at Fort Stewart, Georgia* (SAIC 2001). Table C-1 in Appendix C presents a summary of all analytes detected in groundwater collected from shallow surficial groundwater wells between October 1999 and July 2003. The low detection rules developed for the Phase II RFI for 16 SWMUs were inadvertently applied to the November 2000 groundwater data; therefore, three detections of tetrachloroethene were not included in the data set. Tetrachloroethene was actually detected at three locations—MW4, MW6, and MW8—at concentrations of 1.4, 1.4, and 0.53J µg/L, respectively, in November 2000. The maximum concentration of tetrachloroethene was below the maximum contaminant level of 5 µg/L (remedial level that would have been proposed); therefore, corrective action would not have been required for tetrachloroethene in groundwater, and the recommended corrective action would have been the same. For the data evaluation against the protocol, tetrachloroethene was considered not detected (most conservative) during previous sampling endeavors; therefore, a detection above the EPA Region 3 PRG in the CY 2003 sampling endeavor would require that confirmatory sampling be performed.

Table 2-4 presents the SRCs (tetrachloroethene, trichloroethene, cadmium, and mercury) identified in groundwater during the July 2003 sampling event evaluated in accordance with the protocol established for evaluating concentrations of SRCs identified in media collected after the establishment of remedial levels through either an RFI report and/or a CAP (Appendix B). Each SRC is discussed below.

Tetrachloroethene was estimated at a concentration of 0.53J µg/L in MW4. Tetrachloroethene was detected above the maximum concentration (nondetect) presented in the Phase II RFI report and the U. S. Environmental Protection Agency (EPA) Region 3 preliminary remediation goal (PRG) for tap water (0.1 µg/L); therefore, in accordance with the protocol, an elevated concentration indicated once must be confirmed before developing a remedial level. Table C-1, Appendix C presents a summary of all the analytes detected in groundwater collected from monitoring wells.

The maximum concentration of trichloroethene (0.39J µg/L) estimated during July 2003 was below the maximum concentration (2.6 µg/L) detected during the Phase II RFI; therefore, in accordance with the protocol for evaluating constituents in groundwater after approval of the RFI report or CAP (Appendix B), no further evaluation is required.

Cadmium and mercury were detected in groundwater during the July 2003 sampling, but were not detected during the Phase II RFI (most recent groundwater analysis for metals was November 1999). Cadmium was estimated at a concentration of 3.43J µg/L, which is also above its EPA Region 3 tap water PRG (1.8 µg/L); therefore, in accordance with the protocol, an elevated concentration indicated once must be confirmed before developing a remedial level. Mercury was estimated at a concentration of 0.15J µg/L, which is below the EPA Region 3 tap water PRG (1.1 µg/L); therefore, according to the protocol, no further evaluation is required. None of the concentrations was estimated or detected above its respective maximum contaminant level.

Table 2-4. Evaluation of Site-Related Constituents in Groundwater (July 2003), SWMU 24B

Analyte	Previous Maximum Detected	EPA Region 3 Tap Water PRG[a]	Maximum Detected July 2003	Station at Maximum Detect July 2003	Present Remedial Level	New COC?	Justification
Site-Related Constituents (µg/L)							
Tetrachloroethene	ND[b]	0.1 ca	0.53	MW4	[c]	No	Concentration exceeds concentration presented in the Phase II RFI report (Appendix B) and the EPA Region 3 PRG for tap water; therefore, results from next scheduled sampling event will be used to confirm results.
Trichloroethene	2.6	0.026 ca	0.39	MW4	[c]	No	Concentration does not exceed maximum concentration indicated in RFI; therefore, no further evaluation is required (Appendix B).
Cadmium	ND	1.8 nc	3.43	MW4	[c]	No	Elevated concentration indicated only once (Appendix B). Results from next scheduled sampling event will be used to confirm results.
Mercury	ND	1.1 nc	0.15	MW8	[c]	No	Elevated concentration indicated only once and does not exceed EPA Region 3 PRG for tap water (Appendix B); therefore, no further evaluation is required.

[a]EPA Region 3 tap water PRGs were updated as of October 16, 2003, from the EPA Mid-Atlantic Hazardous Site Cleanup Website (http://www.epa.gov/reg3hwmd/risk/index.htm).

[b]Concentration of tetrachloroethene was inadvertently indicated as nondetect in the *Addendum for SWMU 24B: Old Radiator Shop/Paint Booth to the Revised Final Phase II RCRA Facility Investigation Report for 16 Solid Waste Management Units at Fort Stewart, Georgia* (SAIC 2001) because of application of the low detection rules developed for the Phase II RFI for 16 SWMUs. Tetrachloroethene was actually detected at three locations—MW4, MW6, and MW8—at concentrations of 1.4, 1.4, and 0.53J µg/L, respectively. The maximum concentration was below the maximum contaminant level of 5 µg/L (remedial level that would have been proposed); therefore, corrective action would not have been required for tetrachloroethene in groundwater. The recommended corrective action would have been the same. Table D-1 in Appendix D presents a summary of all analytes detected in groundwater collected from shallow surficial groundwater wells between October 1999 and July 2003.

[c]No remedial level was established in the Phase II RFI because the human health baseline risk assessment indicated that the calculated risk was below the incremental lifetime cancer risk of 1×10^{-6} and the hazard index of 1.0; therefore, the constituent was not a risk driver and was dismissed.

ca = Tap water PRG is based on carcinogenic factor.
COC = Constituent of concern.
EPA = U.S. Environmental Protection Agency.
nc = Tap water PRG is 0.1 times the PRG based on noncarcinogenic toxicity.
ND = Not detected.
PRG = Preliminary remediation goal.
RFI = Resource Conservation and Recovery Act facility investigation.
SWMU = Solid waste management unit.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 CONCLUSIONS

Groundwater was collected in July 2003 from six shallow surficial groundwater wells at SWMU 24B and analyzed for VOCs, SVOCs, and RCRA metals. The sampling was conducted in accordance with the selected remedial alternative recommended in the CAP for SWMU 24B (SAIC 2002).

Four constituents (trichloroethene, tetrachloroethene, cadmium, and mercury) were identified as SRCs in groundwater from the July 2003 sampling. Tetrachloroethene was detected above the EPA Region 3 PRG, but not the maximum concentration detected during the Phase II RFI; however, the maximum concentration of tetrachloroethene was not specifically evaluated because of its having been screened out by the application of validation rules developed for the Phase II RFI for 16 SWMUs. Cadmium was detected above the EPA Region 3 tap water PRG (1.8 μg/L) and the maximum concentration detected during the Phase II RFI. Of the remaining constituents, trichloroethene was detected below the maximum concentration from the previous sampling endeavor (Phase II RFI) and mercury was detected below the EPA Region 3 tap water PRG (1.1 μg/L); therefore, no further action is required for these constituents.

3.2 RECOMMENDATIONS

The latest groundwater results (July 2003) indicate concentrations of tetrachloroethene and cadmium above the maximum concentration indicated in the Phase II RFI report and their EPA Region 3 tap water PRGs; therefore, in accordance with the established protocol, the next scheduled groundwater sampling event will be used to confirm whether cadmium and tetrachloroethene are COCs and require development of remedial levels.

Even though the remaining constituents (trichloroethene and mercury) were not detected above regulatory criteria, they will continue to be monitored through the biannual groundwater sampling program to ensure that they are not migrating to groundwater and until Building 1056 is demolished and the soil underneath the building is sampled. The next groundwater sampling event is scheduled for CY 2005. Building 1056 is scheduled to be demolished by 2005.

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4.0 REFERENCES

Geraghty and Miller, Inc. 1992. *RCRA Facility Investigation Final Work Plan, Fort Stewart, Georgia,* June.

SAIC (Science Applications International Corporation) 1997. *Sampling and Analysis Plan for Phase II RCRA Facility Investigation of 16 Solid Waste Management Units at Fort Stewart, Georgia* (Revised Final), October.

SAIC 2000. *Phase II RCRA Facility Investigation Report for 16 Solid Waste Management Units at Fort Stewart, Georgia* (Revised Final), April.

SAIC 2001. *Addendum for SWMU 24B: Old Radiator Shop/Paint Booth to the Revised Final Phase II RCRA Facility Investigation Report for 16 Solid Waste Management Units at Fort Stewart, Georgia* (Revised Final), June.

SAIC 2002. *Corrective Action Plan for the Old Radiator Shop/Paint Booth (Solid Waste Management Unit 24B) at Fort Stewart Military Reservation, Fort Stewart, Georgia* (Final), July.

SAIC 2003. *Addendum #3 to the Sampling and Analysis Plan for Phase II RCRA Facility Investigations of 16 Solid Waste Management Units at Fort Stewart, Georgia* (Draft), July.

USACE (U. S. Army Corps of Engineers) 2001. *Requirements for the Preparation of Sampling and Analysis Plans*, EM 200-1-3, Department of the Army, Washington, DC, February.

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APPENDIX A

ANALYTICAL DATA AND CHAIN-OF-CUSTODY FORMS

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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
	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, 2005
	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, 2005
	Accreditation Scope:	SDWA, CWA, RCRA, CERCLA

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ANALYTICAL DATA
JULY 2003

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Fort Stewart - SWMU 24B - July Sampling Event
Fort Stewart - SWMU 24B

Station: 24B-MW-01 **Northing:** 677689.9312 **Easting:** 827118.2045
Coord System: GA83East **Method:**

Station: 24B-MW-01
Sample ID: 244113 **Media:** Groundwater
Date Collected: 07/17/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Inorganics	**General Engineering Laboratory**							
SW846 6010	Arsenic	3.31	UG/L	U	U		3.31	1
	Barium	35.5	UG/L		=		0.35	1
	Cadmium	0.66	UG/L	U	U		0.66	1
	Chromium	1.69	UG/L	U	U		1.69	1
	Lead	2.4	UG/L	U	U		2.4	1
SW846 7470	Mercury	0.095	UG/L	U	U		0.095	1
SW846 6010	Selenium	3.39	UG/L	U	U		3.39	1
	Silver	1.7	UG/L	U	U		1.7	1
Semi-Volatile Organics	**General Engineering Laboratory**							
SW846 8270C	1,1-Biphenyl	9.7	UG/L	U	U		9.7	1
	1,2,4-Trichlorobenzene	9.7	UG/L	U	U		9.7	1
	1,2-Dichlorobenzene	9.7	UG/L	U	U		9.7	1
	1,3-Dichlorobenzene	9.7	UG/L	U	U		9.7	1
	1,4-Dichlorobenzene	9.7	UG/L	U	U		9.7	1
	2,4,5-Trichlorophenol	9.7	UG/L	U	U		9.7	1
	2,4,6-Trichlorophenol	9.7	UG/L	U	U		9.7	1
	2,4-Dichlorophenol	9.7	UG/L	U	U		9.7	1
	2,4-Dimethylphenol	9.7	UG/L	U	U		9.7	1
	2,4-Dinitrophenol	19.4	UG/L	U	U		19.4	1
	2,4-Dinitrotoluene	9.7	UG/L	U	U		9.7	1
	2,6-Dinitrotoluene	9.7	UG/L	U	U		9.7	1
	2-Chloronaphthalene	0.97	UG/L	U	U		0.97	1
	2-Chlorophenol	9.7	UG/L	U	U		9.7	1
	2-Methyl-4,6-dinitrophenol	9.7	UG/L	U	U		9.7	1
	2-Methylnaphthalene	0.97	UG/L	U	U		0.97	1
	2-Methylphenol	9.7	UG/L	U	U		9.7	1
	2-Nitroaniline	9.7	UG/L	U	U		9.7	1
	2-Nitrophenol	9.7	UG/L	U	U		9.7	1
	3,3'-Dichlorobenzidine	9.7	UG/L	U	U		9.7	1
	3-Nitroaniline	9.7	UG/L	U	U		9.7	1
	4-Bromophenyl phenyl ether	9.7	UG/L	U	U		9.7	1
	4-Chloro-3-methylphenol	9.7	UG/L	U	U		9.7	1
	4-Chloroaniline	9.7	UG/L	U	U		9.7	1
	4-Chlorophenyl phenyl ether	9.7	UG/L	U	U		9.7	1
	4-Methylphenol	9.7	UG/L	U	U		9.7	1
	4-Nitroaniline	9.7	UG/L	U	U		9.7	1
	4-Nitrophenol	9.7	UG/L	U	U		9.7	1
	Acenaphthene	0.97	UG/L	U	U		0.97	1
	Acenaphthylene	0.97	UG/L	U	U		0.97	1
	alpha-Terpineol	9.7	UG/L	U	UJ	C05	9.7	1
	Anthracene	0.97	UG/L	U	U		0.97	1
	Atrazine	9.7	UG/L	U	U		9.7	1
	Benz(a)anthracene	0.97	UG/L	U	U		0.97	1
	Benzaldehyde	9.7	UG/L	U	U		9.7	1
	Benzo(a)pyrene	0.97	UG/L	U	U		0.97	1
	Benzo(b)fluoranthene	0.97	UG/L	U	U		0.97	1
	Benzo(ghi)perylene	0.97	UG/L	U	U		0.97	1
	Benzo(k)fluoranthene	0.97	UG/L	U	U		0.97	1
	Bis(2-chloroethoxy)methane	9.7	UG/L	U	U		9.7	1
	Bis(2-chloroethyl) ether	9.7	UG/L	U	U		9.7	1
	Bis(2-Chloroisopropyl)Ether	9.7	UG/L	U	U		9.7	1

Fort Stewart - SWMU 24B

Station: 24B-MW-01
Sample ID: 244113 **Media:** Groundwater
Date Collected: 07/17/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Semi-Volatile Organics	**General Engineering Laboratory**							
SW846 8270C	Bis(2-ethylhexyl)phthalate	9.7	UG/L	JB	U	F01,F06	9.7	1
	Butyl benzyl phthalate	9.7	UG/L	U	U		9.7	1
	Carbazole	1.2	UG/L	J	J		9.7	1
	Chrysene	0.97	UG/L	U	U		0.97	1
	Di-n-butyl phthalate	9.7	UG/L	U	U		9.7	1
	Di-n-octylphthalate	9.7	UG/L	U	U		9.7	1
	Dibenz(a,h)anthracene	0.97	UG/L	U	U		0.97	1
	Dibenzofuran	9.7	UG/L	U	U		9.7	1
	Diethyl phthalate	9.7	UG/L	U	U		9.7	1
	Dimethyl phthalate	9.7	UG/L	U	U		9.7	1
	Diphenylamine	9.7	UG/L	U	U		9.7	1
	Fluoranthene	0.97	UG/L	U	U		0.97	1
	Fluorene	0.97	UG/L	U	U		0.97	1
	Hexachlorobenzene	9.7	UG/L	U	U		9.7	1
	Hexachlorobutadiene	9.7	UG/L	U	U		9.7	1
	Hexachlorocyclopentadiene	9.7	UG/L	U	U		9.7	1
	Hexachloroethane	9.7	UG/L	U	U		9.7	1
	Indeno(1,2,3-cd)pyrene	0.97	UG/L	U	U		0.97	1
	Isophorone	9.7	UG/L	U	U		9.7	1
	N-Nitroso-di-n-propylamine	9.7	UG/L	U	U		9.7	1
	Naphthalene	0.97	UG/L	U	U		0.97	1
	Nitrobenzene	9.7	UG/L	U	U		9.7	1
	Pentachlorophenol	9.7	UG/L	U	U		9.7	1
	Phenanthrene	0.97	UG/L	U	U		0.97	1
	Phenol	9.7	UG/L	U	U		9.7	1
	Pyrene	0.97	UG/L	U	U		0.97	1
Volatile Organics	**General Engineering Laboratory**							
SW846 8260B	1,1,1-Trichloroethane	1	UG/L	U	U		1	1
	1,1,2,2-Tetrachloroethane	1	UG/L	U	U		1	1
	1,1,2-Trichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloroethane	1	UG/L	U	U		1	1
	1,2-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloropropane	1	UG/L	U	U		1	1
	2-Butanone	5	UG/L	U	U		5	1
	2-Hexanone	5	UG/L	U	U		5	1
	4-Methyl-2-pentanone	5	UG/L	U	U		5	1
	Acetone	2.8	UG/L	J	U	F04,F07	5	1
	Benzene	1	UG/L	U	U		1	1
	Bromodichloromethane	1	UG/L	U	U		1	1
	Bromoform	1	UG/L	U	U		1	1
	Bromomethane	1	UG/L	U	U		1	1
	Carbon disulfide	5	UG/L	U	U		5	1
	Carbon tetrachloride	1	UG/L	U	U		1	1
	Chlorobenzene	1	UG/L	U	U		1	1
	Chloroethane	1	UG/L	U	U		1	1
	Chloroform	1	UG/L	U	U		1	1
	Chloromethane	1	UG/L	U	U		1	1
	cis-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Dibromochloromethane	1	UG/L	U	U		1	1
	Ethylbenzene	1	UG/L	U	U		1	1
	Methylene chloride	5	UG/L	U	U		5	1
	Styrene	1	UG/L	U	U		1	1
	Tetrachloroethene	0.93	UG/L	J	J		1	1

Station: 24B-MW-01
Sample ID: 244113 **Media:** Groundwater
Date Collected: 07/17/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Volatile Organics	**General Engineering Laboratory**							
SW846 8260B	Toluene	1	UG/L	U	U		1	1
	trans-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Trichloroethene	1	UG/L	U	U		1	1
	Vinyl chloride	1	UG/L	U	U		1	1
	Xylenes, Total	1	UG/L	U	U		1	1

Station: 24B-MW-03 **Northing:** 677746.8882 **Easting:** 826940.9143
Coord System: GA83East **Method:**

Station: 24B-MW-03
Sample ID: 244313 **Media:** Groundwater
Date Collected: 07/21/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Inorganics	**General Engineering Laboratory**							
SW846 6010	Arsenic	3.31	UG/L	U	U		3.31	1
	Barium	12.4	UG/L		=		0.35	1
	Cadmium	1.53	UG/L	B	J		0.66	1
	Chromium	1.69	UG/L	U	U		1.69	1
	Lead	4.32	UG/L	B	U	F01,F06	2.4	1
SW846 7470	Mercury	0.095	UG/L	U	U		0.095	1
SW846 6010	Selenium	3.39	UG/L	U	U		3.39	1
	Silver	1.7	UG/L	U	U		1.7	1
Semi-Volatile Organics	**General Engineering Laboratory**							
SW846 8270C	1,1-Biphenyl	9.9	UG/L	U	U		9.9	1
	1,2,4-Trichlorobenzene	9.9	UG/L	U	U		9.9	1
	1,2-Dichlorobenzene	9.9	UG/L	U	U		9.9	1
	1,3-Dichlorobenzene	9.9	UG/L	U	U		9.9	1
	1,4-Dichlorobenzene	9.9	UG/L	U	U		9.9	1
	2,4,5-Trichlorophenol	9.9	UG/L	U	U		9.9	1
	2,4,6-Trichlorophenol	9.9	UG/L	U	U		9.9	1
	2,4-Dichlorophenol	9.9	UG/L	U	U		9.9	1
	2,4-Dimethylphenol	9.9	UG/L	U	U		9.9	1
	2,4-Dinitrophenol	19.8	UG/L	U	U		19.8	1
	2,4-Dinitrotoluene	9.9	UG/L	U	U		9.9	1
	2,6-Dinitrotoluene	9.9	UG/L	U	U		9.9	1
	2-Chloronaphthalene	0.99	UG/L	U	U		0.99	1
	2-Chlorophenol	9.9	UG/L	U	U		9.9	1
	2-Methyl-4,6-dinitrophenol	9.9	UG/L	U	U		9.9	1
	2-Methylnaphthalene	0.99	UG/L	U	U		0.99	1
	2-Methylphenol	9.9	UG/L	U	U		9.9	1
	2-Nitroaniline	9.9	UG/L	U	U		9.9	1
	2-Nitrophenol	9.9	UG/L	U	U		9.9	1
	3,3'-Dichlorobenzidine	9.9	UG/L	U	U		9.9	1
	3-Nitroaniline	9.9	UG/L	U	U		9.9	1
	4-Bromophenyl phenyl ether	9.9	UG/L	U	U		9.9	1
	4-Chloro-3-methylphenol	9.9	UG/L	U	U		9.9	1
	4-Chloroaniline	9.9	UG/L	U	U		9.9	1
	4-Chlorophenyl phenyl ether	9.9	UG/L	U	U		9.9	1
	4-Methylphenol	9.9	UG/L	U	U		9.9	1
	4-Nitroaniline	9.9	UG/L	U	U		9.9	1
	4-Nitrophenol	9.9	UG/L	U	U		9.9	1
	Acenaphthene	0.99	UG/L	U	U		0.99	1
	Acenaphthylene	0.99	UG/L	U	U		0.99	1

Fort Stewart - SWMU 24B

Station: 24B-MW-03
Sample ID: 244313 **Media:** Groundwater
Date Collected: 07/21/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Semi-Volatile Organics	**General Engineering Laboratory**							
SW846 8270C	alpha-Terpineol	9.9	UG/L	U	U		9.9	1
	Anthracene	0.99	UG/L	U	U		0.99	1
	Atrazine	9.9	UG/L	U	U		9.9	1
	Benz(a)anthracene	0.99	UG/L	U	U		0.99	1
	Benzaldehyde	9.9	UG/L	U	U		9.9	1
	Benzo(a)pyrene	0.99	UG/L	U	U		0.99	1
	Benzo(b)fluoranthene	0.99	UG/L	U	U		0.99	1
	Benzo(ghi)perylene	0.99	UG/L	U	U		0.99	1
	Benzo(k)fluoranthene	0.99	UG/L	U	U		0.99	1
	Bis(2-chloroethoxy)methane	9.9	UG/L	U	U		9.9	1
	Bis(2-chloroethyl) ether	9.9	UG/L	U	U		9.9	1
	Bis(2-Chloroisopropyl)Ether	9.9	UG/L	U	U		9.9	1
	Bis(2-ethylhexyl)phthalate	9.9	UG/L	U	U		9.9	1
	Butyl benzyl phthalate	9.9	UG/L	U	U		9.9	1
	Carbazole	9.9	UG/L	U	U		9.9	1
	Chrysene	0.99	UG/L	U	U		0.99	1
	Di-n-butyl phthalate	9.9	UG/L	U	U		9.9	1
	Di-n-octylphthalate	9.9	UG/L	U	U		9.9	1
	Dibenz(a,h)anthracene	0.99	UG/L	U	U		0.99	1
	Dibenzofuran	9.9	UG/L	U	U		9.9	1
	Diethyl phthalate	9.9	UG/L	U	U		9.9	1
	Dimethyl phthalate	9.9	UG/L	U	U		9.9	1
	Diphenylamine	9.9	UG/L	U	U		9.9	1
	Fluoranthene	0.99	UG/L	U	U		0.99	1
	Fluorene	0.99	UG/L	U	U		0.99	1
	Hexachlorobenzene	9.9	UG/L	U	U		9.9	1
	Hexachlorobutadiene	9.9	UG/L	U	U		9.9	1
	Hexachlorocyclopentadiene	9.9	UG/L	U	U		9.9	1
	Hexachloroethane	9.9	UG/L	U	U		9.9	1
	Indeno(1,2,3-cd)pyrene	0.99	UG/L	U	U		0.99	1
	Isophorone	9.9	UG/L	U	U		9.9	1
	N-Nitroso-di-n-propylamine	9.9	UG/L	U	U		9.9	1
	Naphthalene	0.99	UG/L	U	U		0.99	1
	Nitrobenzene	9.9	UG/L	U	U		9.9	1
	Pentachlorophenol	9.9	UG/L	U	U		9.9	1
	Phenanthrene	0.99	UG/L	U	U		0.99	1
	Phenol	9.9	UG/L	U	U		9.9	1
	Pyrene	0.99	UG/L	U	U		0.99	1
Volatile Organics	**General Engineering Laboratory**							
SW846 8260B	1,1,1-Trichloroethane	1	UG/L	U	U		1	1
	1,1,2,2-Tetrachloroethane	1	UG/L	U	U		1	1
	1,1,2-Trichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloroethane	1	UG/L	U	U		1	1
	1,2-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloropropane	1	UG/L	U	U		1	1
	2-Butanone	5	UG/L	U	U		5	1
	2-Hexanone	5	UG/L	U	U		5	1
	4-Methyl-2-pentanone	5	UG/L	U	U		5	1
	Acetone	5	UG/L	U	U		5	1
	Benzene	1	UG/L	U	U		1	1
	Bromodichloromethane	1	UG/L	U	U		1	1
	Bromoform	1	UG/L	U	U		1	1
	Bromomethane	1	UG/L	U	U		1	1

Station: 24B-MW-03
Sample ID: 244313 **Media:** Groundwater
Date Collected: 07/21/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Volatile Organics	**General Engineering Laboratory**							
SW846 8260B	Carbon disulfide	5	UG/L	U	U		5	1
	Carbon tetrachloride	1	UG/L	U	U		1	1
	Chlorobenzene	1	UG/L	U	U		1	1
	Chloroethane	1	UG/L	U	U		1	1
	Chloroform	1	UG/L	U	U		1	1
	Chloromethane	1	UG/L	U	U		1	1
	cis-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Dibromochloromethane	1	UG/L	U	U		1	1
	Ethylbenzene	1	UG/L	U	U		1	1
	Methylene chloride	5	UG/L	U	U		5	1
	Styrene	1	UG/L	U	U		1	1
	Tetrachloroethene	0.39	UG/L	J	J		1	1
	Toluene	1	UG/L	U	U		1	1
	trans-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Trichloroethene	1	UG/L	U	U		1	1
	Vinyl chloride	1	UG/L	U	U		1	1
	Xylenes, Total	1	UG/L	U	U		1	1

Station: 24B-MW-04 **Northing:** 677698.4286 **Easting:** 826915.8101
Coord System: GA83East **Method:**

Station: 24B-MW-04
Sample ID: 244413 **Media:** Groundwater
Date Collected: 07/19/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Inorganics	**General Engineering Laboratory**							
SW846 6010	Arsenic	3.31	UG/L	U	U		3.31	1
	Barium	24.2	UG/L		=		0.35	1
	Cadmium	3.43	UG/L	B	J		0.66	1
	Chromium	1.69	UG/L	U	U		1.69	1
	Lead	2.4	UG/L	U	U		2.4	1
SW846 7470	Mercury	0.095	UG/L	U	U		0.095	1
SW846 6010	Selenium	3.39	UG/L	U	U		3.39	1
	Silver	1.7	UG/L	U	U		1.7	1
Semi-Volatile Organics	**General Engineering Laboratory**							
SW846 8270C	1,1-Biphenyl	9.9	UG/L	U	U		9.9	1
	1,2,4-Trichlorobenzene	9.9	UG/L	U	U		9.9	1
	1,2-Dichlorobenzene	9.9	UG/L	U	U		9.9	1
	1,3-Dichlorobenzene	9.9	UG/L	U	U		9.9	1
	1,4-Dichlorobenzene	9.9	UG/L	U	U		9.9	1
	2,4,5-Trichlorophenol	9.9	UG/L	U	U		9.9	1
	2,4,6-Trichlorophenol	9.9	UG/L	U	U		9.9	1
	2,4-Dichlorophenol	9.9	UG/L	U	U		9.9	1
	2,4-Dimethylphenol	9.9	UG/L	U	U		9.9	1
	2,4-Dinitrophenol	19.8	UG/L	U	U		19.8	1
	2,4-Dinitrotoluene	9.9	UG/L	U	U		9.9	1
	2,6-Dinitrotoluene	9.9	UG/L	U	U		9.9	1
	2-Chloronaphthalene	0.99	UG/L	U	U		0.99	1
	2-Chlorophenol	9.9	UG/L	U	U		9.9	1
	2-Methyl-4,6-dinitrophenol	9.9	UG/L	U	U		9.9	1
	2-Methylnaphthalene	0.99	UG/L	U	U		0.99	1
	2-Methylphenol	9.9	UG/L	U	U		9.9	1
	2-Nitroaniline	9.9	UG/L	U	U		9.9	1

Fort Stewart - SWMU 24B

Station: 24B-MW-04
Sample ID: 244413 **Media:** Groundwater
Date Collected: 07/19/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Semi-Volatile Organics	**General Engineering Laboratory**							
SW846 8270C	2-Nitrophenol	9.9	UG/L	U	U		9.9	1
	3,3'-Dichlorobenzidine	9.9	UG/L	U	U		9.9	1
	3-Nitroaniline	9.9	UG/L	U	U		9.9	1
	4-Bromophenyl phenyl ether	9.9	UG/L	U	U		9.9	1
	4-Chloro-3-methylphenol	9.9	UG/L	U	U		9.9	1
	4-Chloroaniline	9.9	UG/L	U	U		9.9	1
	4-Chlorophenyl phenyl ether	9.9	UG/L	U	U		9.9	1
	4-Methylphenol	9.9	UG/L	U	U		9.9	1
	4-Nitroaniline	9.9	UG/L	U	U		9.9	1
	4-Nitrophenol	9.9	UG/L	U	U		9.9	1
	Acenaphthene	0.99	UG/L	U	U		0.99	1
	Acenaphthylene	0.99	UG/L	U	U		0.99	1
	alpha-Terpineol	9.9	UG/L	U	UJ	C05	9.9	1
	Anthracene	0.99	UG/L	U	U		0.99	1
	Atrazine	9.9	UG/L	U	U		9.9	1
	Benz(a)anthracene	0.99	UG/L	U	U		0.99	1
	Benzaldehyde	9.9	UG/L	U	U		9.9	1
	Benzo(a)pyrene	0.99	UG/L	U	U		0.99	1
	Benzo(b)fluoranthene	0.99	UG/L	U	U		0.99	1
	Benzo(ghi)perylene	0.99	UG/L	U	U		0.99	1
	Benzo(k)fluoranthene	0.99	UG/L	U	U		0.99	1
	Bis(2-chloroethoxy)methane	9.9	UG/L	U	U		9.9	1
	Bis(2-chloroethyl) ether	9.9	UG/L	U	U		9.9	1
	Bis(2-Chloroisopropyl)Ether	9.9	UG/L	U	U		9.9	1
	Bis(2-ethylhexyl)phthalate	9.9	UG/L	JB	U	F01,F06	9.9	1
	Butyl benzyl phthalate	9.9	UG/L	U	U		9.9	1
	Carbazole	9.9	UG/L	U	U		9.9	1
	Chrysene	0.99	UG/L	U	U		0.99	1
	Di-n-butyl phthalate	9.9	UG/L	U	U		9.9	1
	Di-n-octylphthalate	9.9	UG/L	U	U		9.9	1
	Dibenz(a,h)anthracene	0.99	UG/L	U	UJ	P02	0.99	1
	Dibenzofuran	9.9	UG/L	U	U		9.9	1
	Diethyl phthalate	9.9	UG/L	U	U		9.9	1
	Dimethyl phthalate	9.9	UG/L	U	U		9.9	1
	Diphenylamine	9.9	UG/L	U	U		9.9	1
	Fluoranthene	0.99	UG/L	U	U		0.99	1
	Fluorene	0.99	UG/L	U	U		0.99	1
	Hexachlorobenzene	9.9	UG/L	U	U		9.9	1
	Hexachlorobutadiene	9.9	UG/L	U	U		9.9	1
	Hexachlorocyclopentadiene	9.9	UG/L	U	U		9.9	1
	Hexachloroethane	9.9	UG/L	U	U		9.9	1
	Indeno(1,2,3-cd)pyrene	0.99	UG/L	U	U		0.99	1
	Isophorone	9.9	UG/L	U	U		9.9	1
	N-Nitroso-di-n-propylamine	9.9	UG/L	U	U		9.9	1
	Naphthalene	0.99	UG/L	U	U		0.99	1
	Nitrobenzene	9.9	UG/L	U	U		9.9	1
	Pentachlorophenol	9.9	UG/L	U	U		9.9	1
	Phenanthrene	0.99	UG/L	U	U		0.99	1
	Phenol	9.9	UG/L	U	U		9.9	1
	Pyrene	0.99	UG/L	U	U		0.99	1
Volatile Organics	**General Engineering Laboratory**							
SW846 8260B	1,1,1-Trichloroethane	1	UG/L	U	U		1	1
	1,1,2,2-Tetrachloroethane	1	UG/L	U	U		1	1
	1,1,2-Trichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethane	1	UG/L	U	U		1	1

Station: 24B-MW-04
Sample ID: 244413 **Media:** Groundwater
Date Collected: 07/19/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Volatile Organics	**General Engineering Laboratory**							
SW846 8260B	1,1-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloroethane	1	UG/L	U	U		1	1
	1,2-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloropropane	1	UG/L	U	U		1	1
	2-Butanone	5	UG/L	U	U		5	1
	2-Hexanone	5	UG/L	U	U		5	1
	4-Methyl-2-pentanone	5	UG/L	U	U		5	1
	Acetone	5	UG/L	U	U		5	1
	Benzene	1	UG/L	U	U		1	1
	Bromodichloromethane	1	UG/L	U	U		1	1
	Bromoform	1	UG/L	U	U		1	1
	Bromomethane	1	UG/L	U	U		1	1
	Carbon disulfide	5	UG/L	U	U		5	1
	Carbon tetrachloride	1	UG/L	U	U		1	1
	Chlorobenzene	1	UG/L	U	U		1	1
	Chloroethane	1	UG/L	U	U		1	1
	Chloroform	1	UG/L	U	U		1	1
	Chloromethane	1	UG/L	U	U		1	1
	cis-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Dibromochloromethane	1	UG/L	U	U		1	1
	Ethylbenzene	1	UG/L	U	U		1	1
	Methylene chloride	5	UG/L	U	U		5	1
	Styrene	1	UG/L	U	U		1	1
	Tetrachloroethene	0.53	UG/L	J	J		1	1
	Toluene	1	UG/L	U	U		1	1
	trans-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Trichloroethene	0.39	UG/L	J	J		1	1
	Vinyl chloride	1	UG/L	U	U		1	1
	Xylenes, Total	1	UG/L	U	U		1	1

Station: 24B-MW-05 **Northing:** 677757.8002 **Easting:** 826901.5058
Coord System: GA83East **Method:**

Station: 24B-MW-05
Sample ID: 244513 **Media:** Groundwater
Date Collected: 07/22/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Inorganics	**General Engineering Laboratory**							
SW846 6010	Arsenic	3.31	UG/L	U	U		3.31	1
	Barium	24.8	UG/L		=		0.35	1
	Cadmium	0.816	UG/L	B	J		0.66	1
	Chromium	1.69	UG/L	U	U		1.69	1
	Lead	2.4	UG/L	U	U		2.4	1
SW846 7470	Mercury	0.095	UG/L	U	U		0.095	1
SW846 6010	Selenium	3.39	UG/L	U	U		3.39	1
	Silver	1.7	UG/L	U	U		1.7	1
Semi-Volatile Organics	**General Engineering Laboratory**							
SW846 8270C	1,1-Biphenyl	9.9	UG/L	U	U		9.9	1
	1,2,4-Trichlorobenzene	9.9	UG/L	U	U		9.9	1
	1,2-Dichlorobenzene	9.9	UG/L	U	U		9.9	1
	1,3-Dichlorobenzene	9.9	UG/L	U	U		9.9	1
	1,4-Dichlorobenzene	9.9	UG/L	U	U		9.9	1
	2,4,5-Trichlorophenol	9.9	UG/L	U	U		9.9	1

Fort Stewart - SWMU 24B

Station: 24B-MW-05
Sample ID: 244513 **Media:** Groundwater
Date Collected: 07/22/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Semi-Volatile Organics	**General Engineering Laboratory**							
SW846 8270C	2,4,6-Trichlorophenol	9.9	UG/L	U	U		9.9	1
	2,4-Dichlorophenol	9.9	UG/L	U	U		9.9	1
	2,4-Dimethylphenol	9.9	UG/L	U	U		9.9	1
	2,4-Dinitrophenol	19.8	UG/L	U	U		19.8	1
	2,4-Dinitrotoluene	9.9	UG/L	U	U		9.9	1
	2,6-Dinitrotoluene	9.9	UG/L	U	U		9.9	1
	2-Chloronaphthalene	0.99	UG/L	U	U		0.99	1
	2-Chlorophenol	9.9	UG/L	U	U		9.9	1
	2-Methyl-4,6-dinitrophenol	9.9	UG/L	U	U		9.9	1
	2-Methylnaphthalene	0.99	UG/L	U	U		0.99	1
	2-Methylphenol	9.9	UG/L	U	U		9.9	1
	2-Nitroaniline	9.9	UG/L	U	U		9.9	1
	2-Nitrophenol	9.9	UG/L	U	U		9.9	1
	3,3'-Dichlorobenzidine	9.9	UG/L	U	U		9.9	1
	3-Nitroaniline	9.9	UG/L	U	U		9.9	1
	4-Bromophenyl phenyl ether	9.9	UG/L	U	U		9.9	1
	4-Chloro-3-methylphenol	9.9	UG/L	U	U		9.9	1
	4-Chloroaniline	9.9	UG/L	U	U		9.9	1
	4-Chlorophenyl phenyl ether	9.9	UG/L	U	U		9.9	1
	4-Methylphenol	9.9	UG/L	U	U		9.9	1
	4-Nitroaniline	9.9	UG/L	U	U		9.9	1
	4-Nitrophenol	9.9	UG/L	U	U		9.9	1
	Acenaphthene	0.99	UG/L	U	U		0.99	1
	Acenaphthylene	0.99	UG/L	U	U		0.99	1
	alpha-Terpineol	9.9	UG/L	U	U		9.9	1
	Anthracene	0.99	UG/L	U	U		0.99	1
	Atrazine	9.9	UG/L	U	U		9.9	1
	Benz(a)anthracene	0.99	UG/L	U	U		0.99	1
	Benzaldehyde	9.9	UG/L	U	U		9.9	1
	Benzo(a)pyrene	0.99	UG/L	U	U		0.99	1
	Benzo(b)fluoranthene	0.99	UG/L	U	U		0.99	1
	Benzo(ghi)perylene	0.99	UG/L	U	U		0.99	1
	Benzo(k)fluoranthene	0.99	UG/L	U	U		0.99	1
	Bis(2-chloroethoxy)methane	9.9	UG/L	U	U		9.9	1
	Bis(2-chloroethyl) ether	9.9	UG/L	U	U		9.9	1
	Bis(2-Chloroisopropyl)Ether	9.9	UG/L	U	U		9.9	1
	Bis(2-ethylhexyl)phthalate	9.9	UG/L	U	U		9.9	1
	Butyl benzyl phthalate	9.9	UG/L	U	U		9.9	1
	Carbazole	9.9	UG/L	U	U		9.9	1
	Chrysene	0.99	UG/L	U	U		0.99	1
	Di-n-butyl phthalate	9.9	UG/L	U	U		9.9	1
	Di-n-octylphthalate	9.9	UG/L	U	U		9.9	1
	Dibenz(a,h)anthracene	0.99	UG/L	U	U		0.99	1
	Dibenzofuran	9.9	UG/L	U	U		9.9	1
	Diethyl phthalate	9.9	UG/L	U	U		9.9	1
	Dimethyl phthalate	9.9	UG/L	U	U		9.9	1
	Diphenylamine	9.9	UG/L	U	U		9.9	1
	Fluoranthene	0.99	UG/L	U	U		0.99	1
	Fluorene	0.99	UG/L	U	U		0.99	1
	Hexachlorobenzene	9.9	UG/L	U	U		9.9	1
	Hexachlorobutadiene	9.9	UG/L	U	U		9.9	1
	Hexachlorocyclopentadiene	9.9	UG/L	U	U		9.9	1
	Hexachloroethane	9.9	UG/L	U	U		9.9	1
	Indeno(1,2,3-cd)pyrene	0.99	UG/L	U	U		0.99	1
	Isophorone	9.9	UG/L	U	U		9.9	1
	N-Nitroso-di-n-propylamine	9.9	UG/L	U	U		9.9	1

Station: 24B-MW-05
Sample ID: 244513 **Media:** Groundwater
Date Collected: 07/22/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Semi-Volatile Organics	**General Engineering Laboratory**							
SW846 8270C	Naphthalene	0.99	UG/L	U	U		0.99	1
	Nitrobenzene	9.9	UG/L	U	U		9.9	1
	Pentachlorophenol	9.9	UG/L	U	U		9.9	1
	Phenanthrene	0.99	UG/L	U	U		0.99	1
	Phenol	9.9	UG/L	U	U		9.9	1
	Pyrene	0.99	UG/L	U	U		0.99	1
Volatile Organics	**General Engineering Laboratory**							
SW846 8260B	1,1,1-Trichloroethane	1	UG/L	U	U		1	1
	1,1,2,2-Tetrachloroethane	1	UG/L	U	U		1	1
	1,1,2-Trichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloroethane	1	UG/L	U	U		1	1
	1,2-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloropropane	1	UG/L	U	U		1	1
	2-Butanone	5	UG/L	U	U		5	1
	2-Hexanone	5	UG/L	U	U		5	1
	4-Methyl-2-pentanone	5	UG/L	U	U		5	1
	Acetone	5	UG/L	U	U		5	1
	Benzene	1	UG/L	U	U		1	1
	Bromodichloromethane	1	UG/L	U	U		1	1
	Bromoform	1	UG/L	U	U		1	1
	Bromomethane	1	UG/L	U	U		1	1
	Carbon disulfide	5	UG/L	U	U		5	1
	Carbon tetrachloride	1	UG/L	U	U		1	1
	Chlorobenzene	1	UG/L	U	U		1	1
	Chloroethane	1	UG/L	U	U		1	1
	Chloroform	1	UG/L	U	U		1	1
	Chloromethane	1	UG/L	U	U		1	1
	cis-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Dibromochloromethane	1	UG/L	U	U		1	1
	Ethylbenzene	1	UG/L	U	U		1	1
	Methylene chloride	5	UG/L	U	U		5	1
	Styrene	1	UG/L	U	U		1	1
	Tetrachloroethene	1	UG/L	U	U		1	1
	Toluene	1	UG/L	U	U		1	1
	trans-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Trichloroethene	1	UG/L	U	U		1	1
	Vinyl chloride	1	UG/L	U	U		1	1
	Xylenes, Total	1	UG/L	U	U		1	1

Station: 24B-MW-06 **Northing:** 677619.7285 **Easting:** 826923.6813
Coord System: GA83East **Method:**

Station: 24B-MW-06
Sample ID: 244613 **Media:** Groundwater
Date Collected: 07/17/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Inorganics	**General Engineering Laboratory**							
SW846 6010	Arsenic	3.31	UG/L	U	U		3.31	1
	Barium	8.56	UG/L		=		0.35	1
	Cadmium	1.46	UG/L	B	J		0.66	1
	Chromium	1.69	UG/L	U	U		1.69	1

Fort Stewart - SWMU 24B

Station: 24B-MW-06
Sample ID: 244613 **Media:** Groundwater
Date Collected: 07/17/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Inorganics	**General Engineering Laboratory**							
SW846 6010	Lead	2.4	UG/L	U	U		2.4	1
	Mercury	0.095	UG/L	U	U		0.095	1
SW846 6010	Selenium	3.39	UG/L	U	U		3.39	1
	Silver	1.7	UG/L	U	U		1.7	1
Semi-Volatile Organics	**General Engineering Laboratory**							
SW846 8270C	1,1-Biphenyl	9.6	UG/L	U	U		9.6	1
	1,2,4-Trichlorobenzene	9.6	UG/L	U	U		9.6	1
	1,2-Dichlorobenzene	9.6	UG/L	U	U		9.6	1
	1,3-Dichlorobenzene	9.6	UG/L	U	U		9.6	1
	1,4-Dichlorobenzene	9.6	UG/L	U	U		9.6	1
	2,4,5-Trichlorophenol	9.6	UG/L	U	U		9.6	1
	2,4,6-Trichlorophenol	9.6	UG/L	U	U		9.6	1
	2,4-Dichlorophenol	9.6	UG/L	U	U		9.6	1
	2,4-Dimethylphenol	9.6	UG/L	U	U		9.6	1
	2,4-Dinitrophenol	19.2	UG/L	U	U		19.2	1
	2,4-Dinitrotoluene	9.6	UG/L	U	U		9.6	1
	2,6-Dinitrotoluene	9.6	UG/L	U	U		9.6	1
	2-Chloronaphthalene	0.96	UG/L	U	U		0.96	1
	2-Chlorophenol	9.6	UG/L	U	U		9.6	1
	2-Methyl-4,6-dinitrophenol	9.6	UG/L	U	U		9.6	1
	2-Methylnaphthalene	0.96	UG/L	U	U		0.96	1
	2-Methylphenol	9.6	UG/L	U	U		9.6	1
	2-Nitroaniline	9.6	UG/L	U	U		9.6	1
	2-Nitrophenol	9.6	UG/L	U	U		9.6	1
	3,3'-Dichlorobenzidine	9.6	UG/L	U	U		9.6	1
	3-Nitroaniline	9.6	UG/L	U	U		9.6	1
	4-Bromophenyl phenyl ether	9.6	UG/L	U	U		9.6	1
	4-Chloro-3-methylphenol	9.6	UG/L	U	U		9.6	1
	4-Chloroaniline	9.6	UG/L	U	U		9.6	1
	4-Chlorophenyl phenyl ether	9.6	UG/L	U	U		9.6	1
	4-Methylphenol	9.6	UG/L	U	U		9.6	1
	4-Nitroaniline	9.6	UG/L	U	U		9.6	1
	4-Nitrophenol	9.6	UG/L	U	U		9.6	1
	Acenaphthene	0.96	UG/L	U	U		0.96	1
	Acenaphthylene	0.96	UG/L	U	U		0.96	1
	alpha-Terpineol	9.6	UG/L	U	UJ	C05	9.6	1
	Anthracene	0.96	UG/L	U	U		0.96	1
	Atrazine	9.6	UG/L	U	U		9.6	1
	Benz(a)anthracene	0.96	UG/L	U	U		0.96	1
	Benzaldehyde	9.6	UG/L	U	U		9.6	1
	Benzo(a)pyrene	0.96	UG/L	U	U		0.96	1
	Benzo(b)fluoranthene	0.96	UG/L	U	U		0.96	1
	Benzo(ghi)perylene	0.96	UG/L	U	U		0.96	1
	Benzo(k)fluoranthene	0.96	UG/L	U	U		0.96	1
	Bis(2-chloroethoxy)methane	9.6	UG/L	U	U		9.6	1
	Bis(2-chloroethyl) ether	9.6	UG/L	U	U		9.6	1
	Bis(2-Chloroisopropyl)Ether	9.6	UG/L	U	U		9.6	1
	Bis(2-ethylhexyl)phthalate	9.6	UG/L	JB	U	F01,F06	9.6	1
	Butyl benzyl phthalate	9.6	UG/L	U	U		9.6	1
	Carbazole	9.6	UG/L	U	U		9.6	1
	Chrysene	0.96	UG/L	U	U		0.96	1
	Di-n-butyl phthalate	9.6	UG/L	U	U		9.6	1
	Di-n-octylphthalate	9.6	UG/L	U	U		9.6	1
	Dibenz(a,h)anthracene	0.96	UG/L	U	U		0.96	1
	Dibenzofuran	9.6	UG/L	U	U		9.6	1

Fort Stewart - SWMU 24B

Station: 24B-MW-06
Sample ID: 244613 **Media:** Groundwater
Date Collected: 07/17/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Semi-Volatile Organics	**General Engineering Laboratory**							
SW846 8270C	Diethyl phthalate	9.6	UG/L	U	U		9.6	1
	Dimethyl phthalate	9.6	UG/L	U	U		9.6	1
	Diphenylamine	9.6	UG/L	U	U		9.6	1
	Fluoranthene	0.96	UG/L	U	U		0.96	1
	Fluorene	0.96	UG/L	U	U		0.96	1
	Hexachlorobenzene	9.6	UG/L	U	U		9.6	1
	Hexachlorobutadiene	9.6	UG/L	U	U		9.6	1
	Hexachlorocyclopentadiene	9.6	UG/L	U	U		9.6	1
	Hexachloroethane	9.6	UG/L	U	U		9.6	1
	Indeno(1,2,3-cd)pyrene	0.96	UG/L	U	U		0.96	1
	Isophorone	9.6	UG/L	U	U		9.6	1
	N-Nitroso-di-n-propylamine	9.6	UG/L	U	U		9.6	1
	Naphthalene	0.96	UG/L	U	U		0.96	1
	Nitrobenzene	9.6	UG/L	U	U		9.6	1
	Pentachlorophenol	9.6	UG/L	U	U		9.6	1
	Phenanthrene	0.96	UG/L	U	U		0.96	1
	Phenol	9.6	UG/L	U	U		9.6	1
	Pyrene	0.96	UG/L	U	U		0.96	1
Volatile Organics	**General Engineering Laboratory**							
SW846 8260B	1,1,1-Trichloroethane	1	UG/L	U	U		1	1
	1,1,2,2-Tetrachloroethane	1	UG/L	U	U		1	1
	1,1,2-Trichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloroethane	1	UG/L	U	U		1	1
	1,2-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloropropane	1	UG/L	U	U		1	1
	2-Butanone	5	UG/L	U	U		5	1
	2-Hexanone	5	UG/L	U	U		5	1
	4-Methyl-2-pentanone	5	UG/L	U	U		5	1
	Acetone	2.5	UG/L	J	U	F04,F07	5	1
	Benzene	1	UG/L	U	U		1	1
	Bromodichloromethane	1	UG/L	U	U		1	1
	Bromoform	1	UG/L	U	U		1	1
	Bromomethane	1	UG/L	U	U		1	1
	Carbon disulfide	5	UG/L	U	U		5	1
	Carbon tetrachloride	1	UG/L	U	U		1	1
	Chlorobenzene	1	UG/L	U	U		1	1
	Chloroethane	1	UG/L	U	U		1	1
	Chloroform	1	UG/L	U	U		1	1
	Chloromethane	1	UG/L	U	U		1	1
	cis-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Dibromochloromethane	1	UG/L	U	U		1	1
	Ethylbenzene	1	UG/L	U	U		1	1
	Methylene chloride	5	UG/L	U	U		5	1
	Styrene	1	UG/L	U	U		1	1
	Tetrachloroethene	1	UG/L	U	U		1	1
	Toluene	1	UG/L	U	U		1	1
	trans-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Trichloroethene	1	UG/L	U	U		1	1
	Vinyl chloride	1	UG/L	U	U		1	1
	Xylenes, Total	1	UG/L	U	U		1	1

Station: 24B-MW-08 **Northing:** 677703.7064 **Easting:** 826847.8876
Coord System: GA83East **Method:**

Station: 24B-MW-08
Sample ID: 244813 **Media:** Groundwater
Date Collected: 07/21/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Inorganics	**General Engineering Laboratory**							
SW846 6010	Arsenic	3.31	UG/L	U	U		3.31	1
	Barium	6.42	UG/L		=		0.35	1
	Cadmium	0.66	UG/L	U	U		0.66	1
	Chromium	5.32	UG/L		U	F07	1.69	1
	Lead	7.01	UG/L		U	F01,F07	2.4	1
SW846 7470	Mercury	0.15	UG/L	B	J		0.095	1
SW846 6010	Selenium	3.39	UG/L	U	U		3.39	1
	Silver	1.7	UG/L	U	U		1.7	1
Semi-Volatile Organics	**General Engineering Laboratory**							
SW846 8270C	1,1-Biphenyl	9.7	UG/L	U	U		9.7	1
	1,2,4-Trichlorobenzene	9.7	UG/L	U	U		9.7	1
	1,2-Dichlorobenzene	9.7	UG/L	U	U		9.7	1
	1,3-Dichlorobenzene	9.7	UG/L	U	U		9.7	1
	1,4-Dichlorobenzene	9.7	UG/L	U	U		9.7	1
	2,4,5-Trichlorophenol	9.7	UG/L	U	U		9.7	1
	2,4,6-Trichlorophenol	9.7	UG/L	U	U		9.7	1
	2,4-Dichlorophenol	9.7	UG/L	U	U		9.7	1
	2,4-Dimethylphenol	9.7	UG/L	U	U		9.7	1
	2,4-Dinitrophenol	19.4	UG/L	U	U		19.4	1
	2,4-Dinitrotoluene	9.7	UG/L	U	U		9.7	1
	2,6-Dinitrotoluene	9.7	UG/L	U	U		9.7	1
	2-Chloronaphthalene	0.97	UG/L	U	U		0.97	1
	2-Chlorophenol	9.7	UG/L	U	U		9.7	1
	2-Methyl-4,6-dinitrophenol	9.7	UG/L	U	U		9.7	1
	2-Methylnaphthalene	0.97	UG/L	U	U		0.97	1
	2-Methylphenol	9.7	UG/L	U	U		9.7	1
	2-Nitroaniline	9.7	UG/L	U	U		9.7	1
	2-Nitrophenol	9.7	UG/L	U	U		9.7	1
	3,3'-Dichlorobenzidine	9.7	UG/L	U	U		9.7	1
	3-Nitroaniline	9.7	UG/L	U	U		9.7	1
	4-Bromophenyl phenyl ether	9.7	UG/L	U	U		9.7	1
	4-Chloro-3-methylphenol	9.7	UG/L	U	U		9.7	1
	4-Chloroaniline	9.7	UG/L	U	U		9.7	1
	4-Chlorophenyl phenyl ether	9.7	UG/L	U	U		9.7	1
	4-Methylphenol	9.7	UG/L	U	U		9.7	1
	4-Nitroaniline	9.7	UG/L	U	U		9.7	1
	4-Nitrophenol	9.7	UG/L	U	U		9.7	1
	Acenaphthene	0.97	UG/L	U	U		0.97	1
	Acenaphthylene	0.97	UG/L	U	U		0.97	1
	alpha-Terpineol	9.7	UG/L	U	U		9.7	1
	Anthracene	0.97	UG/L	U	U		0.97	1
	Atrazine	9.7	UG/L	U	U		9.7	1
	Benz(a)anthracene	0.97	UG/L	U	U		0.97	1
	Benzaldehyde	9.7	UG/L	U	U		9.7	1
	Benzo(a)pyrene	0.97	UG/L	U	U		0.97	1
	Benzo(b)fluoranthene	0.97	UG/L	U	U		0.97	1
	Benzo(ghi)perylene	0.97	UG/L	U	U		0.97	1
	Benzo(k)fluoranthene	0.97	UG/L	U	U		0.97	1
	Bis(2-chloroethoxy)methane	9.7	UG/L	U	U		9.7	1
	Bis(2-chloroethyl) ether	9.7	UG/L	U	U		9.7	1
	Bis(2-Chloroisopropyl)Ether	9.7	UG/L	U	U		9.7	1
	Bis(2-ethylhexyl)phthalate	9.7	UG/L	U	U		9.7	1
	Butyl benzyl phthalate	9.7	UG/L	U	U		9.7	1

Fort Stewart - SWMU 24B

Station: 24B-MW-08
Sample ID: 244813 **Media:** Groundwater
Date Collected: 07/21/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Semi-Volatile Organics	**General Engineering Laboratory**							
SW846 8270C	Carbazole	9.7	UG/L	U	U		9.7	1
	Chrysene	0.97	UG/L	U	U		0.97	1
	Di-n-butyl phthalate	9.7	UG/L	U	U		9.7	1
	Di-n-octylphthalate	9.7	UG/L	U	U		9.7	1
	Dibenz(a,h)anthracene	0.97	UG/L	U	U		0.97	1
	Dibenzofuran	9.7	UG/L	U	U		9.7	1
	Diethyl phthalate	9.7	UG/L	U	U		9.7	1
	Dimethyl phthalate	9.7	UG/L	U	U		9.7	1
	Diphenylamine	9.7	UG/L	U	U		9.7	1
	Fluoranthene	0.97	UG/L	U	U		0.97	1
	Fluorene	0.97	UG/L	U	U		0.97	1
	Hexachlorobenzene	9.7	UG/L	U	U		9.7	1
	Hexachlorobutadiene	9.7	UG/L	U	U		9.7	1
	Hexachlorocyclopentadiene	9.7	UG/L	U	U		9.7	1
	Hexachloroethane	9.7	UG/L	U	U		9.7	1
	Indeno(1,2,3-cd)pyrene	0.97	UG/L	U	U		0.97	1
	Isophorone	9.7	UG/L	U	U		9.7	1
	N-Nitroso-di-n-propylamine	9.7	UG/L	U	U		9.7	1
	Naphthalene	0.97	UG/L	U	U		0.97	1
	Nitrobenzene	9.7	UG/L	U	U		9.7	1
	Pentachlorophenol	9.7	UG/L	U	U		9.7	1
	Phenanthrene	0.97	UG/L	U	U		0.97	1
	Phenol	9.7	UG/L	U	U		9.7	1
	Pyrene	0.97	UG/L	U	U		0.97	1
Volatile Organics	**General Engineering Laboratory**							
SW846 8260B	1,1,1-Trichloroethane	1	UG/L	U	U		1	1
	1,1,2,2-Tetrachloroethane	1	UG/L	U	U		1	1
	1,1,2-Trichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloroethane	1	UG/L	U	U		1	1
	1,2-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloropropane	1	UG/L	U	U		1	1
	2-Butanone	5	UG/L	U	U		5	1
	2-Hexanone	5	UG/L	U	U		5	1
	4-Methyl-2-pentanone	5	UG/L	U	U		5	1
	Acetone	5	UG/L	U	U		5	1
	Benzene	1	UG/L	U	U		1	1
	Bromodichloromethane	1	UG/L	U	U		1	1
	Bromoform	1	UG/L	U	U		1	1
	Bromomethane	1	UG/L	U	U		1	1
	Carbon disulfide	5	UG/L	U	U		5	1
	Carbon tetrachloride	1	UG/L	U	U		1	1
	Chlorobenzene	1	UG/L	U	U		1	1
	Chloroethane	1	UG/L	U	U		1	1
	Chloroform	1	UG/L	U	U		1	1
	Chloromethane	1	UG/L	U	U		1	1
	cis-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Dibromochloromethane	1	UG/L	U	U		1	1
	Ethylbenzene	1	UG/L	U	U		1	1
	Methylene chloride	5	UG/L	U	U		5	1
	Styrene	1	UG/L	U	U		1	1
	Tetrachloroethene	1	UG/L	U	U		1	1
	Toluene	1	UG/L	U	U		1	1
	trans-1,3-Dichloropropene	1	UG/L	U	U		1	1

Station: 24B-MW-08
Sample ID: 244813 **Media:** Groundwater
Date Collected: 07/21/2003 **Field Sample Type:** Grab

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Volatile Organics	**General Engineering Laboratory**							
SW846 8260B	Trichloroethene	1	UG/L	U	U		1	1
	Vinyl chloride	1	UG/L	U	U		1	1
	Xylenes, Total	1	UG/L	U	U		1	1

Station: QC **Northing:** NA **Easting:** NA
Coord System: NA **Method:**

Station: QC
Sample ID: TB2402 **Media:** Quality Control
Date Collected: 07/18/2003 **Field Sample Type:** Trip Blank

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Volatile Organics	**General Engineering Laboratory**							
	1,1,1-Trichloroethane	1	UG/L	U	U		1	1
SW846 8260B	1,1,2,2-Tetrachloroethane	1	UG/L	U	U		1	1
	1,1,2-Trichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloroethane	1	UG/L	U	U		1	1
	1,2-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloropropane	1	UG/L	U	U		1	1
	2-Butanone	5	UG/L	U	U		5	1
	2-Hexanone	5	UG/L	U	U		5	1
	4-Methyl-2-pentanone	5	UG/L	U	U		5	1
	Acetone	4.9	UG/L	J	J		5	1
	Benzene	1	UG/L	U	U		1	1
	Bromodichloromethane	1	UG/L	U	U		1	1
	Bromoform	1	UG/L	U	U		1	1
	Bromomethane	1	UG/L	U	U		1	1
	Carbon disulfide	5	UG/L	U	U		5	1
	Carbon tetrachloride	1	UG/L	U	U		1	1
	Chlorobenzene	1	UG/L	U	U		1	1
	Chloroethane	1	UG/L	U	U		1	1
	Chloroform	1	UG/L	U	U		1	1
	Chloromethane	1	UG/L	U	U		1	1
	cis-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Dibromochloromethane	1	UG/L	U	U		1	1
	Ethylbenzene	1	UG/L	U	U		1	1
	Methylene chloride	5	UG/L	U	U		5	1
	Styrene	1	UG/L	U	U		1	1
	Tetrachloroethene	1	UG/L	U	U		1	1
	Toluene	1	UG/L	U	U		1	1
	trans-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Trichloroethene	1	UG/L	U	U		1	1
	Vinyl chloride	1	UG/L	U	U		1	1
	Xylenes, Total	1	UG/L	U	U		1	1

Station: QC
Sample ID: TB2410 **Media:** Quality Control
Date Collected: 07/17/2003 **Field Sample Type:** Trip Blank

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Volatile Organics	**General Engineering Laboratory**							
	1,1,1-Trichloroethane	1	UG/L	U	U		1	1

Station: QC
Sample ID: TB2410 **Media:** Quality Control
Date Collected: 07/17/2003 **Field Sample Type:** Trip Blank

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Volatile Organics	**General Engineering Laboratory**							
SW846 8260B	1,1,2,2-Tetrachloroethane	1	UG/L	U	U		1	1
	1,1,2-Trichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloroethane	1	UG/L	U	U		1	1
	1,2-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloropropane	1	UG/L	U	U		1	1
	2-Butanone	2.9	UG/L	J	J		5	1
	2-Hexanone	5	UG/L	U	U		5	1
	4-Methyl-2-pentanone	5	UG/L	U	U		5	1
	Acetone	14.1	UG/L		=		5	1
	Benzene	1	UG/L	U	U		1	1
	Bromodichloromethane	1	UG/L	U	U		1	1
	Bromoform	1	UG/L	U	U		1	1
	Bromomethane	1	UG/L	U	U		1	1
	Carbon disulfide	5	UG/L	U	U		5	1
	Carbon tetrachloride	1	UG/L	U	U		1	1
	Chlorobenzene	1	UG/L	U	U		1	1
	Chloroethane	1	UG/L	U	U		1	1
	Chloroform	1	UG/L	U	U		1	1
	Chloromethane	1	UG/L	U	U		1	1
	cis-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Dibromochloromethane	1	UG/L	U	U		1	1
	Ethylbenzene	1	UG/L	U	U		1	1
	Methylene chloride	5	UG/L	U	U		5	1
	Styrene	1	UG/L	U	U		1	1
	Tetrachloroethene	1	UG/L	U	U		1	1
	Toluene	1	UG/L	U	U		1	1
	trans-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Trichloroethene	1	UG/L	U	U		1	1
	Vinyl chloride	1	UG/L	U	U		1	1
	Xylenes, Total	1	UG/L	U	U		1	1

Station: QC
Sample ID: TB2411 **Media:** Quality Control
Date Collected: 07/21/2003 **Field Sample Type:** Trip Blank

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Volatile Organics	**General Engineering Laboratory**							
	1,1,1-Trichloroethane	1	UG/L	U	U		1	1
SW846 8260B	1,1,2,2-Tetrachloroethane	1	UG/L	U	U		1	1
	1,1,2-Trichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloroethane	1	UG/L	U	U		1	1
	1,2-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloropropane	1	UG/L	U	U		1	1
	2-Butanone	5	UG/L	U	U		5	1
	2-Hexanone	5	UG/L	U	U		5	1
	4-Methyl-2-pentanone	5	UG/L	U	U		5	1
	Acetone	5	UG/L	U	U		5	1
	Benzene	1	UG/L	U	U		1	1
	Bromodichloromethane	1	UG/L	U	U		1	1
	Bromoform	1	UG/L	U	U		1	1
	Bromomethane	1	UG/L	U	U		1	1
	Carbon disulfide	5	UG/L	U	U		5	1

Station: QC
Sample ID: TB2411 **Media:** Quality Control
Date Collected: 07/21/2003 **Field Sample Type:** Trip Blank

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Volatile Organics	**General Engineering Laboratory**							
SW846 8260B	Carbon tetrachloride	1	UG/L	U	U		1	1
	Chlorobenzene	1	UG/L	U	U		1	1
	Chloroethane	1	UG/L	U	U		1	1
	Chloroform	1	UG/L	U	U		1	1
	Chloromethane	1	UG/L	U	U		1	1
	cis-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Dibromochloromethane	1	UG/L	U	U		1	1
	Ethylbenzene	1	UG/L	U	U		1	1
	Methylene chloride	5	UG/L	U	U		5	1
	Styrene	1	UG/L	U	U		1	1
	Tetrachloroethene	1	UG/L	U	U		1	1
	Toluene	1	UG/L	U	U		1	1
	trans-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Trichloroethene	1	UG/L	U	U		1	1
	Vinyl chloride	1	UG/L	U	U		1	1
	Xylenes, Total	1	UG/L	U	U		1	1

Station: QC
Sample ID: TB2412 **Media:** Quality Control
Date Collected: 07/22/2003 **Field Sample Type:** Trip Blank

Analysis	Chemical	Result	Units	Lab Qual	Data Qual	Validation Code	Detection Limit	Dilution
Volatile Organics	**General Engineering Laboratory**							
	1,1,1-Trichloroethane	1	UG/L	U	U		1	1
SW846 8260B	1,1,2,2-Tetrachloroethane	1	UG/L	U	U		1	1
	1,1,2-Trichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethane	1	UG/L	U	U		1	1
	1,1-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloroethane	1	UG/L	U	U		1	1
	1,2-Dichloroethene	1	UG/L	U	U		1	1
	1,2-Dichloropropane	1	UG/L	U	U		1	1
	2-Butanone	3.2	UG/L	J	J		5	1
	2-Hexanone	5	UG/L	U	U		5	1
	4-Methyl-2-pentanone	5	UG/L	U	U		5	1
	Acetone	10.8	UG/L		=		5	1
	Benzene	1	UG/L	U	U		1	1
	Bromodichloromethane	1	UG/L	U	U		1	1
	Bromoform	1	UG/L	U	U		1	1
	Bromomethane	1	UG/L	U	U		1	1
	Carbon disulfide	5	UG/L	U	U		5	1
	Carbon tetrachloride	1	UG/L	U	U		1	1
	Chlorobenzene	1	UG/L	U	U		1	1
	Chloroethane	1	UG/L	U	U		1	1
	Chloroform	1	UG/L	U	U		1	1
	Chloromethane	1	UG/L	U	U		1	1
	cis-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Dibromochloromethane	1	UG/L	U	U		1	1
	Ethylbenzene	1	UG/L	U	U		1	1
	Methylene chloride	5	UG/L	U	U		5	1
	Styrene	1	UG/L	U	U		1	1
	Tetrachloroethene	1	UG/L	U	U		1	1
	Toluene	1	UG/L	U	U		1	1
	trans-1,3-Dichloropropene	1	UG/L	U	U		1	1
	Trichloroethene	1	UG/L	U	U		1	1
	Vinyl chloride	1	UG/L	U	U		1	1
	Xylenes, Total	1	UG/L	U	U		1	1

CHAIN-OF-CUSTODY FORMS
JULY 2003

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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.: 6SWMU3

PROJECT NAME: Miscellaneous SWMU Investigations

PROJECT NUMBER: 01-1624-04-5543-300

PROJECT MANAGER: Patty Stoll

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

844627 REQUESTED PARAMETERS

Sample ID	Date Collected	Time Collected	Matrix	VOC	Methane	SVOC	RCRA METALS	Nitrate, Nitrite, Sulfate	CO2	Phosporous	Sulfide	Total Iron	No. of Bottles/ Vials:
24/6013	7/17/03	1313	water	2		2	1						5
24/113	7/17/03	1143	water	2		2	1						5
TB24/10	7/17/03	755	water	2									2

Patricia A Stoll 7/18/03

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod Charleston, SC 29407

PHONE NO: (803) 556-8171

OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS

2 ← 1 8023747919

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
Patricia A Stoll	7/18/03 1045		
COMPANY NAME: SAIC		COMPANY NAME:	
RECEIVED BY:	Date/Time 7/18/03 1045	RELINQUISHED BY:	Date/Time
COMPANY NAME:		COMPANY NAME:	
RELINQUISHED BY:	Date/Time 7/18/03 1330	RECEIVED BY:	Date/Time 7/18/03 1335
COMPANY NAME:		COMPANY NAME: CET	

TOTAL NUMBER OF CONTAINERS: 12

Cooler Temperature: 4°C

Cooler ID: #1

FEDEX NUMBER: N/A

A-25

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PO Box 2501, 151 Lafayette Dr., Tennessee 37830 (423) 481-4600

CHAIN OF CUSTODY RECORD

COC NO.: 6SWMU 4

PROJECT NAME: Miscellaneous SWMU Investigations

PROJECT NUMBER: 01-1624-04-5543-300

PROJECT MANAGER: Patty Stoll

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

84574% REQUESTED PARAMETERS

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29407

PHONE NO: (803) 556-8171

Sample ID	Date Collected	Time Collected	Matrix	VOC	Methane	SVOC	RCRA METALS	Nitrate, Nitrite, Sulfate	CO2	Phosporous	Sulfide	Total Iron	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
24413	7/19/03	1325	water	2		2	1						5	
TB2402	7/18/03	0745	Water	2									2	

P A Stoll 7/21/03

A-26

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time	TOTAL NUMBER OF CONTAINERS: 7	Cooler Temperature: 4°C
P A Stoll	7/21/03			Cooler ID: 510	FEDEX NUMBER: N/A
COMPANY NAME: SAIC		COMPANY NAME:			
RECEIVED BY: TOM LEWIS	Date/Time 7/21/03 1145	RELINQUISHED BY:	Date/Time		
COMPANY NAME: GEL		COMPANY NAME:			
RELINQUISHED BY: TOM LEWIS	Date/Time 7/21/03 1535	RECEIVED BY:	Date/Time 7/21/03 1600		
COMPANY NAME: GEL		COMPANY NAME: GEL			

8

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84818

CHAIN OF CUSTODY RECORD

COC NO.: GSWMU5

PROJECT NAME: Miscellaneous SWMU Investigations

PROJECT NUMBER: 01-1624-04-5543-300

PROJECT MANAGER: Patty Stoll

Sampler (Signature): [signature] (Printed Name): PATRICIA A. STOLL

LABORATORY NAME: General Engineering Laboratory

LABORATORY ADDRESS: 2040 Savage Raod, Charleston, SC 29407

PHONE NO: (803) 556-8171

Sample ID	Date Collected	Time Collected	Matrix	VOC	Methane	SVOC	RCRA METALS	Nitrate, Nitrite, Sulfate	CO2	Phosporous	Sulfide	Total Iron	No. of Bottles/ Vials:	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
244813	7/21/03	1630	Water	2		2	1						5	
244513	7/22/03	1220	Water	2		2	1						5	
244313	7/21/03	1455	Water	2		2	1						5	
TB2411	7/21/03	0745	Water	2									2	
TB2412	7/22/03	0730	Water	2									2	

[signature] 7/24/03

RELINQUISHED BY:	Date/Time	RECEIVED BY:	Date/Time
[signature]	7/24/03	[signature]	7-24-03
COMPANY NAME: SAIC	1400	COMPANY NAME: GEL	1350
RECEIVED BY: [signature]	Date/Time 7/24/03	RELINQUISHED BY:	Date/Time
COMPANY NAME: GEL	1700	COMPANY NAME:	
RELINQUISHED BY: [signature]	Date/Time 7/24/03	RECEIVED BY:	Date/Time
COMPANY NAME: [illegible]	1900	COMPANY NAME:	

TOTAL NUMBER OF CONTAINERS: 19

Cooler ID.: 111

Cooler Temperature: 4°C

FEDEX NUMBER: N/A

A-27

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APPENDIX B

PROTOCOL FOR ESTABLISHING REMEDIAL LEVELS

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Longaker, Jeff

From: Brent Rabon [brent_rabon@mail.dnr.state.ga.us]
Sent: Friday, May 04, 2001 3:06 PM
To: LittleDERA@aol.com
Subject: Re: Written Description which accompanies flowchart

Protocol.doc

Melanie, GA EPD has reviewed the Protocol proposed by Fort Stewart in your e-mail and facsimile (Little to Rabon) dated 30 April 2001 and 2 May 2001, respectively. Based upon that review and in order to expedite resolution of this issue, I have modified your version of the Written Description to accompany the flowchart (See attachment) and propose that some text be added (in bold) and deleted (struck out). Please note that modification of the hazardous constituents definition in the Written Description will also require modification of the one (1) applicable block in the flowchart.

The majority of the requested modifications are an attempt to make the proposal more generic for SWMUs which are not addressed by the Phase II RFI Report for 16 SWMUs dated April 2000 (e.g., SWMU 13). I do realize, however, that Fort Stewart may elect to modify the text in order to be more SWMU-specific when including this Protocol into a Corrective Action Plan.

Please do not hesitate to contact me should you have any questions concerning this e-mail.

Thank you,
Brent

>>> <LittleDERA@aol.com> 04/30/01 04:39PM >>>
See attached. Thanks, Melanie

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PROTOCOL FOR EVALUATING ADDITIONALLY DETECTED CONSTITUENTS IN GROUNDWATER AFTER APPROVAL OF A RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION REPORT

B.1 INTRODUCTION

Groundwater monitoring is typically suggested for solid waste management units (SWMUs) that have been recommended for a corrective action other than institutional controls to determine either the groundwater characteristics before development of the Corrective Action Plan (CAP) and/or as part of the remedial alternative [e.g., monitored natural attenuation (MNA)] recommended in the CAP. Additional groundwater monitoring might result in more constituents being detected in groundwater and/or at concentrations higher than those evaluated in the Georgia Environmental Protection Division (GEPD)–approved Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) report. Constituents identified as constituents of potential concern (COPCs) in the RFI report are evaluated in human health and ecological risk assessments, and their risk is quantified. COPCs determined to present a risk to human health and/or the environment are identified as constituents of concern (COCs), and remedial levels are developed. COCs indicated at concentrations above remedial levels (and the source media of the COCs) are identified in the CAP as constituents requiring remedial action. The following presents the potential methodology for evaluating additional constituents and/or constituents detected at concentrations higher than those previously detected and that might not have indicated risk or for which a remedial level might not have been developed in the Phase II RFI.

B.2 PROTOCOL

Groundwater sampling and monitoring results will be evaluated to determine whether significant changes are occurring in the types and concentrations of constituents present in the groundwater. An evaluation protocol has been developed to assess the potential increases in the groundwater concentrations of constituents not identified as COCs in the GEPD–approved RFI report. The accompanying decision chart (Figure B-1) presents the decision points required in the evaluation.

Identification. Initially the data will be evaluated to determine what constituents, if any, have increased concentrations in groundwater but were not addressed as COCs in the RFI, which would include constituents that were not detected during the RFI groundwater sampling. The maximum detected concentration from the monitoring data will be compared to the maximum detected concentration listed in the RFI. If the concentration is elevated (i.e., greater than the maximum detected concentration reported in the RFI), further evaluation will be required to determine whether this constituent should be addressed under the remedial action. All constituents not previously detected will be evaluated further.

Confirmation. Given that groundwater concentrations are likely to fluctuate, a single elevated value does not indicate that the concentration of the constituent is increasing over time. The value might be a statistical aberration or the result of a temporary change in environmental conditions. If the elevated concentration represents a single event, confirmation of the results is required, and no further evaluation of the constituent should be undertaken until the sampling results have been confirmed during the next groundwater monitoring sampling event.

Screening. Upon confirmation of the sampling results, the maximum concentration will be screened using the U.S. Environmental Protection Agency Region 3 risk-based concentrations (RBCs) for tap

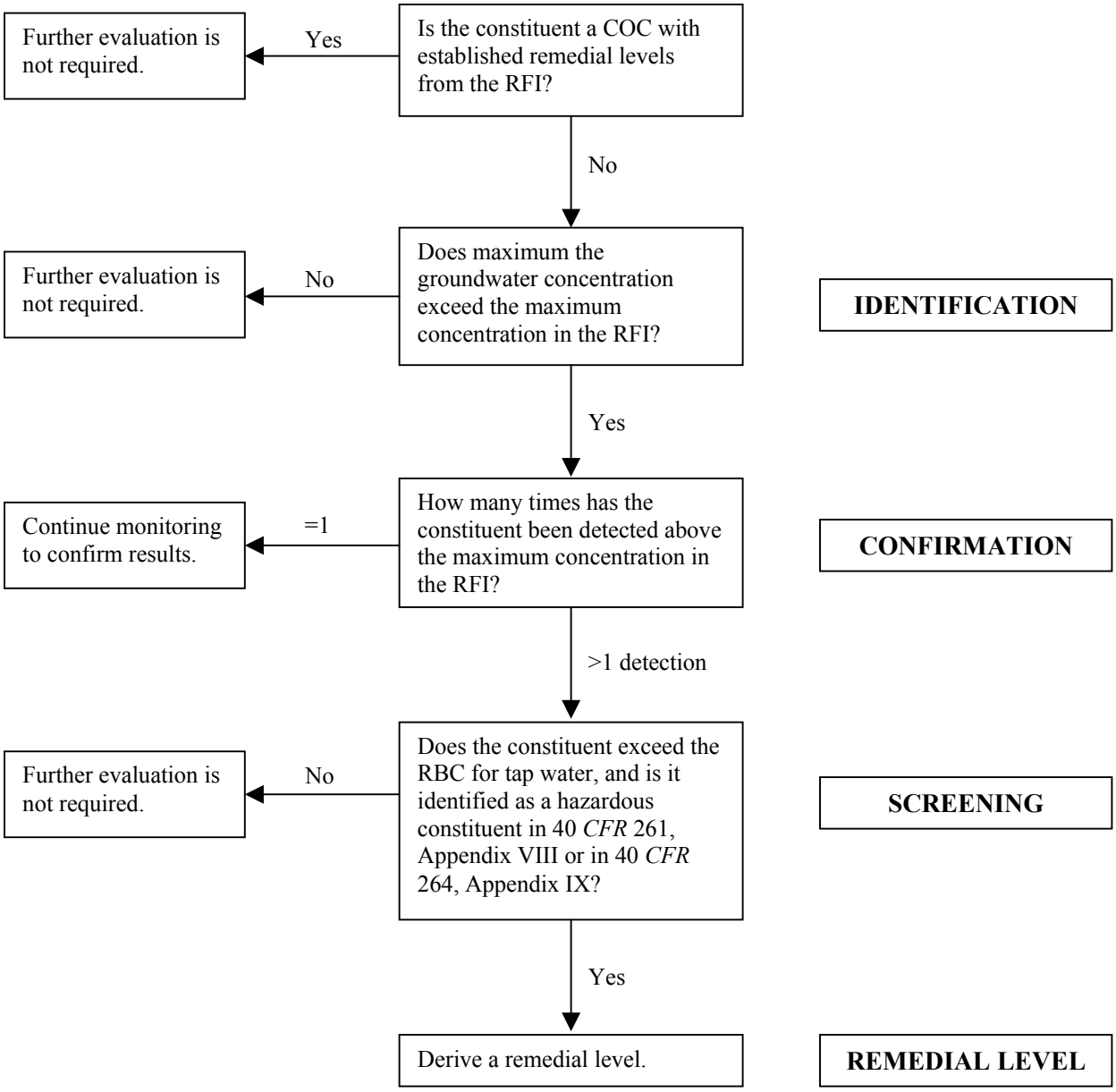

Figure B-1. Protocol for Developing a Remedial Level

water as described in Section 7.3.2 ("Screening Values for Groundwater") of the revised final Phase II RFI report for 16 SWMUs at Fort Stewart, Georgia (SAIC 2000). These screening values were used in the Phase II RFI to identify human health COPCs in groundwater and will identify those constituents that might have an adverse effect on human health. In addition, if the constituent is not listed in Title 40, *Code of Federal Regulations (CFR),* Part 261, Appendix VIII or in 40 *CFR* 264, Appendix IX [see the definition of hazardous constituents in Section I.E of the Fort Stewart Hazardous Waste Facility Permit #HW-045(S&T)]**,** then it will not be considered a hazardous constituent and will be eliminated.

Remedial Level Development. A remedial level will be derived for each constituent with a maximum concentration that exceeds the RBC. The remedial level will be derived using the protocols established for that site in the Phase II RFI. If a risk-based remedial level is derived for the constituent, the total risk for exposure to groundwater constituent concentrations equal to the remedial levels should not exceed a hazard index of 3 or an incremental lifetime cancer risk of 1×10^{-4} (GEPD 1996).

Documentation. Groundwater monitoring data collected to determine present characteristics before development of the CAP will be evaluated in the CAP under the section "Supplemental Data Evaluation." The supplemental data evaluation will be presented as an appendix and summarized in Chapter 2.0 of the CAP. The evaluation of potential additional constituents and/or the detection of constituents at concentrations greater than previously reported and potential remedial level development will be presented in the supplemental data evaluation in the CAP.

Groundwater monitoring data collected as part of the selected and implemented remedial alternative will be reported to GEPD in CAP progress reports. The reporting period will be dictated by the remedial alternative being implemented. For example, MNA typically has an annual reporting schedule, while active remedial action alternatives (e.g., in situ chemical oxidation) may be reported after the performance of the remedial alternative and at subsequent intervals thereafter. The reports to be issued and the reporting schedule will be documented in the CAP. The evaluation of potential additional constituents and/or the detection of constituents at concentrations greater than previously reported and potential remedial level development will be presented in the CAP progress reports. This protocol will be presented and established in the operations and maintenance plan and MNA checklist (if MNA is selected), both of which will be appendices to the CAP.

B.3 REFERENCES

GEPD (Georgia Environmental Protection Division) 1996. *Guidance for Selecting Media Remediation Levels at RCRA Solid Waste Management Units*, Atlanta, Georgia, November.

SAIC (Science Applications International Corporation) 2000. *Phase II RCRA Facility Investigation Report for 16 Solid Waste Management Units at Fort Stewart, Georgia* (Revised Final), Oak Ridge, Tennessee, April.

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APPENDIX C

GROUNDWATER DATA FROM MONITORING WELLS

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Table C-1. Summary of Analytes Detected in Shallow Surficial Groundwater Wells (October 1999 to July 2003), SWMU 24B

Station	EPA Region 3 Tap Water PRG[a]	Federal MCL	Site-Wide Background Criteria	MW1[b]			MW3		
Date				10/31/99	11/01/00	07/17/03	11/01/99	10/31/00	07/21/03
Volatile Organic Compounds (µg/L)									
Methylene chloride	4.1 ca	5			1.5 J				
Tetrachloroethene	0.1 ca	5	0.00			0.93 J			0.39 J
Trichloroethene	0.026 ca	5	0.00						
Semivolatile Organic Compounds (µg/L)									
Carbazole	3.3 ca		0.00			1.2 J			
RCRA Metals (µg/L)									
Arsenic	0.045 ca	10	3.02		NA			NA	
Barium	260 nc	2,000	71.72	10.7 =	NA	35.5 =	17.2 =	NA	12.4 =
Cadmium	1.8 nc	5	0.43	0.43 J	NA			NA	1.53 J
Chromium	11 nc	100	3.56		NA			NA	
Lead	15	15	4.69	1.6 J	NA			NA	
Mercury	1.1 nc	2	0.14		NA			NA	
Selenium	18 nc	50	1.90		NA			NA	

Station	EPA Region 3 Tap Water PRG[a]	Federal MCL	Site-Wide Background Criteria	MW4			MW5		
Date				11/01/99	11/01/00	07/19/03	11/01/99	10/31/00	07/22/03
Volatile Organic Compounds (µg/L)									
Methylene chloride	4.1 ca	5							
Tetrachloroethene	0.1 ca	5	0.00		1.4 =	0.53 J			
Trichloroethene	0.026 ca	5	0.00		2.6 =	0.39 J			
Semivolatile Organic Compounds (µg/L)									
Carbazole	3.3 ca		0.00						
RCRA Metals (µg/L)									
Arsenic	0.045 ca	10	3.02		NA			NA	
Barium	260 nc	2,000	71.72	27.8 =	NA	24.2 =	21.7 =	NA	24.8 =
Cadmium	1.8 nc	5	0.43		NA	3.43 J		NA	0.816 J
Chromium	11 nc	100	3.56		NA			NA	
Lead	15	15	4.69	2 J	NA		1.6 J	NA	
Mercury	1.1 nc	2	0.14		NA			NA	
Selenium	18 nc	50	1.90		NA			NA	

Table C-1. Summary of Analytes Detected in Shallow Surficial Groundwater Wells (October 1999 to July 2003), SWMU 24B (continued)

Station	EPA Region 3 Tap Water PRG[a]	Federal MCL	Site-Wide Background Criteria	MW6			MW8		
Date				10/31/99	10/31/00	07/17/03	10/30/99	11/01/00	07/21/03
Volatile Organic Compounds (µg/L)									
Methylene chloride	4.1 ca	5							
Tetrachloroethene	0.1 ca	5	0.00		1.4 =			0.53 J	
Trichloroethene	0.026 ca	5	0.00						
Semivolatile Organic Compounds (µg/L)									
Carbazole	3.3 ca		0.00						
RCRA Metals (µg/L)									
Arsenic	0.045 ca	10	3.02		NA			NA	
Barium	260 nc	2,000	71.72	29.1 =	NA	8.56 =		NA	6.42 =
Cadmium	1.8 nc	5	0.43		NA	1.46 J		NA	
Chromium	11 nc	100	3.56	7.5 =	NA			NA	
Lead	15	15	4.69		NA			NA	
Mercury	1.1 nc	2	0.14		NA			NA	0.15 J
Selenium	18 nc	50	1.90		NA			NA	

[a]EPA Region 3 tap water PRGs were updated as of October 16, 2003, from the EPA Mid-Atlantic Hazardous Site Cleanup Website (http://www.epa.gov/reg3hwmd/risk/index.htm).

[b]Site-specific background location.

NA = Not analyzed.

ca = Tap water PRG is based on carcinogenic factor.

nc = Tap water PRG is 0.1 times the PRG based on noncarcinogenic toxicity.

EPA = U.S. Environmental Protection Agency.

PRG = Preliminary remediation goal.

J = Estimated value.

RCRA = Resource Conservation and Recovery Act.

MCL = Maximum contaminant level.

SWMU = Solid waste management unit.