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Corrective Action Plan Addendum

SWMU 24B (Old Radiator Shop/Paint Booth)

Fort Stewart, Georgia
EPA ID # GA9 210 020 872

June 15, 2009

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Corrective Action Plan Addendum

SWMU 24B (Old Radiator Shop/Paint Booth)

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GP08HAFS.F24A.EHCAP

Date:
June 15, 2009

GEORGIA REGISTERED PROFESSIONAL ENGINEERING CERTIFICATION

I certify that I am a qualified professional engineer who has received a baccalaureate or post-graduate degree in engineering and have sufficient training and experience in environmental engineering 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.

Name: Charles A. Bertz, P.E.

License Number: 029498

Expiration Date: December 31, 2010

Charles A. Bertz, P.E.

6.15.2009

Date

PROJECT REVIEW COMMENTS	Date: 6/15/09	1 of 1 Pages:
To: Chuck Bertz	From: Environmental & Natural Resource Division (ENRD) Reviewer: Algeana Stevenson	
Project Name, & Location: CAP Addendum SWMU 24B (Old Radiator Shop / Paint Booth) Fort Stewart Military Reservation and Hunter Army Airfield	Contract No.:W91ZLK-05-D-0015 Delivery Order No.:	Line Item No.:

Type of Action: *(Check appropriate boxes)*

- ☒ Draft Document
- ☐ Pre-Final Document
- ☐ Final Document
- ☐ Other _____
- ☐ Chemistry
- ☐ Geology/Hydrogeology
- ☐ Safety & Health
- ☐ Engineering
- ☐ Risk Assessment
- ☐ Other _____

Item. No.	Page No./ Section No.	COMMENT	ARCADIS RESPONSE	REVIEW ACTION & DATE
1	Page 2-2, Section 2.3, Last Sentence	Change the word 'are' to 'were'.	The text has been revised as noted.	
2	Page 4-1, Section 4	This section should also denote what the future groundwater plans are, since Section 3.1 states that additional confirmation groundwater samples will be taken from MW-01.	Section 3.1 was previously modified to include the results of subsequent analysis on monitor well MW-1. As a result of the monitoring activities, no further action with regards to groundwater was recommended.	
3	Page iii	Add the acronym 'bls' – below land surface.	The acronym has been added to the text.	

☐ Continued on Next Page ☒ End of Comments

Table of Contents

Tables

Figures

Appendices

Acronyms

ARCADIS	ARCADIS U.S., Inc.
bls	Below land surface
CAP	Corrective Action Plan
COCs	Constiuents of Concern
COPC	Constituent of Potential Concern
CSSP	Comprehensive Site Safety Plan
DOT	Department of Transportation
DPT	Direct Push Technology
ft	feet
ft bls	feet below land surface
GAEPD	Georgia Environmental Protection Division
G&M	Geraghty and Miller
MCL	US EPA Maximum Contaminant Level
MDL	Method Detection Limit
µg/kg	Micrograms per kilogram
mg/kg	Milligrams per kilogram
NELAP	National Environmental Laboratory Accreditation Program
OSHA	Occupational Safety and Health Administration
OVM	Organic Vapor Monitor
PBC	Performance Based Contract
PCE	Tetrachloroethene
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RL	Reporting Limit

RSL	USEPA Regional Screening Level
SAIC	Science Applications Internation Corporation
SVOCs	Semi-volatile Organic Compounds
SWMU	Solid Waste Management Unit
TCE	Trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
USAEC	United States Army Environmental Command
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

1. Introduction

ARCADIS U.S. Inc. (ARCADIS) has been retained by the United States Army Environmental Command (USAEC) to perform investigation and remediation activities at Fort Stewart in accordance with the requirements of the Performance Based Contract (PBC) number W91ZLK-05-D-0015. Fort Stewart, originally known as Camp Stewart, was established in June 1940 as an anti-aircraft artillery training center. The current primary mission for Fort Stewart is a training and maneuver area, providing tank, field artillery, helicopter gunnery, and small arms training for regular Army and National Guard units. The 24th Infantry Division, which was reflagged as the 3rd Infantry Division in May 1996, was permanently stationed at Fort Stewart in 1975.

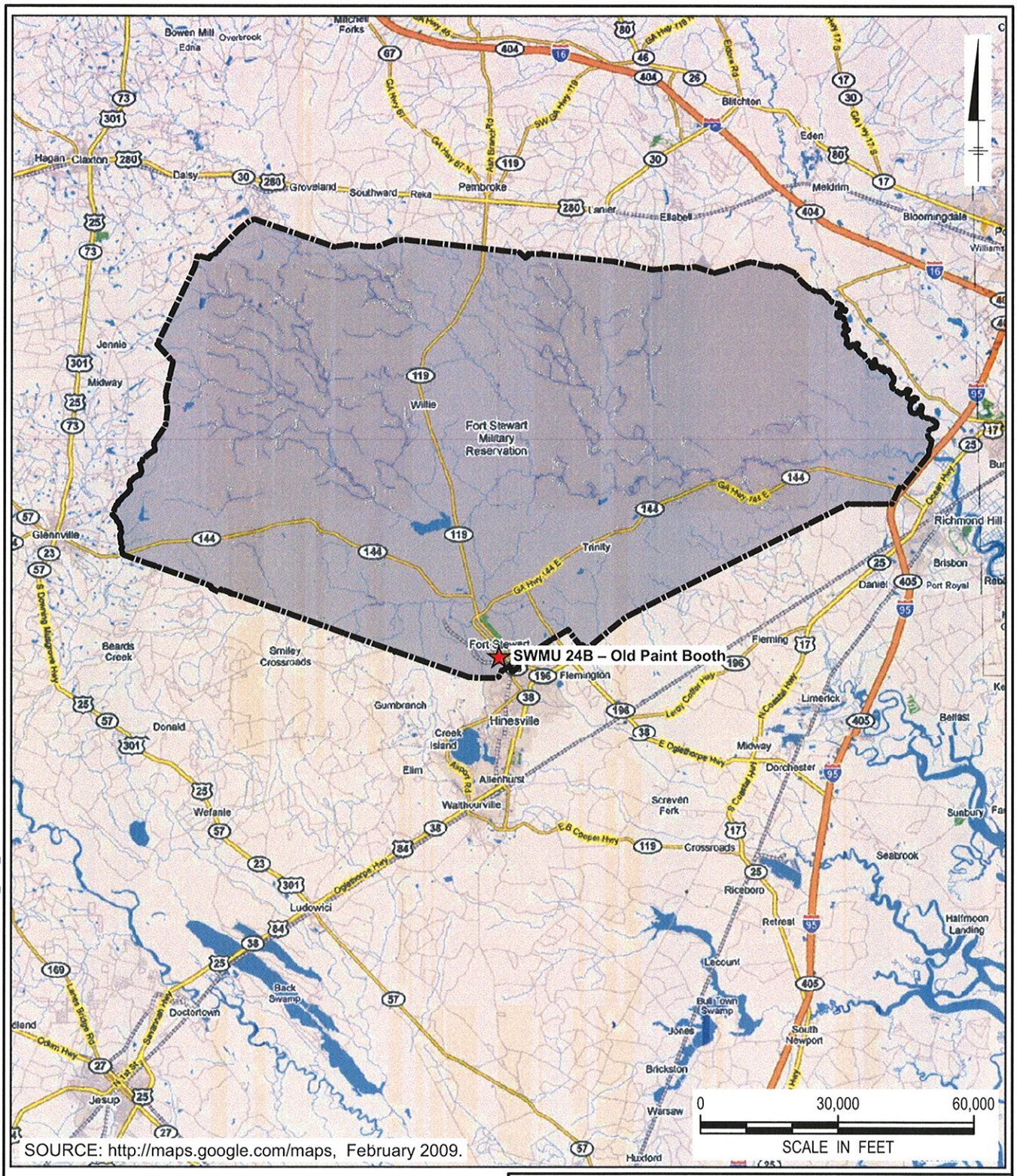
Fort Stewart is located in portions of Liberty, Bryan, Long, Tattnall, and Evans Counties, Georgia, approximately 40 miles west-southwest of Savannah, Georgia (Figure 1-1). The cantonment, or garrison area, is located within the Liberty County portion on the southern boundary of the reservation. Hinesville, Georgia, is the nearest city to the garrison area and is located immediately outside of the reservation boundary.

This Corrective Action Plan (CAP) Addendum has been generated to provide a progress summary and to propose amendments to the current approved Corrective Action Plan (CAP) for the Old Radiator Shop/Paint Booth, Solid Waste Management Unit (SWMU) 24B (Science Applications International Corporation [SAIC] 2002). The remediation activities at SWMU 24B are performed in accordance with the Fort Stewart Hazardous Waste Facility Permit No. HW-045 (S), issued by the Georgia Environmental Protection Division (GAEPD) in August 2007.

1.1 Site Location and History

SWMU 24B, the Old Radiator Shop/Paint Booth was located in Building 1056 in the southern portion of the garrison area on the eastern side of Tilton Avenue (Figure 1-2). Building 1056 was historically used as a radiator shop and paint booth. The building has since been demolished and only the building foundation remains. The area is currently used as a staging area for Army vehicles. Historical research into the former operations at Building 1056 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 [G&M] 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 feet (ft) southeast of the northwestern corner of Building 1056. It is believed that this is the location of the connection (SAIC 2008).



SOURCE: http://maps.google.com/maps, February 2009.

FORT STEWART MILITARY RESERVATION, GEORGIA
SWMU 24B – OLD PAINT BOOTH
CORRECTIVE ACTION PLAN ADDENDUM

Site Location Map

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FIGURE 1-1

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) LD:(B.ALTOM) PIC:(M.FENNER) PM:(C.BERTZ) TM:(A.DAVIS)
PROJECT: GP08HAFS.F24A.EHCAP PATH: G:\GIS\GP08HAFS\F24A\2009 CAP ADD\F1-1 SWMU24_CAP_REG.mxd SAVED: 3APR2009

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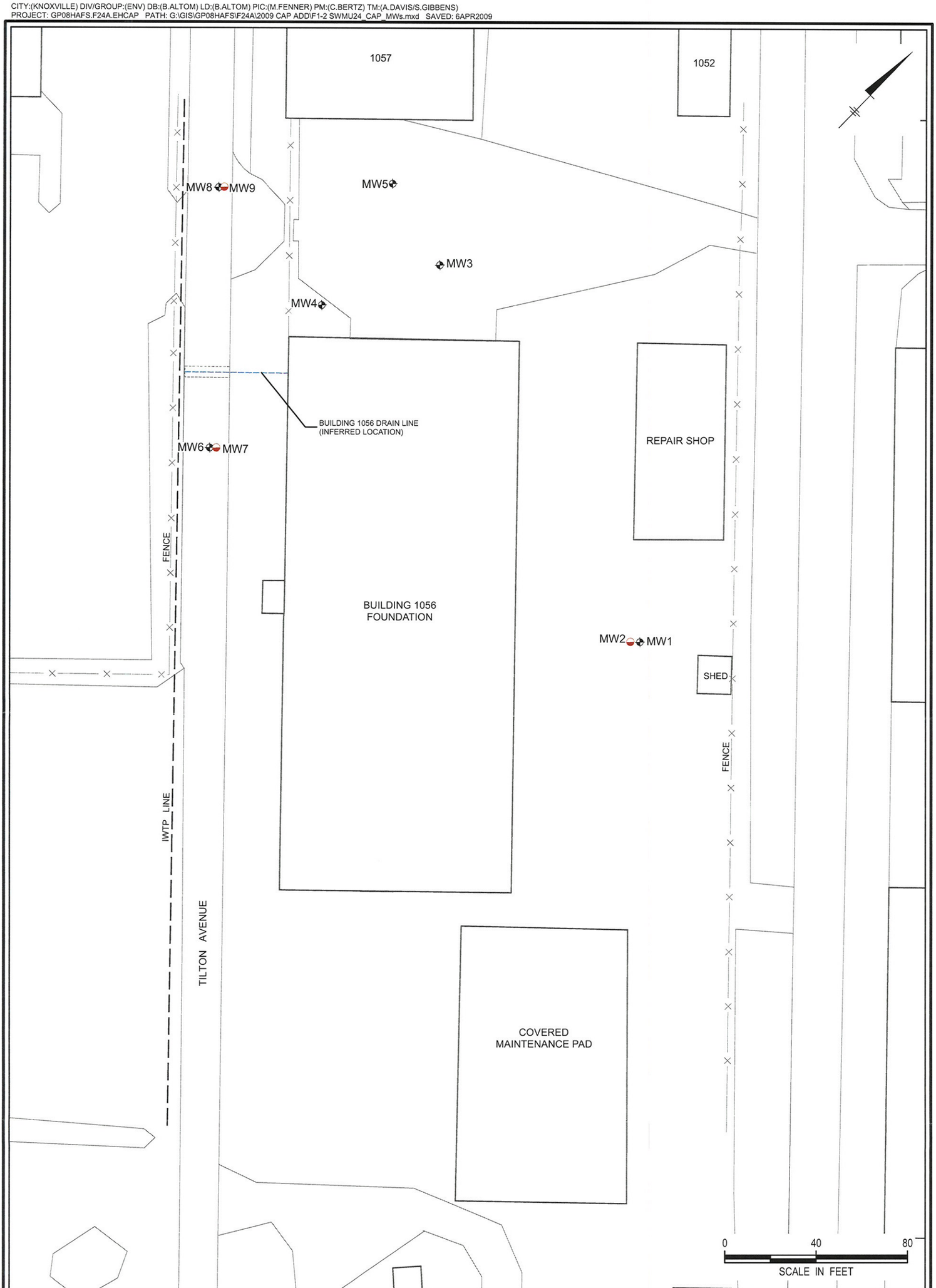

LEGEND

- Monitor Well (shallow)
- Monitor Well (deep)

FORT STEWART MILITARY RESERVATION, GEORGIA

SWMU 24B – OLD PAINT BOOTH
CORRECTIVE ACTION PLAN ADDENDUM

Site Map

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FIGURE
1-2

2. Historical Investigations and Corrective Actions

Two phases of investigation and a corrective action have been conducted at SWMU 24B. A short summary is provided below. A detailed summary is included in the CAP Progress Report for Calendar Year 2007 (SAIC 2008).

2.1 Phase I RCRA Facility Investigation

A Phase I Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) was conducted in 1996 at SWMU 24B (Rust 1996). During the investigation, five surface soil samples, four subsurface soil samples, and six groundwater samples were collected using direct-push technology (DPT) techniques. The samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and RCRA metals.

The RFI Work Plan (G&M 1992) specified that one sample of "sludge" at the Radiator Shop would be collected for laboratory analyses of Toxicity Characteristic Leaching Procedure (TCLP) constituents, VOCs, and pH. The Radiator Shop (Building 1070) burned in March 1993, therefore the "sludge" sample was not obtained. A new radiator shop was built to replace the one that had burned down.

Based on an evaluation of the site history and the Phase I RFI sample results, a Phase II investigation was recommended for SWMU 24B. The purpose of the investigation was to further evaluate the soil and groundwater. In particular, the Phase II investigation was to investigate the potential of a release associated with the fire at the Old Radiator Shop and if there were impacts to the ditch adjacent to Tilton Avenue associated with historical site activities (Rust 1996).

2.2 Phase II RCRA Facility Investigation

A Phase II RFI was performed by SAIC in January 1999 and consisted of eight groundwater screening samples to determine the horizontal extent of impacts, two vertical profiles to determine vertical extent of impacts, installation and sampling of nine (six shallow and three deep) monitor wells and surface and subsurface soil sampling. Supplemental groundwater sampling of all nine monitor wells for VOCs and SVOCs was performed in November 2000 (SAIC 2001).

Based on the laboratory analytical results of 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). A remedial level of 0.89 milligrams per kilogram (mg/kg) was developed for benzo(a)pyrene, and 8.93 mg/kg for benzo(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene in surface soil. None of the constituents detected in subsurface soil were determined to be a COC requiring corrective action.

Low concentrations of three VOCs (methylene chloride, tetrachloroethene (PCE), and trichloroethene (TCE)) were detected sporadically in groundwater from monitor wells during the October 1999 and November 2000 monitoring events. No SVOCs were detected in groundwater. None of the constituents detected in groundwater were determined to be a COC requiring corrective action (SAIC 2000).

2.3 Corrective Action Plan

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 for benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene (SAIC 2001).

During the development of the CAP, Building 1056 was scheduled to be demolished. The selection of a corrective action alternative for impacts to surface soil was delayed until the soil from beneath Building 1056 could be evaluated. The temporary corrective action alternative utilized for remediation of surface soil was Institutional Controls and Groundwater Monitoring. It was recommended that institutional controls be implemented to restrict access to surface soil until the soil below Building 1056 could be evaluated. Although no COCs were identified in groundwater, groundwater monitoring was included as part of the remedial alternatives to ensure that constituents in soil were not leaching to the groundwater. Groundwater monitoring was to be conducted at six shallow monitor wells on a biennial basis until Building 1056 could be demolished and impacts to surface soil beneath the building could be evaluated. The groundwater samples were to be analyzed for VOCs, SVOCs, and RCRA metals (SAIC 2002). Should monitoring activities proposed as part of the corrective action alternative show that COCs were not attenuating as anticipated, a CAP Addendum was proposed to evaluate additional remedial alternatives.

2.4 2003 CAP Implementation

The first biennial groundwater sampling event was performed in July 2003. Groundwater was collected from six shallow monitor wells at SWMU 24B and analyzed

for VOCs, SVOCs, and RCRA metals. Based on the sample results, a biennial groundwater sampling event was recommended to confirm TCE and mercury were not migrating to groundwater and to further evaluate if cadmium and PCE were constituents of potential concern (COPC) in groundwater (SAIC 2004).

2.5 2005 CAP Implementation

The second biennial groundwater sampling event was performed in March 2005. Once again, groundwater was collected from six shallow monitor wells at SWMU 24B and analyzed for VOCs, SVOCs, and RCRA metals. The laboratory analytical data did not indicate any new COPCs. The sample results also confirmed TCE and mercury are not migrating to groundwater and cadmium and PCE are not COPCs.

As part of the planning for the Building 1056 demolition, it was decided to sample the surface soils beneath the building prior to the demolition to allow earlier coordination with the construction plans for the area. The soil sampling was performed in August 2004. Eight soil borings were installed through the concrete slab in the area of the former drain line as shown on Figure 2-1.

Based on the laboratory analytical data from the soil borings, no COPCs or contaminant migration COPCs were identified in surface or subsurface soil. The Phase II RFI (SAIC 2001) indicated the presence of SVOCs in the surface soil surrounding Building 1056 at concentrations exceeding the site established remedial levels. The RFI concluded that these SVOCs were not believed to be from an industrial process that resulted in systematic and routine releases from SWMU 24B but, rather, to activities occurring in the general area. The results of soil sampling from underneath the slab at Building 1056 further confirmed this hypothesis: SVOCs are a common soil constituent in heavily industrialized areas because of the large number of activities that can generate them. These activities include asphalt paving, equipment lubricants, dust suppression, and combustion processes. SVOC COCs in surface soil identified around Building 1056 were not detected in soil collected beneath the slab. Since the low concentrations of SVOCs in surface soil are not associated with a systematic or routine release from SWMU 24B, the implementation of institutional controls around the perimeter of the site was not warranted or implemented (SAIC 2005).

2.6 2007 CAP Implementation

The third biennial groundwater monitoring event was conducted in October 2007. Groundwater samples were collected from six shallow monitor wells and analyzed for

VOCs, SVOCs, and RCRA metals. Although no groundwater COCs were identified, groundwater monitoring was included as part of the selected remedial alternative to ensure that potential constituents in the soil underneath the concrete foundation of Building 1056 did not migrate to groundwater. As discussed in Section 2.5, soil samples were collected from beneath the building foundation in August 2004 and no COPCs or contaminant migration COPCs were identified. In addition, no COPCs have been identified in the subsequent 2003, 2005, and 2007 CAP groundwater monitoring events. Consequently, Fort Stewart recommended that the biennial groundwater monitoring at SWMU 24B be eliminated and the monitoring wells abandoned (SAIC 2008). However, due to low level naphthalene, 2-methylnaphthalene, and carbon disulfide detections in the background well MW-01 (Table 2-1), GAEPD requested that additional investigation be conducted to delineate the detections and a new background well be installed upgradient of MW-01 (GAEPD 2008).

In addition to groundwater monitoring, confirmation surface soil samples were collected in December 2007 at four locations where elevated SVOC COCs were identified during the Phase II RFI. The purpose of the samples was to evaluate if the COCs identified in the surface soil during the Phase II RFI were naturally attenuating. The surface soil samples were only analyzed for SVOC constituents identified as COCs (benzo(a)anthracene, benzo(b)fluoranthene, indeno(1,2,3-cd)pyrene, and benzo(a)pyrene).

Low concentrations of SVOC COCs were detected in the confirmation surface soil samples; however, only one confirmation surface soil sample indicated a COC above its Remedial Level. Although the concentration of benzo(a)pyrene at sample location SS-17 (Figure 2-1) had significantly decreased from the sample collected in 2000 (SS-14), the concentration remained slightly above its remedial level of 890 mg/kg (Table 2-2). The CAP Progress Report (SAIC 2008) recommended a second confirmation sample be collected in December 2008 to evaluate if the concentration continued to attenuate below the established remedial level of 890 mg/kg.

Table 2-1
Confirmation Groundwater Sample Results
SWMU 24B
Fort Stewart, Georgia

	Location ID	MW-01	MW-01	MW-01	MW-01	MW-01	MW-01		MW-01	
	Sample Date	10/31/99	11/01/00	07/17/03	03/15/05	10/31/07	02/04/09		04/22/09	
Chemical Name	Unit	Result	Result	Result	Result	Result	Result	MDL	Result	MDL
2-Methylnaphthalene	µg/L	< 10 U	< 0.96 U	< 0.97 U	0.57 J	0.482 J	< 6.1 U	1.8	< 1.0 U	0.08
Naphthalene	µg/L	< 10 U	< 0.96 U	< 0.97 U	1.4	1.34	< 6.1 U	1.6	< 1.0 U	0.07
Carbon disulfide	µg/L	< 5 U	< 5 U	< 5 U	2 J	5.04	< 0.5 U	0.097	< 0.5 U	0.097

Notes:
µg/L - micrograms per liter
J - The sample result is estimated.
U - The sample result was not detected above the analytical reporting limit.
MDL - Method Detection Limit

Table 2-2
Confirmation Soil Sample Results
SWMU 24B
Fort Stewart, Georgia

		Location ID	SS-14	SS-17	SS-55
		Sample Depth (ft)	0 - 0.5	0 - 1	0 - 1
		Sample Date	11/01/00	12/10/07	02/26/09
Chemical Name	Remedial Level	Unit			
Benz(a)anthracene	8,930	µg/kg	7,380	1,270	3,400
Benzo(a)pyrene	890	µg/kg	9,560	1,470	5,400
Benzo(b)fluoranthene	8,930	µg/kg	11,700	2,360	6,900
Indeno(1,2,3-cd)pyrene	8,930	µg/kg	6,320	866	2,000

Notes:

- Indicates the sample result exceeds the established soil remedial level for SWMU 24.

ft - feet

µg/kg - micrograms per kilogram

CITY:(KNOXVILLE) DIV/GROUP:(ENV) DB:(B.ALTOM) LD:(B.ALTOM) PIC:(M.FENNER) PM:(C.BERTZ) TM:(A.DAVIS/S.GIBBENS)
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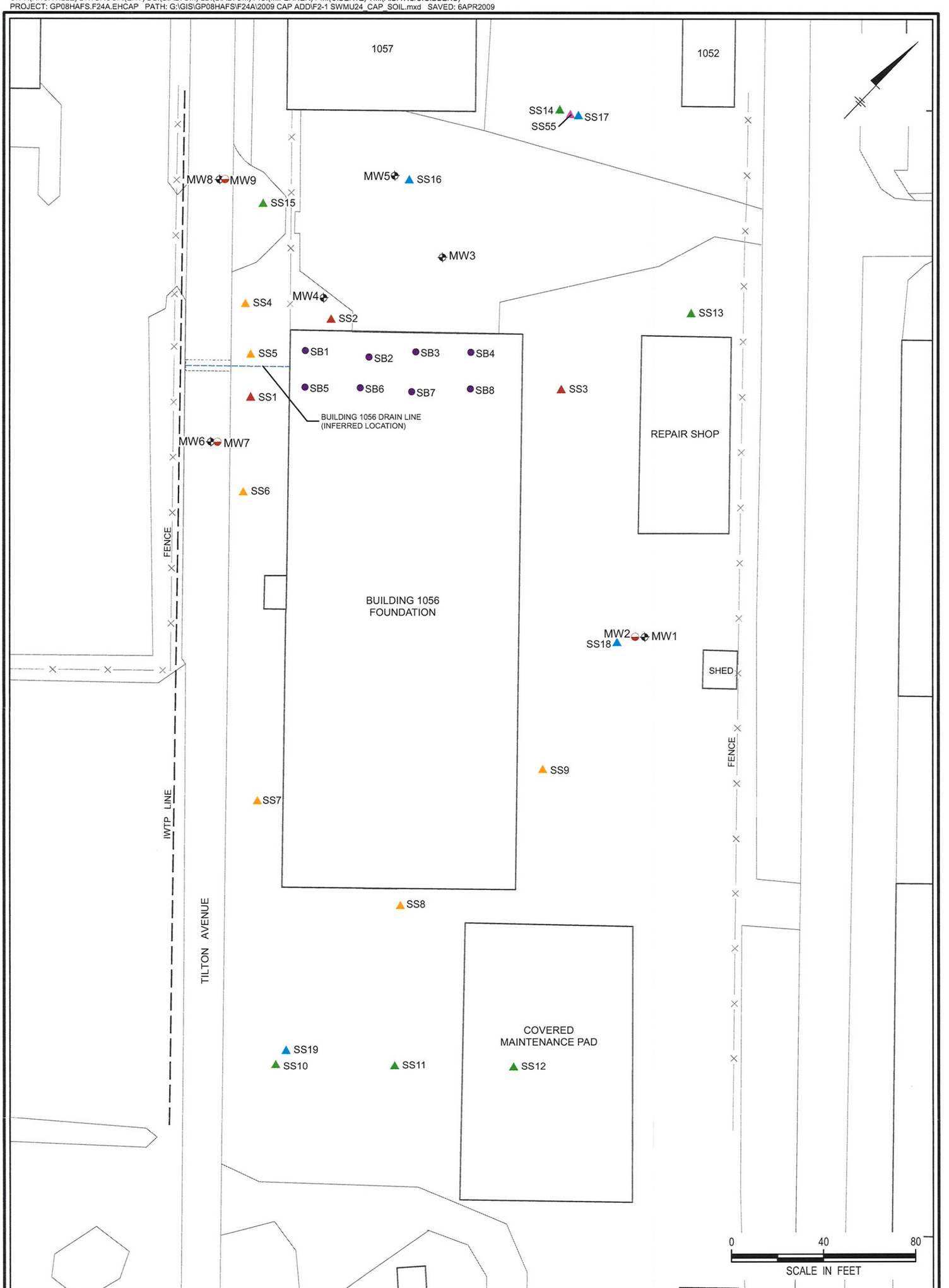

LEGEND

- Monitor Well (shallow)
- Monitor Well (deep)
- Surface Soil Sample (Phase I, RFI, February 1998)
- Surface Soil Sample (Phase II, RFI, September 1999)
- Surface Soil Sample (Supplemental Phase II, RFI, November 2000)
- Surface Soil Sample (Confirmation Sampling, December 2007)
- Surface Soil Sample (Confirmation Sampling, February 2009)
- Soil Boring Sample (August 2004)

FORT STEWART MILITARY RESERVATION, GEORGIA
SWMU 24B – OLD PAINT BOOTH
CORRECTIVE ACTION PLAN ADDENDUM

Soil Sample Locations

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FIGURE
2-1

3. Confirmation Sample Activities

In accordance with the recommendations in the CAP Progress Report for CY 2007 (SAIC 2008), a confirmation surface soil sample was collected at the approximate location of SS-17 to evaluate the attenuation of benzo(a)pyrene in surface soil. Based on the results of the 2007 CAP groundwater sample results, GAEPD also recommended further investigation of naphthalene, 2-methylnaphthalene, and carbon disulfide near background monitor well MW-01, including the installation of a new background well near MW-01. Prior to preparing a work plan for the additional investigation and monitor well installation, Fort Stewart collected a confirmation groundwater sample from MW-01 to confirm the sample results detected during the October 2007 monitoring event. A summary of the groundwater and soil sample results are provided below.

3.1 Groundwater Sampling

In February 2009, a confirmation groundwater sample was collected from monitor well MW-01. Groundwater sampling was performed using low-flow, or micropurge, procedures in accordance with Groundwater Sampling Operating Procedure, Number SESDPROC-301-R1 (United States Environmental Protection Agency [USEPA] 2007). Following the sampling event, the sample was transported via courier in properly cooled and sealed containers to Shealy Laboratory in West Columbia, South Carolina (National Environmental Laboratory Accreditation Program [NELAP] No. E87653) and analyzed for carbon disulfide by USEPA Method 8260B and naphthalene and 2-methylnaphthalene by USEPA Method 8270D. Laboratory analytical data packages are included in Appendix A for reference. A summary of the analytical data is included as Table 2-1.

The reporting limit (RL) represents the low standard in the calibration curve for each parameter. Therefore the RL is the lowest value at which a concentration can be reported as quantitative. The Method Detection Limit (MDL) is a theoretical value determined by the laboratory which is the lowest value at which an analyte concentration can reliably be determined to be greater than zero. Detections of constituents between the MDL and RL are considered to be estimated values and generally flagged by the laboratory with the "J" qualifier. Normally, analytes that are not detected above the MDL or RL are reported as non-detect below the RL. As shown in the table, the sample results were not detected above the MDL or the RL. The MDL and the RL for 2-methylnapthanalene and naphthalene were slightly elevated during the February 2009 monitoring event due to low sample volume. As a result, the

MDL and RL for the February 2009 event slightly exceeded the concentration detected in monitor well MW-01 during the October 2007 monitoring event. Fort Stewart collected an additional confirmation groundwater sample from MW-01 on April 22, 2009 at a lower RL and MDL to confirm the sample results are below detection limits.

The April 2009 sampling event was conducted using the same procedures described above for the February 2009 event. Groundwater sampling was performed using low-flow, or micropurge, procedures in accordance with Groundwater Sampling Operating Procedure, Number SESDPROC-301-R1 (USEPA 2007). Following the sampling event, the sample was transported via courier in properly cooled and sealed containers to Shealy Laboratory in West Columbia, South Carolina (NELAP No. E87653) and analyzed for carbon disulfide by USEPA Method 8260B and naphthalene and 2-methylnaphthalene by USEPA Method 8270D. The laboratory analytical data package is included in Appendix A for reference. A summary of the analytical data is included as Table 2-1. As shown in Table 2-1, all of the analytes were below detection limits. In addition, the MDLs were also below the concentrations detected in monitor well MW-01 during the October 2007 monitoring event. Based on the sample results, Fort Stewart does not feel that a new background well upgradient of MW-01 is necessary at this time.

A summary of the historical groundwater analytical results for the monitor wells at SWMU 24 are provided in Table 3-1. As shown in Table 3-1, with the exception of one naphthalene detection in MW-01 in October 2007 and a detection of total arsenic and total lead in MW-02 in November 1999, all of the sample results are below USEPA Maximum Contaminant Levels (MCLs) [USEAP 2008], or USEPA Regional Screening Levels (RSLs) for Tap Water (USEAP 2008) where no MCL is established. Confirmation samples from MW-01 were collected in February and April 2009 and both samples were non-detect.

Monitor well MW-02 is a deep well with a total depth of 43 ft bgs. The bottom of the well extends just into the Hawthorn confining (clay) layer. The sample collected in November 1999 at MW-02 was a grab sample with a total and filtered sample collected for inorganics. Although the total lead and toal arsenic sample results exceeded the MCL, the filtered sample results were below MCLs. The Phase II RFI indicates that the sample collected at MW-02 had an elevated turbidity indicating that the elevated levels of lead and arsenic were more than likely the result of particulates or colloids in the groundwater (SAIC 2001).

Based on the groundwater sample results, Fort Stewart does not believe that the impacts to soil have leached to groundwater. Consequently, Fort Stewart proposes discontinuing the groundwater monitoring and abandoning the monitoring wells at SWMU 24B.

3.2 Soil Sampling

In February 2009, confirmation soil sample SS-55 was collected near the former soil sample SS-17 (Figure 2-1). The location of the soil sample was based on GPS coordinates provided by the contractor responsible for collecting sample SS-17. The soil sample was collected from a depth of 0 to 1 feet below land surface (ft bls) using a hand auger. Following the sampling event, the sample was transported via courier in properly cooled and sealed containers to Shealy Laboratory in West Columbia, South Carolina (NELAP No. E87653) and analyzed for benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene by USEPA Method 8270D. Laboratory analytical data packages are included in Appendix A for reference. A summary of the analytical data is included as Table 2-2.

As shown in the table, benz(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene were detected below the established soil remedial levels for SWMU 24B. Benzo(a)pyrene was detected above the established soil remedial level of 890 micrograms per kilogram (ug/kg). Fort Stewart recommends removing the surface soil in the area of SS-17 and SS-55. The proposed removal activities are outlined in Section 4.0.

3.3 Data Validation

The analytical data for groundwater and soil samples collected at the Site were validated in accordance with the National Functional Guidelines. The complete results of the data quality evaluation are provided in Appendix B. The purpose of the data quality evaluation was to determine the reliability of the chemical analyses and the accuracy and precision of information acquired from the laboratory. Data quality was assessed through the review and evaluation of field sampling activities, quality control samples, and data associated with the chemical analytical results. Overall, the analytical data associated with the Site are considered quantitative and usable for the intended purpose.

3.4 Investigation Derived Waste

The waste generated from activities related to soil and groundwater sampling consisted of decontamination fluids, purge water, personal protective equipment (PPE), and general refuse (i.e. paper, plastic, etc.). Decontamination fluids and purge water were segregated in 55-gallon drums. The drums were characterized and transported off-site for disposal. Waste manifests are included in Appendix C. All spent PPE was screened with an Organic Vapor Monitor (OVM), decontaminated if necessary, and placed with the general refuse in dumpsters at Fort Stewart.

Table 3-1
Groundwater Analytical Summary
SWMU 24B
Fort Stewart, Georgia

Chemical Name	MCL	PRG	Location ID	24B-MW-01							24B-MW-02		24B-MW-03						24B-MW-04						
			Sample Date	10/31/99	11/01/00	07/17/03	03/15/05	10/31/07	02/04/09	04/22/09	11/02/99	11/02/00	11/01/99*	11/01/99	10/31/00	07/21/03	03/15/05	10/30/07	11/01/99	11/01/00	07/19/03	03/15/05*	03/15/05	11/01/07*	11/01/07
			Unit																						
Arsenic, Dissolved	10	0.045	µg/L								< 5 U														
Arsenic, Total	10	0.045	µg/L	< 5 U		< 3.31 U	1.6 U	< 6 U			15.8 =		< 5 U	< 5 U		< 3.31 U	1.7 U	< 6 U	< 5 U		< 3.31 U	1 U	2.3 U	< 6 U	< 6 U
Barium, Dissolved	2000	7300	µg/L								4.5 J														
Barium, Total	2000	7300	µg/L	10.7 =		35.5 =	15.3 =	10.9 =			136 =		17.1 =	17.2 =		12.4 =	10 =	19.4 =	27.8 =		24.2 =	11.1 =	12 =	18.7 =	17.3 =
Cadmium, Dissolved	5	18	µg/L								< 5 U														
Cadmium, Total	5	18	µg/L	0.43 J		< 0.66 U	0.18 U	< 1 U			< 5 U		< 5 U	< 5 U		1.53 J	0.41 J	< 1 U	< 5 U		3.43 J	0.054 U	0.043 U	< 1 U	< 1 U
Chromium, Dissolved	100		µg/L								2.9 J														
Chromium, Total	100		µg/L	2.1 U		< 1.69 U	3.4 U	1 J			89.4 =		1.3 U	1.4 U		< 1.69 U	2.4 U	< 1 U	1.3 U		< 1.69 U	2.7 U	2.3 U	< 1 U	< 1 U
Lead, Dissolved	15		µg/L								1.8 J														
Lead, Total	15		µg/L	1.6 J		< 2.4 U	1.3 J	< 4 U			43.6 =		1.7 J	< 5 U		4.32 U	0.4 J	< 4 U	2 J		< 2.4 U	0.37 J	0.48 J	< 4 U	< 4 U
Mercury, Dissolved	2	0.63	µg/L								< 0 UJ														
Mercury, Total	2	0.63	µg/L	< 0 UJ		< 0.095 U	< 0.022 U	< 0.03 U			< 0 UJ		< 0 UJ	< 0 UJ		< 0.095 U	< 0.022 U	< 0.03 U	< 0 UJ		< 0.095 U	< 0.022 U	< 0.022 U	< 0.03 U	< 0.03 U
Selenium, Dissolved	50	180	µg/L								< 5 U														
Selenium, Total	50	180	µg/L	< 5 U		< 3.39 U	1.9 U	< 9 U			7.6 =		< 5 U	< 5 U		< 3.39 U	1.8 U	< 9 U	< 5 U		< 3.39 U	2.2 U	2 U	< 9 U	< 9 U
Silver, Dissolved	100	180	µg/L								< 5 U														
Silver, Total	100	180	µg/L	< 5 U		< 1.7 U	0.011 U	< 2 U			< 5 U		< 5 U	< 5 U		< 1.7 U	0.003 U	< 2 U	< 5 U		< 1.7 U	0.003 U	0.004 U	< 2 U	< 2 U
1,1'-Biphenyl		1800	µg/L			< 9.7 U										< 9.9 U					< 9.9 U				
1,2,4-Trichlorobenzene	70	8.2	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
1,2-Dichlorobenzene	600	370	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	0.42 J	< 10.3 U	< 10.5 U
1,3-Dichlorobenzene			µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
1,4-Dichlorobenzene	75	0.43	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
2,4,5-Trichlorophenol		3700	µg/L	< 26 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 29 U	< 26 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
2,4,6-Trichlorophenol		6.1	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 25 UJ	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
2,4-Dichlorophenol		110	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 UJ	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
2,4-Dimethylphenol		730	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 UJ	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
2,4-Dinitrophenol		73	µg/L	< 26 U	< 19.2 U	< 19.4 U	< 19.8 U	< 20.6 U			< 20 UJ	< 20 U	< 29 U	< 26 U	< 19.2 U	< 19.8 U	< 22 U	< 19.4 U	< 25 UJ	< 20 U	< 19.8 U	< 20.6 U	< 20.2 U	< 20.6 U	< 21.1 U
2,4-Dinitrotoluene		73	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
2,6-Dinitrotoluene		37	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
2-Chloronaphthalene		2900	µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
2-Chlorophenol		180	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 UJ	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
2-Methyl-4,6-dinitrophenol		3.7	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 UJ	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
2-Methylnaphthalene		150	µg/L	< 10 U	< 0.96 U	< 0.97 U	0.57 J	0.482 J	< 6.1 U	< 1.0 U	< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
2-Methylphenol		1800	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
2-Nitrobenzenamine			µg/L	< 26 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 29 U	< 26 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 25 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
2-Nitrophenol			µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 UJ	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
3,3'-Dichlorobenzidine		0.15	µg/L	< 51 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 50 UJ	< 10 U	< 59 U	< 51 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 50 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
3-Nitrobenzenamine		3.2	µg/L	< 26 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 29 U	< 26 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 25 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
4-Bromophenyl phenyl ether			µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
4-Chloro-3-methylphenol			µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 UJ	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
4-Chlorobenzenamine		1.2	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 20 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
4-Chlorophenyl phenyl ether			µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
4-Methylphenol		180	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 UJ	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
4-Nitrobenzenamine		3.2	µg/L	< 26 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 29 U	< 26 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 25 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
4-Nitrophenol			µg/L	< 26 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 20 UJ	< 10 U	< 29 U	< 26 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 25 UJ	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Acenaphthene		2200	µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
Acenaphthylene			µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
alpha-Terpineol			µg/L			< 9.7 UJ										< 9.9 U					< 9.9 UJ				
Anthracene		11000	µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
Atrazine	3	0.29	µg/L			< 9.7 U										< 9.9 U					< 9.9 U				
Benz(a)anthracene		0.029	µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
Benzaldehyde		3700	µg/L			< 9.7 U										< 9.9 U					< 9.9 U				
Benzenemethanol		18000	µg/L	< 10 U	< 9.6 U		< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U		< 11 U	< 9.71 U	< 10 UJ	< 10 U		< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Benzo(a)pyrene	0.2	0.0029	µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
Benzo(b)fluoranthene		0.029	µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
Benzo(ghi)perylene			µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
Benzo(k)fluoranthene		0.29	µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
Benzoic acid		150000	µg/L	< 20 U	< 9.6 U		< 19.8 U	< 20.6 U			< 20 UJ	< 10 U	< 24 U	< 20 U	< 9.6 U		< 22 U	< 19.4 U	< 20 UJ	< 10 U		< 20.6 U	< 20.2 U	< 20.6 U	< 21.1 U
Bis(2-chloroethoxy)methane		110	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Bis(2-chloroethyl) ether		0.012	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Bis(2-chloroisopropyl) ether	500	0.32	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Bis(2-ethylhexyl)phthalate	6	4.8	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Butyl benzyl phthalate		35	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Carbazole			µg/L	< 10 U	< 9.6 U	1.2 J	< 9.9 U	< 1.03 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 0.971 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 1.03 U	< 1.05 U
Chrysene		2.9	µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
Dibenz(a,h)anthracene		0.0029	µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 UJ	< 1 U	< 1 U	< 1.03 U	< 1.05 U
Dibenzofuran			µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Diethyl phthalate		29000	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Dimethyl phthalate			µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Di-n-butyl phthalate		3700	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Di-n-octylphthalate			µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Diphenylamine		910	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Fluoranthene		1500	µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U

Table 3-1
Groundwater Analytical Summary
SWMU 24B
Fort Stewart, Georgia

			Location ID	24B-MW-01							24B-MW-02		24B-MW-03						24B-MW-04						
			Sample Date	10/31/99	11/01/00	07/17/03	03/15/05	10/31/07	02/04/09	04/22/09	11/02/99	11/02/00	11/01/99*	11/01/99	10/31/00	07/21/03	03/15/05	10/30/07	11/01/99	11/01/00	07/19/03	03/15/05*	03/15/05	11/01/07*	11/01/07
Chemical Name	MCL	PRG	Unit																						
Fluorene		1500	µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
Hexachlorobenzene	1	0.042	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Hexachlorobutadiene		0.86	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Hexachlorocyclopentadiene	50	220	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Hexachloroethane		4.8	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Indeno(1,2,3-cd)pyrene		0.029	µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
Isophorone		71	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Naphthalene		0.14	µg/L	< 10 U	< 0.96 U	< 0.97 U	1.4 =	1.34 =	< 6.1 U	< 1.0	< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
Nitrobenzene		3.4	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
N-Nitroso-di-n-propylamine		0.0096	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 U	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
N-Nitrosodiphenylamine		14	µg/L																						
Pentachlorophenol	1	0.56	µg/L	< 26 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 29 U	< 26 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 25 UJ	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Phenanthrene			µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
Phenol		11000	µg/L	< 10 U	< 9.6 U	< 9.7 U	< 9.9 U	< 10.3 U			< 10 UJ	< 10 U	< 12 U	< 10 U	< 9.6 U	< 9.9 U	< 11 U	< 9.71 U	< 10 UJ	< 10 U	< 9.9 U	< 10.3 U	< 10.1 U	< 10.3 U	< 10.5 U
Pyrene		1100	µg/L	< 10 U	< 0.96 U	< 0.97 U	< 0.99 U	< 1.03 U			< 10 UJ	< 1 U	< 12 U	< 10 U	< 0.96 U	< 0.99 U	< 1.1 U	< 0.971 U	< 10 U	< 1 U	< 0.99 U	< 1 U	< 1 U	< 1.03 U	< 1.05 U
1,1,1-Trichloroethane	200	9100	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,2,2-Tetrachloroethane		0.067	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,2-Trichloroethane	5	0.24	µg/L	< 2 U	< 1 U	< 1 U	1.7 =	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethane		2.4	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethene	7	340	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dibromoethane	0.05	0.0065	µg/L				< 1 U										< 1 U					< 1 U	< 1 U		
1,2-Dichloroethane	5	0.15	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dichloroethene		330	µg/L	< 2 U	< 2 U	< 1 U	< 1 U				< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 1 U	< 1 U		< 2 U	< 2 U	< 1 U	< 1 U	< 1 U		
1,2-Dichloropropane	5	0.39	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
2-Butanone		7100	µg/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U			< 5 U	< 5 U	< 5 R	< 5 R	< 5 U	< 5 U	< 5 U	< 5 U	< 5 R	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
2-Hexanone			µg/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U			< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
4-Methyl-2-pentanone		2000	µg/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U			< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Acetone		22000	µg/L	< 5 R	< 5 U	2.8 U	2.6 J	< 5 U			< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	2.8 J	< 5 U	< 5 U
Benzene	5	0.41	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Bromochloromethane			µg/L				< 1 U										< 1 U					< 1 U	< 1 U		
Bromodichloromethane		1.1	µg/L	< 5 U	< 1 U	< 1 U	< 1 U	< 1 U			< 5 U	< 1 U	< 5 U	< 5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Bromoform		8.5	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Bromomethane		8.7	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Carbon disulfide		1000	µg/L	< 5 U	< 5 U	< 5 U	2 J	5.04 =	< 0.5 U	< 0.5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Carbon tetrachloride	5	0.2	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chlorobenzene	100	91	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chloroethane		21000	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chloroform		0.19	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chloromethane		1.8	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
cis-1,2-Dichloroethene	70	370	µg/L					< 1 U										< 1 U						< 1 U	< 1 U
cis-1,3-Dichloropropene			µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Dibromochloromethane		0.8	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Ethylbenzene	700	1.5	µg/L	< 2 U	< 1 U	< 1 U	0.64 J	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Methylene chloride	5	4.8	µg/L	2 UJ	1.5 J	< 5 U	< 5 U	< 5 U			3.8 UJ	< 5 U	3.7 UJ	3.7 UJ	< 5 U	< 5 U	< 5 U	< 5 U	3.6 UJ	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Styrene		1600	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	5	0.11	µg/L	< 2 U	< 1 U	0.93 J	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	0.39 J	< 1 U	0.258 J	2 UJ	1.4 =	0.53 J	0.77 J	0.8 J	0.538 J	0.53 J
Toluene	1000	2300	µg/L	2 UJ	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	100	110	µg/L					< 1 U										< 1 U						< 1 U	< 1 U
trans-1,3-Dichloropropene			µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene	5	1.7	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	2 UJ	2.6 =	0.39 J	0.83 J	0.83 J	0.514 J	0.613 J
Vinyl acetate		410	µg/L					< 5 U										< 5 U						< 5 U	< 5 U
Vinyl chloride	2	0.016	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U			< 2 U	< 1 U	< 2 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Xylenes (total)	10000	200	µg/L	< 6 U	< 3 U	< 1 U	1.5 =	< 1 U			< 6 U	< 3 U	< 6 U	< 6 U	< 3 U	< 1 U	< 1 U	< 1 U	< 6 U	< 3 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U

Notes:
J - estimated result
R - rejected data
U - result not detected above the reporting limit
= - historical result value detected
µg/L - micrograms per liter
= result detected above the MCL or the PRG if the MCL is not established.

Table 3-1
Groundwater Analytical Summary
SWMU 24B
Fort Stewart, Georgia

			Location ID	24B-MW-05					24B-MW-06					24B-MW-07		24B-MW-08					24B-MW-09	
			Sample Date	11/01/99	10/31/00	07/22/03	03/15/05	10/30/07	10/31/99	10/31/00	07/17/03	03/15/05	11/01/07	10/30/99	10/31/00	10/30/99	11/01/00	07/21/03	03/15/05	10/31/07	10/31/99	10/31/00
Chemical Name	MCL	PRG	Unit																			
Arsenic, Dissolved	10	0.045	µg/L						< 5 U												< 5 U	
Arsenic, Total	10	0.045	µg/L	< 5 U		< 3.31 U	1.6 U	< 6 U	5 U		< 3.31 U	1.6 U	< 6 U	< 5 U		< 5 U		< 3.31 U	1.2 U	< 6 U	< 5 U	
Barium, Dissolved	2000	7300	µg/L						16.3 =												80.9 =	
Barium, Total	2000	7300	µg/L	21.7 =		24.8 =	15.5 =	19.9 =	29.1 =		8.56 =	14.6 =	18 =	42.1 =		< 5 U		6.42 =	4.2 =	5.7 =	97 =	
Cadmium, Dissolved	5	18	µg/L						< 5 U												< 5 U	
Cadmium, Total	5	18	µg/L	< 5 U		0.816 J	0.16 U	< 1 U	< 5 U		1.46 J	0.049 U	< 1 U	< 5 U		< 5 U		< 0.66 U	0.1 U	< 1 U	< 5 U	
Chromium, Dissolved	100		µg/L						1.5 U												< 5 U	
Chromium, Total	100		µg/L	1.4 U		< 1.69 U	1.7 U	1 J	7.5 =		< 1.69 U	2.1 U	< 1 U	1.4 U		< 5 U		5.32 U	4.2 U	1.3 J	10.7 =	
Lead, Dissolved	15		µg/L						< 5 U												< 5 U	
Lead, Total	15		µg/L	1.6 J		< 2.4 U	0.71 J	< 4 U	< 5 U		< 2.4 U	0.53 J	< 4 U	< 5 U		< 5 U		7.01 U	1.2 J	< 4 U	1.2 J	
Mercury, Dissolved	2	0.63	µg/L						< 0 UJ												< 0 UJ	
Mercury, Total	2	0.63	µg/L	< 0 UJ		< 0.095 U	< 0.022 U	< 0.03 U	< 0 UJ		< 0.095 U	< 0.022 U	< 0.03 U	< 0 UJ		< 0 UJ		0.15 J	< 0.022 U	< 0.03 U	< 0 UJ	
Selenium, Dissolved	50	180	µg/L						< 5 U												< 5 U	
Selenium, Total	50	180	µg/L	< 5 U		< 3.39 U	1.3 U	< 9 U	2.1 U		< 3.39 U	2.3 U	< 9 U	< 5 U		< 5 U		< 3.39 U	1.7 U	< 9 U	3.2 U	
Silver, Dissolved	100	180	µg/L						< 5 U												< 5 U	
Silver, Total	100	180	µg/L	< 5 U		< 1.7 U	< 0.002 U	< 2 U	< 5 U		< 1.7 U	< 0.002 U	< 2 U	< 5 U		< 5 U		< 1.7 U	0.023 U	< 2 U	< 5 U	
1,1'-Biphenyl		1800	µg/L			< 9.9 U					< 9.6 U							< 9.7 U				
1,2,4-Trichlorobenzene	70	8.2	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
1,2-Dichlorobenzene	600	370	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
1,3-Dichlorobenzene			µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
1,4-Dichlorobenzene	75	0.43	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
2,4,5-Trichlorophenol		3700	µg/L	< 28 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 26 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 25 U	< 10 U	< 25 U	< 9.6 U	< 9.7 U	< 10.4 R	< 10.1 U	< 27 U	< 10 U
2,4,6-Trichlorophenol		6.1	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 R	< 10.1 U	< 11 U	< 10 U
2,4-Dichlorophenol		110	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 R	< 10.1 U	< 11 U	< 10 U
2,4-Dimethylphenol		730	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 R	< 10.1 U	< 11 U	< 10 U
2,4-Dinitrophenol		73	µg/L	< 28 U	< 19.4 U	< 19.8 U	< 21 U	< 20.2 U	< 26 U	< 19.4 U	< 19.2 U	< 20.4 U	< 20 U	< 25 U	< 20 U	< 25 U	< 19.2 U	< 19.4 U	< 20.8 R	< 20.2 U	< 27 U	< 20 U
2,4-Dinitrotoluene		73	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
2,6-Dinitrotoluene		37	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
2-Chloronaphthalene		2900	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
2-Chlorophenol		180	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 R	< 10.1 U	< 11 U	< 10 U
2-Methyl-4,6-dinitrophenol		3.7	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 R	< 10.1 U	< 11 U	< 10 U
2-Methylnaphthalene		150	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
2-Methylphenol		1800	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 R	< 10.1 U	< 11 U	< 10 U
2-Nitrobenzenamine			µg/L	< 28 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 26 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 25 U	< 10 U	< 25 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 27 U	< 10 U
2-Nitrophenol			µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 R	< 10.1 U	< 11 U	< 10 U
3,3'-Dichlorobenzidine		0.15	µg/L	< 56 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 52 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 50 U	< 10 U	< 50 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 54 U	< 10 U
3-Nitrobenzenamine		3.2	µg/L	< 28 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 26 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 25 U	< 10 U	< 25 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 27 U	< 10 U
4-Bromophenyl phenyl ether			µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
4-Chloro-3-methylphenol			µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 R	< 10.1 U	< 11 U	< 10 U
4-Chlorobenzenamine		1.2	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 21 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 20 U	< 10 U	< 20 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	21.5 UJ	< 10 U
4-Chlorophenyl phenyl ether			µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
4-Methylphenol		180	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 R	< 10.1 U	< 11 U	< 10 U
4-Nitrobenzenamine		3.2	µg/L	< 28 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 26 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 25 U	< 10 U	< 25 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 27 U	< 10 U
4-Nitrophenol			µg/L	< 28 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 26 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 25 U	< 10 U	< 25 U	< 9.6 U	< 9.7 U	< 10.4 R	< 10.1 U	< 27 U	< 10 U
Acenaphthene		2200	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
Acenaphthylene			µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
alpha-Terpineol			µg/L			< 9.9 U					< 9.6 UJ							< 9.7 U				
Anthracene		11000	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
Atrazine	3	0.29	µg/L			< 9.9 U					< 9.6 U							< 9.7 U				
Benz(a)anthracene		0.029	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
Benzaldehyde		3700	µg/L			< 9.9 U					< 9.6 U							< 9.7 U				
Benzenemethanol		18000	µg/L	< 11 U	< 9.7 U		< 10.5 U	< 10.1 U	< 10 U	< 9.7 U		< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U		< 10.4 R	< 10.1 U	< 11 U	< 10 U
Benzo(a)pyrene	0.2	0.0029	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
Benzo(b)fluoranthene		0.029	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
Benzo(ghi)perylene			µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
Benzo(k)fluoranthene		0.29	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
Benzoic acid		150000	µg/L	< 23 U	< 9.7 U		< 21 U	< 20.2 U	< 21 U	< 9.7 U		< 20.4 U	< 20 U	< 20 U	< 10 U	< 20 U	< 9.6 U		< 20.8 R	< 20.2 U	< 22 U	< 10 U
Bis(2-chloroethoxy)methane		110	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Bis(2-chloroethyl) ether		0.012	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Bis(2-chloroisopropyl) ether	500	0.32	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Bis(2-ethylhexyl)phthalate	6	4.8	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Butyl benzyl phthalate		35	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Carbazole			µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 1 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 1.01 U	< 11 U	< 10 U
Chrysene		2.9	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
Dibenz(a,h)anthracene		0.0029	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
Dibenzofuran			µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Diethyl phthalate		29000	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Dimethyl phthalate			µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Di-n-butyl phthalate		3700	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	10.4 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	10.8 U	< 10 U
Di-n-octylphthalate			µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Diphenylamine		910	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Fluoranthene		1500	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U

Table 3-1
Groundwater Analytical Summary
SWMU 24B
Fort Stewart, Georgia

			Location ID	24B-MW-05					24B-MW-06					24B-MW-07		24B-MW-08					24B-MW-09	
			Sample Date	11/01/99	10/31/00	07/22/03	03/15/05	10/30/07	10/31/99	10/31/00	07/17/03	03/15/05	11/01/07	10/30/99	10/31/00	10/30/99	11/01/00	07/21/03	03/15/05	10/31/07	10/31/99	10/31/00
Chemical Name	MCL	PRG	Unit																			
Fluorene		1500	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
Hexachlorobenzene	1	0.042	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Hexachlorobutadiene		0.86	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Hexachlorocyclopentadiene	50	220	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Hexachloroethane		4.8	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Indeno(1,2,3-cd)pyrene		0.029	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
Isophorone		71	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
Naphthalene		0.14	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
Nitrobenzene		3.4	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
N-Nitroso-di-n-propylamine		0.0096	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 U	< 10.1 U	< 11 U	< 10 U
N-Nitrosodiphenylamine		14	µg/L																			
Pentachlorophenol	1	0.56	µg/L	< 28 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 26 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 25 U	< 10 U	< 25 U	< 9.6 U	< 9.7 U	< 10.4 R	< 10.1 U	< 27 U	< 10 U
Phenanthrene			µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
Phenol		11000	µg/L	< 11 U	< 9.7 U	< 9.9 U	< 10.5 U	< 10.1 U	< 10 U	< 9.7 U	< 9.6 U	< 10.2 U	< 10 U	< 10 U	< 10 U	< 10 U	< 9.6 U	< 9.7 U	< 10.4 R	< 10.1 U	< 11 U	< 10 U
Pyrene		1100	µg/L	< 11 U	< 0.97 U	< 0.99 U	< 1 U	< 1.01 U	< 10 U	< 0.97 U	< 0.96 U	< 1 U	< 1 U	< 10 U	< 1 U	< 10 U	< 0.96 U	< 0.97 U	< 1 U	< 1.01 U	< 11 U	< 1 U
1,1,1-Trichloroethane	200	9100	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
1,1,2,2-Tetrachloroethane		0.067	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
1,1,2-Trichloroethane	5	0.24	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
1,1-Dichloroethane		2.4	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
1,1-Dichloroethene	7	340	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
1,2-Dibromoethane	0.05	0.0065	µg/L				< 1 U					< 1 U							< 1 U			
1,2-Dichloroethane	5	0.15	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
1,2-Dichloroethene		330	µg/L	< 2 U	< 2 U	< 1 U	< 1 U		< 2 U	< 2 U	< 1 U	< 1 U		< 2 U	< 2 U	< 2 U	< 2 U	< 1 U	< 1 U		< 2 U	< 2 U
1,2-Dichloropropane	5	0.39	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
2-Butanone		7100	µg/L	< 5 R	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
2-Hexanone			µg/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
4-Methyl-2-pentanone		2000	µg/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Acetone		22000	µg/L	5 UJ	< 5 U	< 5 U	2.5 J	5 U	< 5 R	< 5 U	2.5 U	< 5 U	< 5 U	< 5 R	< 5 U	< 5 R	< 5 U	< 5 U	< 5 U	< 5 U	< 5 R	< 5 U
Benzene	5	0.41	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Bromochloromethane			µg/L				< 1 U					< 1 U							< 1 U			
Bromodichloromethane		1.1	µg/L	< 5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U	< 1 U	< 5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 5 U	< 1 U
Bromoform		8.5	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Bromomethane		8.7	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Carbon disulfide		1000	µg/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U
Carbon tetrachloride	5	0.2	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Chlorobenzene	100	91	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Chloroethane		21000	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Chloroform		0.19	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Chloromethane		1.8	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
cis-1,2-Dichloroethene	70	370	µg/L				< 1 U						< 1 U							< 1 U		
cis-1,3-Dichloropropene			µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Dibromochloromethane		0.8	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Ethylbenzene	700	1.5	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Methylene chloride	5	4.8	µg/L	3.5 UJ	< 5 U	< 5 U	< 5 U	< 5 U	4.3 UJ	< 5 U	< 5 U	< 5 U	< 5 U	4.5 UJ	< 5 U	4.6 UJ	< 5 U	< 5 U	< 5 U	< 5 U	4.3 UJ	< 5 U
Styrene		1600	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Tetrachloroethene	5	0.11	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	1.4 =	< 1 U	< 1 U	< 1 U	2 UJ	< 1 U	2 UJ	0.53 J	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Toluene	1000	2300	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
trans-1,2-Dichloroethene	100	110	µg/L				< 1 U						< 1 U							< 1 U		
trans-1,3-Dichloropropene			µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Trichloroethene	5	1.7	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Vinyl acetate		410	µg/L				< 5 U						< 5 U							< 5 U		
Vinyl chloride	2	0.016	µg/L	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U	< 2 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U	< 1 U
Xylenes (total)	10000	200	µg/L	< 6 U	< 3 U	< 1 U	< 1 U	< 1 U	< 6 U	< 3 U	< 1 U	< 1 U	< 1 U	< 6 U	< 3 U	< 6 U	< 3 U	< 1 U	< 1 U	< 1 U	< 6 U	< 3 U

Notes:
J - estimated result
R - rejected data
U - result not detected above the reporting limit
= - historical result value detected
µg/L - micrograms per liter
= result detected above the MCL or the PRG if the MCL is not established.

4. Corrective Action Activities

As discussed in Section 3.2, benzo(a)pyrene concentration in the surface soil near SS-17 and SS-55 (Figure 2-1) remain above the established remedial level of 890 ug/kg. Consequently, an excavation is recommended to remove benzo(a)pyrene impacts in the surface soil.

4.1 Surface Soil Removal

Excavation of the soils will be coordinated and conducted in a systematic manner to prevent releases of COCs to the environment. Soil excavation will be performed using standard construction equipment (i.e. backhoe). Based on the soil sample results (Table 2-2), surface soil will be excavated from a 10 ft by 10 ft area around SS-55. Soils will be excavated to an approximate depth of 1 ft bls. The estimated volume of soil to be removed from the excavation area is approximately 3.7 cubic yards based on a 10 ft x 10 ft x 1 ft deep area. Two confirmation soil samples will be collected from the sidewalls of the excavation and one from the bottom of the excavation to verify all the impacted soils are removed. The excavated soil will be placed in a roll-off and characterized. Following characterization, the soil will be transported to an off-site permitted treatment or disposal facility. Disposal manifests for soil removed from the site will be included in the next CAP progress report.

The confirmation soil samples will be transported in properly cooled and sealed containers to Shealy Laboratory in West Columbia, South Carolina (NELAP No. E87653) under appropriate preservation and chain-of-custody procedures. Each sample will be analyzed for benzo(a)pyrene by USEPA Method 8270D. Soil below the established remedial level of 890 ug/kg will be considered clean.

If the confirmation soil sample results exceed the soil remedial level of 890 ug/kg, additional surface soil will be excavated until all of the impacts have been removed.

4.2 Stormwater and Liquids Control

Excavation activities are not expected to reach the water table. Liquid wastes, if any, from the excavation will be containerized on site in portable tanks and analyzed to determine disposal options. Following characterization, the liquids will be transported to a treatment and/or disposal facility. The handling and transport of the liquid-filled containers will be conducted in a controlled and safe manner. In the event of a spill or release, the liquid released will immediately be contained.

4.3 Material Transport and Disposal

Material handling, packaging, and transport will be in accordance with applicable Department of Transportation (DOT) requirements. The Generator/Owner, Contractor, and Transporter will control the documentation (manifesting and labeling of containers/shipments) and transportation of non-hazardous materials. The assignment of responsibilities of each party will be designated prior to implementation. The minimum requirements for health and training of the transporter's personnel will be specified and will reference the DOT's Transporter Regulations for Hazardous Materials (CFR 49, Part 100 to 177).

The soil will be containerized and characterized prior to disposal. Following characterization, the excavated soil will be transported to an off-site permitted treatment or disposal facility.

4.4 Site Restoration

Following soil removal, the resulting excavation will be backfilled and regraded. The excavation will be backfilled and compacted to grade using clean fill.

4.5 Health and Safety

All activities will be conducted in general accordance with the ARCADIS Health and Safety Plan (ARCADIS 2009). In addition, the soil removal contractor will prepare a Contractor Site Safety Plan (CSSP). The CSSP will comply with the basic provisions of Occupational Safety and Health Administration (OSHA) Safety and Health Standards (29 CFR 1910), General Construction Standards (29 CFR 1926) and OSHA Hazardous Material Operations and Emergency Response (29 CFR 1910.120).

Site specific training consisting of an initial site safety briefing and daily "tailgate" safety briefings will be performed to inform site workers of the specific hazards identified during site activities and any changes from the initial safety briefing. The initial safety meeting will consist, at a minimum, of the following topics:

- Worker responsibilities
- Physical hazards
- Biological hazards
- Chemical hazards

- Protective clothing/equipment to be used
- Air monitoring and action levels
- Hazard communication
- Emergency procedures, including emergency phone numbers
- Location of emergency equipment (first aid kits, eyewashes, and fire extinguishers)
- Name and location of the nearest hospital or urgent treatment facility
- Any client-mandated procedures

Mechanized equipment like skid steers, trackhoes, bulldozers and backhoes represent serious hazards to site workers. Care shall be taken by all personnel to exercise caution when working with mechanized equipment to prevent clothing from being caught in moving parts, placing body parts in close vicinity to pinch points on the equipment or using the equipment on slopes or unstable surfaces in excess of the manufacturer's recommendations. Site personnel, visitors, or other persons who are not performing necessary work shall remain at a distance of at least 15 ft from any moving part of the mechanized equipment. All workers within 15 ft of the equipment are required to wear, at a minimum, hard hats, safety glasses, steel-toed boots, and hearing protection, if applicable. Open excavations will be barricaded overnight and the site will be secured using the existing locked security fencing.

4.6 Schedule

Upon approval of the CAP Addendum for SWMU 24B, Fort Stewart will schedule and implement the soil removal activities. The initial soil removal and site restoration is anticipated to take approximately 1 week to complete.

5. References

ARCADIS 2009. Environmental Health and Safety Plan, Fort Stewart Military Reservation and Hunter Army Airfield, Georgia, March 2009.

GAEPD 2007. Fort Stewart Resource Conservation and Recovery Act Hazardous Waste Facility Permit, Department of Natural Resources, Environmental Protection Division, Facility ID Number GA9 210 020 872, Hazardous Waste Permit Number HW-045(S) (Current Permit Dated August 14, 2007 through August 14, 2017), August 2007.

GAEPD 2008. Comments by Amy Potter on the Final Corrective Action Plan Progress Report for CY 2007 for Solid Waste Management Unit 24B, Old Radiator Shop/Paint Booth at Fort Stewart, Georgia, December 4, 2008.

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

Rust 1996. Phase I RCRA Facility Investigation Report for 24 Solid Waste Management Units at Fort Stewart. Georgia, Vols. I-III, May 1996.

Science Applications International Corporation (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 2001.

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, July 2002.

SAIC 2004. Corrective Action Plan Progress Report for Calendar Year 2003 for Solid Waste Management Unit 24B, Old Radiator Shop/Paint Booth at Fort Stewart, Georgia, September 2004.

SAIC 2005. Corrective Action Plan Progress Report for Calendar Year 2005 for Solid Waste Management Unit 24B, Old Radiator Shop/Paint Booth at Fort Stewart, Georgia, September 2005.

SAIC 2008. Corrective Action Plan Progress Report for Calendar Year 2007 for Solid Waste Management Unit 24B, Old Radiator Shop/Paint Booth at Fort Stewart, Georgia, May 2008.

USEPA 2007. Groundwater Sampling Operating Procedure, Number SESDPROC-301-R1. Region IV, Athens, Georgia. U.S. Environmental Protection Agency, November 2007.

USEPA 2008. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites, U.S. Environmental Protection Agency, Oak Ridge National Laboratories. September 2008.

ARCADIS

Appendix A

Laboratory Analytical Reports

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

ARCADIS U.S., Inc.
30 Patewood Drive
Suite 155
Greenville, SC 29615
Attention: Janet Christy

Project Name: **Hunter Stewart**

Project Number: **GP08HAFS.F24B.NALTM**

Lot Number: **KB06004**

Date Completed: **02/16/2009**

Michael Casalena
Project Manager

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

• • • • • • • • • •

Case Narrative
ARCADIS U.S., Inc.
Lot Number: KB06004

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Sample Summary
ARCADIS U.S., Inc.
Lot Number: KB06004

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-1 (020409)	Aqueous	02/04/2009 1315	02/06/2009
003	Trip Blank (020409)	Aqueous	02/04/2009	02/06/2009

(2 samples)

Executive Summary
ARCADIS U.S., Inc.
Lot Number: KB06004

Sample Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page

(0 detections)

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Description: **MW-1 (020409)**
Date Sampled: **02/04/2009 1315**
te Received: **02/06/2009**

Laboratory ID: **KB06004-001**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	02/10/2009 1643	DLB		94922

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Carbon disulfide	75-15-0	8260B	ND		0.50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	52-138
Bromofluorobenzene		97	70-147
Toluene-d8		96	76-125

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria

Semivolatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.** Laboratory ID: **KB06004-001**

Description: **MW-1 (020409)** Matrix: **Aqueous**

Date Sampled: **02/04/2009 1315**

Date Received: **02/06/2009**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	02/13/2009 2101	DC	02/11/2009 1552	94961

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
1-Methylnaphthalene	90-12-0	8270D	ND		6.1	ug/L	1
2-Methylnaphthalene	91-57-6	8270D	ND		6.1	ug/L	1
Naphthalene	91-20-3	8270D	ND		6.1	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		99	37-129
Nitrobenzene-d5		83	38-127
Terphenyl-d14		76	10-148

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ94922-001
Batch: 94922
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Carbon disulfide	ND		1	0.50	ug/L	02/10/2009 0953

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		101	70-147
1,2-Dichloroethane-d4		91	52-138
Toluene-d8		101	76-125

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

te: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ94922-002
Batch: 94922
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Carbon disulfide	50	41		1	81	60-140	02/10/2009 0843

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		107	70-147
1,2-Dichloroethane-d4		96	52-138
Toluene-d8		105	76-125

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

te: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ94922-003
Batch: 94922
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Carbon disulfide	50	42		1	85	4.0	60-140	20	02/10/2009 0906

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-147
1,2-Dichloroethane-d4		83	52-138
Toluene-d8		94	76-125

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

te: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - MB

Sample ID: KQ94961-001
Batch: 94961
Analytical Method: 8270D
Matrix: Aqueous
Prep Method: 3520C
Prep Date: 02/11/2009 1552

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
1-Methylnaphthalene	ND		1	5.0	ug/L	02/13/2009 2003
2-Methylnaphthalene	ND		1	5.0	ug/L	02/13/2009 2003
Naphthalene	ND		1	5.0	ug/L	02/13/2009 2003

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl		96	37-129
Nitrobenzene-d5		92	38-127
Terphenyl-d14		94	10-148

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

te: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - LCS

Sample ID: KQ94961-002 **Matrix:** Aqueous
Batch: 94961 **Prep Method:** 3520C
Analytical Method: 8270D **Prep Date:** 02/11/2009 1552

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
2-Methylnaphthalene	100	96		1	96	30-130	02/13/2009 2022
Naphthalene	100	89		1	89	30-130	02/13/2009 2022

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl		98	37-129
Nitrobenzene-d5		103	38-127
Terphenyl-d14		93	10-148

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

te: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.
Document Number: F-AD-0.6
Revision Number: 5

Page 1 of 1
Replaces Date: 06/22/06
Effective Date: 06/29/07

Sample Receipt Checklist (SRC)

Client: Arcadis Cooler Inspected by/date: [illegible] 7/6/09 Lot #: KR06004

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☑ FedEx ☐ Airborne Exp ☐ Other

Yes ☑	No ☐	NA ☐	1. Were custody seals present on the cooler?
Yes ☑	No ☐	NA ☐	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 4.1 °C / °C / °C / °C
/ °C / °C / °C / °C

Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____ (For coolers received via commercial courier, PMs are to be notified immediately.)
Yes ☑	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☐	No ☑	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☑	No ☐	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s) _____ were received with TRC >0.1 mg/L, and were analyzed by method 330.5.

8665091491 25

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐

SESI employee: _____

Comments: _____

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

ARCADIS U.S., Inc.
30 Patewood Drive
Suite 155
Greenville, SC 29615
Attention: Janet Christy

Project Name: **Hunter Stewart**

Project Number: **GP08HAFS**

Lot Number: **KB27009**

Date Completed: **03/13/2009**

Nisreen Saikaly
Project Manager

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

Case Narrative
ARCADIS U.S., Inc.
Lot Number: KB27009

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Sample Summary
ARCADIS U.S., Inc.
Lot Number: KB27009

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	FST-24B-55 (0-1) (022609)	Solid	02/26/2009 1120	02/27/2009

(1 sample)

Executive Summary
ARCADIS U.S., Inc.
Lot Number: KB27009

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	FST-24B-55 (0-1) (022609)	Solid	Benzo(a)anthracene	8270D	3400		ug/kg	5
001	FST-24B-55 (0-1) (022609)	Solid	Benzo(a)pyrene	8270D	5400		ug/kg	5
001	FST-24B-55 (0-1) (022609)	Solid	Benzo(b)fluoranthene	8270D	6900		ug/kg	5
001	FST-24B-55 (0-1) (022609)	Solid	Indeno(1,2,3-c,d)pyrene	8270D	2000		ug/kg	5

(4 detections)

Semivolatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.** Laboratory ID: **KB27009-001**

Description: **FST-24B-55 (0-1) (022609)** Matrix: **Solid**

Date Sampled: **02/26/2009 1120** % Solids: **91.3** **03/02/2009 2126**

'e Received: **02/27/2009**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3550C	8270D	2	03/10/2009 2244	GLR	03/01/2009 1152	96081
2	3550C	8270D	5	03/09/2009 2239	GLR	03/01/2009 1152	96081

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzo(a)anthracene	**56-55-3**	**8270D**	**3400**		**140**	**19**	**ug/kg**	**1**
Benzo(a)pyrene	**50-32-8**	**8270D**	**5400**		**140**	**20**	**ug/kg**	**1**
Benzo(b)fluoranthene	**205-99-2**	**8270D**	**6900**		**360**	**52**	**ug/kg**	**2**
Indeno(1,2,3-c,d)pyrene	**193-39-5**	**8270D**	**2000**		**140**	**21**	**ug/kg**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
2-Fluorobiphenyl		78	33-102		78	33-102
Nitrobenzene-d5		77	22-109		80	22-109
Terphenyl-d14		77	41-120		78	41-120

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria

QC Summary

Semivolatile Organic Compounds by GC/MS - MB

Sample ID: KQ96081-001
Batch: 96081
Analytical Method: 8270D
Matrix: Solid
Prep Method: 3550C
Prep Date: 03/01/2009 1152

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzo(a)anthracene	ND		1	67	8.8	ug/kg	03/03/2009 1825
Benzo(a)pyrene	ND		1	67	9.3	ug/kg	03/03/2009 1825
Benzo(b)fluoranthene	ND		1	67	9.6	ug/kg	03/03/2009 1825
Indeno(1,2,3-c,d)pyrene	ND		1	67	9.7	ug/kg	03/03/2009 1825

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl		65	33-102
Nitrobenzene-d5		73	22-109
Terphenyl-d14		74	41-120

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - LCS

Sample ID: KQ96081-002 **Matrix:** Solid
Batch: 96081 **Prep Method:** 3550C
Analytical Method: 8270D **Prep Date:** 03/01/2009 1152

Parameter	Spike Amount (ug/kg)	Result (ug/kg)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzo(a)anthracene	1300	1000		1	76	30-130	03/03/2009 1843
Benzo(a)pyrene	1300	1300		1	99	30-130	03/03/2009 1843
Benzo(b)fluoranthene	1300	1100		1	81	30-130	03/03/2009 1843
Indeno(1,2,3-c,d)pyrene	1300	1000		1	77	30-130	03/03/2009 1843

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl		70	33-102
Nitrobenzene-d5		72	22-109
Terphenyl-d14		69	41-120

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

te: Calculations are performed before rounding to avoid round-off errors in calculated results

ARCADIS

Laboratory Task Order No./P.O. No. _____

CHAIN-OF-CUSTODY RECORD

Page _____ of _____

Project Number/Name GPOSHAFS, FT 24B, VALTM

Project Location Ft. Stewart GA

Laboratory Shelby ENVIR

Project Manager Chuck Bertz

Sampler(s)/Affiliation John OBRIEN

KB27009

Sample ID/Location	Matrix	Date/Time Sampled	Lab ID	ANALYSIS / METHOD / SIZE: 5100.3				Remarks	Total
FST-24B-SSC-1 (22609)	S	2-Dec-09 1100	1						

Sample Matrix: L = Liquid; S = Solid; A = Air

Total No. of Bottles/ Containers

Relinquished by: JN-OB	Organization: ARCADIS	Date 2.26.09	Time 1700	Seal Intact?		
Received by:	Organization:	Date / /	Time	Yes	No	N/A
Relinquished by: FedEx	Organization:	Date 2.27.09	Time 0955	Seal Intact?		
Received by:	Organization: Shelby	Date 2.27.09	Time 0955	(Yes)	No	N/A

Special Instructions/Remarks: T = 5.6°

Delivery Method: ☐ In Person ☐ Common Carrier (Specify) ☐ Lab Courier ☐ Other (Specify)

All Reliable

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Level 1 Report v2.1

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: F-AD-016
Revision Number: 6

Page 1 of 1
Replaces Date: 09/22/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: Arcadis Cooler Inspected by/date: CC 12/27/09 Lot #: KB 27009

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☑ FedEx ☐ Airborne Exp ☐ Other

Yes ☑	No ☐	NA ☐	1. Were custody seals present on the cooler?
Yes ☐	No ☑	NA ☐	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt: 5.6 °C / °C / °C / °C / °C / °C / °C / °C

Method: ☑ Temperature Blank ☐ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other _____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☐	No ☑	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☑	No ☐	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☐	NA ☑	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with ___ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s) _____ were received with TRC >0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments: _____

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

ARCADIS U.S., Inc.
30 Patewood Drive
Suite 155
Greenville, SC 29615
Attention: Janet Christy

Project Name: **Hunter Stewart**

Project Number: **GP08HAFS.F24.EHCAP**

Lot Number: **KD23003**

Date Completed: **04/27/2009**

Nisreen Saikaly
Project Manager

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

Case Narrative
ARCADIS U.S., Inc.
Lot Number: KD23003

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Sample Summary
ARCADIS U.S., Inc.
Lot Number: KD23003

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-1 (042209)	Aqueous	04/22/2009 1000	04/23/2009
002	TB001 (042209)	Aqueous	04/22/2009 1000	04/23/2009

(2 samples)

Executive Summary
ARCADIS U.S., Inc.
Lot Number: KD23003

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page

(0 detections)

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Description: **MW-1 (042209)**
Date Sampled: **04/22/2009 1000**
Date Received: **04/23/2009**
Laboratory ID: **KD23003-001**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	04/23/2009 1946	DLB		99449

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	52-138
Bromofluorobenzene		94	70-147
Toluene-d8		100	76-125

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria

Semivolatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Description: **MW-1 (042209)**
Date Sampled: **04/22/2009 1000**
te Received: **04/23/2009**

Laboratory ID: **KD23003-001**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270D	1	04/27/2009 1210	CRM	04/23/2009 1532	99399

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
2-Methylnaphthalene	91-57-6	8270D	ND		1.0	0.080	ug/L	1
Naphthalene	91-20-3	8270D	ND		1.0	0.070	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		84	37-129
Nitrobenzene-d5		90	38-127
Terphenyl-d14		64	10-148

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria

Volatile Organic Compounds by GC/MS

Client: **ARCADIS U.S., Inc.**
Description: **TB001 (042209)**
Date Sampled: **04/22/2009 1000**
te Received: **04/23/2009**

Laboratory ID: **KD23003-002**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	04/23/2009 1924	DLB		99449

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Carbon disulfide	75-15-0	8260B	ND		0.50	0.097	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		104	52-138
Bromofluorobenzene		96	70-147
Toluene-d8		102	76-125

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: KQ99449-001 **Matrix:** Aqueous
Batch: 99449 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Carbon disulfide	ND		1	0.50	0.097	ug/L	04/23/2009 1153

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-147
1,2-Dichloroethane-d4		99	52-138
Toluene-d8		98	76-125

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: KQ99449-002
Batch: 99449
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Carbon disulfide	50	41		1	81	60-140	04/23/2009 1026

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-147
1,2-Dichloroethane-d4		98	52-138
Toluene-d8		100	76-125

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: KQ99449-003 **Matrix:** Aqueous
Batch: 99449 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Carbon disulfide	50	38		1	77	5.8	60-140	20	04/23/2009 1048

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-147
1,2-Dichloroethane-d4		95	52-138
Toluene-d8		100	76-125

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N - Recovery is out of criteria
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

te: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - MB

Sample ID: KQ99399-001
Batch: 99399
Analytical Method: 8270D

Matrix: Aqueous
Prep Method: 3520C
Prep Date: 04/23/2009 1532

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
2-Methylnaphthalene	ND		1	1.0	0.080	ug/L	04/27/2009 1052
Naphthalene	ND		1	1.0	0.070	ug/L	04/27/2009 1052

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl		85	37-129
Nitrobenzene-d5		92	38-127
Terphenyl-d14		84	10-148

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - LCS

Sample ID: KQ99399-002 **Matrix:** Aqueous
Batch: 99399 **Prep Method:** 3520C
Analytical Method: 8270D **Prep Date:** 04/23/2009 1532

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
2-Methylnaphthalene	20	15		1	76	49-122	04/27/2009 1112
Naphthalene	20	15		1	75	45-118	04/27/2009 1112

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl		82	37-129
Nitrobenzene-d5		88	38-127
Terphenyl-d14		73	10-148

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - MS

Sample ID: KD23003-001MS
Batch: 99399
Analytical Method: 8270D

Matrix: Aqueous
Prep Method: 3520C
Prep Date: 04/23/2009 1532

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
2-Methylnaphthalene	ND	40	28		1	70	46-90	04/27/2009 1229
Naphthalene	ND	40	28		1	70	46-89	04/27/2009 1229

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl		76	37-129
Nitrobenzene-d5		76	38-127
Terphenyl-d14		63	10-148

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

te: Calculations are performed before rounding to avoid round-off errors in calculated results

Semivolatile Organic Compounds by GC/MS - MSD

Sample ID: KD23003-001MD
Batch: 99399
Analytical Method: 8270D

Matrix: Aqueous
Prep Method: 3520C
Prep Date: 04/23/2009 1532

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
2-Methylnaphthalene	ND	40	29		1	73	4.0	46-90	40	04/27/2009 1249
Naphthalene	ND	40	29		1	73	4.6	46-89	40	04/27/2009 1249

Surrogate	Q	% Rec	Acceptance Limit
2-Fluorobiphenyl		78	37-129
Nitrobenzene-d5		78	38-127
Terphenyl-d14		62	10-148

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ARCADIS

Laboratory Task Order No./P.O. No. ____ CHAIN-OF-CUSTODY RECORD Page ____ of ____

Project Number/Name GPC 8 MFS : F24A ENCAP

Project Location FST-24B, OLD RADIATOR SHOP

Laboratory Shealy Environmental

Project Manager Chuck Bartz

Sampler(s)/Affiliation John C Brand

KP 23003

ANALYSIS / METHOD / SIZE

Sample ID/Location	Matrix	Date/Time Sampled	Lab ID	8260B - Carbon Disulfide only	8270C - NAPHTHALENE and 2-METHYLNAPHTHALENE only	TCLP	Remarks	Total
MW-1(042209)	L	4/22/09/1000		3	2		3 Day TAT	5
TB001(042209)	L	4/22/09		2			2 Two Day TAT	2

Sample Matrix: L = Liquid; S = Solid; A = Air

Total No. of Bottles/Containers: 7

Relinquished by:	Organization: ARCADIS	Date 4/22/09	Time 1400	Seal Intact?	
Received by:	Organization:	Date / /	Time	Yes No N/A	
Relinquished by: FedEx	Organization: FedEx	Date 4/23/09	Time 0914	Seal Intact?	
Received by:	Organization: Shealy Env	Date 4/23/09	Time 0924	Yes No N/A	

Special Instructions/Remarks:

8260B - Carbon Disulfide only 3 DAY TAT - TWO DAY TAT

8270C - NAPHTHALENE and 2-METHYLNAPHTHALENE only 3 DAY TAT - Two Day TAT

Delivery Method: In Person X Common Carrier FED EX Lab Courier Other

T = 3.8°

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Level 1 Report v2.1

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: AD-016
Revision Number: 6

Page 1 of 1
Replaces Date: 09/25/06
Effective Date: 05/29/07

Sample Receipt Checklist (SRC)

Client: Arcadis Cooler Inspected by/date: [illegible] 7/23/09 Lot #: KD23003

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☑ FedEx ☐ Airborne Exp ☐ Other

Yes ☑	No ☐	NA ☐	1. Were custody seals present on the cooler?
Yes ☐	No ☐	NA ☑	2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 3.0 °C / ___ °C / ___ °C / ___ °C / ___ °C / ___ °C / ___ °C / ___ °C / ___ °C / ___ °C

Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No for Yes for 14, 15, 16, an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: ___ (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☑	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☐	No ☑	NA ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐	NA ☐	6. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	7. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	8. Were tests to be performed listed on the COC or was quote # provided?
Yes ☑	No ☐	NA ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐	NA ☐	11. Did all containers arrive in good condition (unbroken, ads on, etc.)?
Yes ☑	No ☐	NA ☐	12. Was adequate sample volume available?
Yes ☑	No ☐	NA ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	14. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/pheno/BNA/pest/PCB/herb (<0.2mg/L) and toxicity (<0.1mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) ___ were received incorrectly preserved and were adjusted accordingly in sample receiving with ___ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) ___ were received with bubbles >6 mm in diameter

Sample(s) ___ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Toxicity sample(s) ___ analyzed by method 330.5.

FedEx Tracking Number: 867361749576

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐

SESI employee: ___

Comments: ___

Project: ___ State: ___ ZIP: ___

or Internal Billing Reference: [illegible]

ARCADIS

Appendix B

Data Validation Reports

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB04015, KB04016, KB06004, and KB09011
February 2008

Analytical data were evaluated in accordance with applicable USEPA SW-846 method requirements, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), analytical method control criteria, the analytical laboratory Quality Assurance Control Limits, the Fort Stewart Military Reservation and Hunter Army Airfield Quality Assurance Project Plan (ARCADIS-2008), and professional judgment.

The data review summarized in this report includes a review of all sample collection documentation and the electronic data validation of the analytical data housed in the project database. Sample collection documentation included sample collection logs and chains of custody. The electronic data validation was performed utilizing the EQuIS Data Qualification Module (DQM). DQM checks for the following parameters:

- Holding times and preservation;
- Blank contamination;
  - Method blanks,
  - Trip blanks,
  - Equipment blanks;
- Matrix spike and Duplicate sample recovery;
- Matrix Spike and Matrix Spike Duplicate relative percent differences;
- Laboratory Control Sample and Duplicate recovery;
- Laboratory Control Sample and Duplicate relative percent differences;
- Surrogate recovery (organic analyses only); and
- Field duplicate relative percent difference.

Manual review was performed for the following items:

- Sample dilutions and reporting limits;
- Case Narratives; and
- Laboratory Duplicates

Data was generated by Shealy Environmental Services, Inc. – West Columbia, South Carolina. Data qualifiers were applied electronically to the database with any additional qualifiers added manually. A summary of the data as amended by data qualifiers is included with the original hard copy reports.

The attached table summarizes the data that were qualified due to QC deficiencies. The table indicates compounds/analytes qualified based on electronic and manual validation. Refer to the associated method section of the validation checklist for a detailed explanation of qualification. All other data in these SDGs are considered usable as reported.

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB04015, KB04016, KB06004, and KB09011
February 2008

The following list of data qualifiers and definitions were applied in accordance with qualification criteria defined in the above guidance documents:

UB Compound/analyte detected in blank or associated blank, qualified as a non-detect at listed value.

J The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected above the reporting limit; however, the reported quantitation limit is approximate and may, or may not represent the actual limit of quantitation necessary to accurately and precisely measure analyte in the sample.

R The sample result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria; and the presence or absence of the analyte cannot be verified.

U Not detected at the quantitative reporting limit

DQM RUN BY:	Rachelle Borne	February 27, 2009
REVIEW PERFORMED BY:	Rachelle Borne	March 1, 2009
SIGNATURE:		March 9, 2009
PEER REVIEW:	Jane Kennedy	March 1, 2009

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB04015, KB04016, KB06004, and KB09011
February 2008

The following samples were included in this SDG:

sample delivery group	sys sample code	sample date	parent sample
KB06004	MW-1 (020409)	2/4/2009	
KB04016	COE-MW-01 (020309)	2/3/2009	
KB04016	COE-MW-02 (020309)	2/3/2009	
KB04016	COE-MW-03 (020309)	2/3/2009	
KB04016	COE-MW-04 (020409)	2/4/2009	
KB04016	COE-MW-05 (020409)	2/4/2009	
KB04016	COE-MW-06 (020409)	2/4/2009	
KB04016	COE-MW-07 (020409)	2/4/2009	
KB04016	COE-MW-08 (020409)	2/4/2009	
KB04016	HMW-14R (020309)	2/3/2009	
KB04016	HMW-21 (020409)	2/4/2009	
KB04016	Trip Blank1 (020309)	2/3/2009	
KB04016	Trip Blank1 (020409)	2/5/2009	
KB04015	HMW-02 (020209)	2/2/2009	
KB04015	HMW-04 (020309)	2/3/2009	
KB04015	HMW-06 (020309)	2/3/2009	
KB04015	HMW-08 (020309)	2/3/2009	
KB04015	HMW-09 (020309)	2/3/2009	
KB04015	HMW-10 (020309)	2/3/2009	
KB04015	HMW-11 (020309)	2/3/2009	
KB04015	HMW-13 (020209)	2/2/2009	
KB04015	HMW-23 (020309)	2/3/2009	
KB04015	HMW-24 (020309)	2/3/2009	
KB04015	Trip Blank1 (020209)	2/2/2009	
KB04015	Trip Blank2 (020309)	2/3/2009	
KB09011	35-MW-02 (020609)	2/6/2009	
KB09011	35-MW-03 (020609)	2/6/2009	
KB09011	35-MW-04 (020609)	2/6/2009	
KB09011	35-MW-05 (020609)	2/6/2009	
KB09011	35-MW-06 (020509)	2/5/2009	
KB09011	35-MW-08 (020509)	2/5/2009	
KB09011	35-MW-12 (020609)	2/6/2009	
KB09011	35-MW-30 (020509)	2/5/2009	
KB09011	35-MW-31 (020509)	2/5/2009	
KB09011	35-MW-32 (020509)	2/5/2009	
KB09011	35-MW-34 (020509)	2/5/2009	
KB09011	35-MW-40 (020509)	2/5/2009	
KB09011	Trip Blank	2/6/2009	

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB04015, KB04016, KB06004, and KB09011
February 2008

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Methods of analysis		X		X	
4. Reporting limits of analysis		X		X	
5. Master tracking list		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preparation/extraction date		X		X	
9. Sample analysis date		X		X	
10. Copy of chain-of-custody form signed by lab sample custodian		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Laboratory Signature		X		X	
13. South Carolina Certification Number		X		X	

QA - quality assurance

The analytical report was complete with the following exceptions or notations.

Note: the laboratory reported values between the quantitative reporting limit and the method detection limit as estimated concentrations. The "J" qualifier was retained in this validation. Non-detect values are reported at the quantitative reporting limit.

(KB04016) The trip blank was not listed on the chain of custody. VOCs analysis was performed and reported.

(KB09011) The trip blank was not listed on the chain of custody. VOCs analysis was performed and reported.

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB04015, KB04016, KB06004, and KB09011
February 2008

The following field QC samples were collected and included in this SDG:

Date Collected	QC Sample ID	Associated Samples	QC Type	SDG Number
2/2/2009	Trip Blank1 (020209)	Samples shipped 02/02/09	Trip Blank	KB04015
2/3/2009	Trip Blank1 (020309)	Samples shipped 02/03/09	Trip Blank	KB04016
2/5/2009	Trip Blank1 (020409)	Samples shipped 02/04/09	Trip Blank	KB04016
2/3/2009	Trip Blank2 (020309)	Samples shipped 02/03/09	Trip Blank	KB04015

Comments:

All analyses were performed by Shealy Environmental Services, Inc. – West Columbia, South Carolina.

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB04015, KB04016, KB06004, and KB09011
February 2008

VOLATILE ORGANIC COMPOUNDS

Items Reviewed	DQM Deficiency		Qualification Applied	
	No	Yes	No	Yes
1. Holding times/Preservation	DQM		DQM	
2. Reporting limits	M		M	
3. Blanks				
A. Method blanks	DQM	DQM		
B. Equipment blanks	NA		NA	
C. Trip blanks	DQM	DQM		
4. Surrogate spike recoveries	DQM		DQM	
5. Laboratory control sample (LCS)				
A. LCS %R	DQM		DQM	
B. LCS duplicate (LCSD) %R	DQM		DQM	
C. LCS/LCSD RPD	DQM		DQM	
6. Matrix spike (MS)				
A. MS %R	NA		NA	
B. MS duplicate (MSD) %R	NA		NA	
C. MS/MSD precision (RPD)	NA		NA	
7. Field Duplicate precision (RPD)	NA		NA	

M – Manual Review %R - percent recovery RPD - relative percent difference DQM – Data Qualification Module

Comments:
This section presents a discussion of any additions or changes to the electronic data validation for compounds analyzed by Method 8260.

2. (All SDGs) Several samples were analyzed at dilutions due to elevated concentrations of target analytes. In several cases there were elevated reporting limits for non-detect results.

3A. (KB04015 and KB04016) Isoproplybenzene, tetrachloroethene, and 1,2,4-trichlorobenzene were detected in the method blank for batch 94922. The associated field samples are qualified as non-detect if the sample concentration is less than five times the blank value for these compounds. See attached qualification summary for details of the qualifications.

(KB04016) 1,2,4-Trichlorobenzene was detected in the method blank for batch 94994. The associated field samples were non-detect for this compound. No qualification is necessary.

3C. (KB04015) Isopropylbenzene was detected in Trip Blank 1(020209). The associated field samples are qualified as non-detect if the sample concentration is less than five times the blank value for this compounds. See attached qualification summary for details of the qualifications.

(KB04016) Chloroform was detected in Trip Blank1(020409). The associated field samples were non-detect for chloroform. No qualification is necessary.

6. (All SDGs) Site-specific MS/MSD analyses were not included with the data packages. Method control was established with the LCS/LCSD analyses.

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB04015, KB04016, KB06004, and KB09011
February 2008

SEMIVOLATILE ORGANIC COMPOUNDS

Items Reviewed	DQM Deficiency		Qualification Applied	
	No	Yes	No	Yes
1. Holding times/Preservation	DQM		DQM	
2. Reporting limits	M		M	
3. Blanks				
A. Method blanks	DQM		DQM	
B. Equipment blanks	NA		NA	
4. Surrogate spike recoveries	DQM		DQM	
5. Laboratory control sample (LCS)				
A. LCS %R	DQM		DQM	
B. LCS duplicate (LCSD) %R	NA		NA	
C. LCS/LCSD RPD	NA		NA	
6. Matrix spike (MS)				
A. MS %R	DQM		DQM	
B. MS duplicate (MSD) %R		DQM		DQM
C. MS/MSD precision (RPD)		DQM	DQM	
7. Field Duplicate precision (RPD)	NA		NA	

M – Manual Review %R - percent recovery RPD - relative percent difference DQM – Data Qualification Module

Comments:
This section presents a discussion of any additions or changes to the electronic data validation for compounds analyzed by Method 8270.

6. (KB04015) HMW-09(020309) was used for the MS/MSD. The recovery of bis(2-ethylhexyl)phthalate was below the control limit in the MSD. All samples analyzed in the analytical batch are qualified as estimated. See attached qualification summary for details of the qualifications. Several RPDS were above the control limit. The parent sample was non-detect for these compounds. No qualification is necessary.

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB04015, KB04016, KB06004, and KB09011
February 2008

ORGANOCHLORINE HERBICIDES

Items Reviewed	DQM Deficiency		Qualification Applied	
	No	Yes	No	Yes
1. Holding times/Preservation	DQM		DQM	
2. Reporting limits	M		M	
3. Blanks				
A. Method blanks	DQM		DQM	
B. Equipment blanks	NA		NA	
4. Surrogate spike recoveries	DQM		DQM	
5. Laboratory control sample (LCS)				
A. LCS %R	DQM		DQM	
B. LCS duplicate (LCSD) %R	NA		NA	
C. LCS/LCSD RPD	NA		NA	
6. Matrix spike (MS)				
A. MS %R		DQM		DQM
B. MS duplicate (MSD) %R		DQM		DQM
C. MS/MSD precision (RPD)	DQM		DQM	
7. Field Duplicate precision (RPD)	NA		NA	

M – Manual Review %R - percent recovery RPD - relative percent difference DQM – Data Qualification Module

Comments:
This section presents a discussion of any additions or changes to the electronic data validation for compounds analyzed by Method 8151.

Note: The "P" qualifier used by the laboratory indicates that the %D between the two GC columns differed by more than 40%. The "P' was changed to a "J" in the validation to indicate that the reported concentration is estimated. See qualification summary for details of the qualifications.

5. (KB04015) HMW-09(020309) was used for the MS/MSD. The recovery of 2,4-D and 2,4,5-TP(Silvex) was below the control limit in the MS and the MSD. All samples in the analytical batch are qualified as estimated for these compounds based on professional judgment. See attached qualification summary for details of the qualifications.

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB04015, KB04016, KB06004, and KB09011
February 2008

ORGANOCHLORINE PESTICIDES

Items Reviewed	DQM Deficiency		Qualification Applied	
	No	Yes	No	Yes
1. Holding times/Preservation	DQM		DQM	
2. Reporting limits	M		M	
3. Blanks				
A. Method blanks	DQM		DQM	
B. Equipment blanks	NA		NA	
4. Surrogate spike recoveries	DQM		DQM	
5. Laboratory control sample (LCS)				
A. LCS %R		DQM		DQM
B. LCS duplicate (LCSD) %R	DQM		DQM	
C. LCS/LCSD RPD	DQM		DQM	
6. Matrix spike (MS)				
A. MS %R	NA		NA	
B. MS duplicate (MSD) %R	NA		NA	
C. MS/MSD precision (RPD)	NA		NA	
7. Field Duplicate precision (RPD)	NA		NA	

M – Manual Review %R - percent recovery RPD - relative percent difference DQM – Data Qualification Module

Comments:
This section presents a discussion of any additions or changes to the electronic data validation for compounds analyzed by Method 8081.

Note: The "P" qualifier used by the laboratory indicates that the %D between the two GC columns differed by more than 40%. The "P' was changed to a "J" in the validation to indicate that the reported concentration is estimated. See qualification summary for details of the qualifications.

5. (KB04016) The recovery of Endosulfan I and Endosulfan II was below the control limit in the LCS for batch 94881. All samples analyzed in the analytical batch are qualified as estimated for these compounds. See attached qualification summary for details of the qualifications.

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB04015, KB04016, KB06004, and KB09011
February 2008

METALS

Items Reviewed	DQM Deficiency		Qualification Applied	
	No	Yes	No	Yes
1. Holding times/Preservation	DQM		DQM	
2. Reporting limits	M		M	
3. Blanks				
A. Method blanks	DQM	DQM		
B. Equipment blanks	NA		NA	
4. Laboratory control sample (LCS)				
A. LCS %R	DQM		DQM	
B. LCS duplicate (LCSD) %R	DQM		DQM	
C. LCS/LCSD RPD	DQM		DQM	
5. Matrix spike (MS)				
A. MS %R		DQM		DQM
B. MS duplicate (MSD) %R	DQM		DQM	
C. MS/MSD precision (RPD)	DQM		DQM	
6. Field Duplicate precision (RPD)	NA		NA	

M – Manual Review %R - percent recovery RPD - relative percent difference DQM – Data Qualification Module

Comments:
This section presents a discussion of any additions or changes to the electronic data validation for compounds analyzed by Method 6010 and 7470A.

3A. (KB04015 and KB04016) Lead, selenium, and silver were detected in the method blank for batches 94905 and 94906. The associated field samples are qualified as non-detect if the sample concentration is less than ten times the blank value for these compounds. See attached qualification summary for details of the qualifications.

5. (KB04015) HMW-06(020309) was used for the MS/MSD. The recoveries and RPD were acceptable.

(KB04015) HMW-23(020309) was used for the MS. The recovery was acceptable.

(KB04016) COE-MW-07(020409) was used for the MS/MSD. The recoveries and RPD were acceptable.

(KB04016) COE-MW-05(020409) was used for the MS. The recovery was acceptable.

(KB04016) COE-MW-03(020309) was used for the MS/MSD for mercury. The recoveries and RPD were acceptable.

(KB04016) COE-MW-08(020409) was used for the MS for mercury. The recovery was acceptable.

(KB04016) COE-MW-07(020409) was used for the MS for mercury. The recovery of mercury was below the control limit in the MS. The parent sample only is qualified as estimated for mercury based on professional judgment and other site-specific MS recoveries.

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB27009
February 2008

Analytical data were evaluated in accordance with applicable USEPA SW-846 method requirements, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999), analytical method control criteria, the analytical laboratory Quality Assurance Control Limits, the Fort Stewart Military Reservation and Hunter Army Airfield Quality Assurance Project Plan (ARCADIS-2008), and professional judgment.

The data review summarized in this report includes a review of all sample collection documentation and the electronic data validation of the analytical data housed in the project database. Sample collection documentation included sample collection logs and chains of custody. The electronic data validation was performed utilizing the EQuIS Data Qualification Module (DQM). DQM checks for the following parameters:

- Holding times and preservation;
- Blank contamination;
    1. Method blanks,
    2. Trip blanks,
    3. Equipment blanks;
- Matrix spike and Duplicate sample recovery;
- Matrix Spike and Matrix Spike Duplicate relative percent differences;
- Laboratory Control Sample and Duplicate recovery;
- Laboratory Control Sample and Duplicate relative percent differences;
- Surrogate recovery (organic analyses only); and
- Field duplicate relative percent difference.

Manual review was performed for the following items:

- Sample dilutions and reporting limits;
- Case Narratives; and
- Laboratory Duplicates

Data was generated by Shealy Environmental Services, Inc. – West Columbia, South Carolina. Data qualifiers were applied electronically to the database with any additional qualifiers added manually. A summary of the data as amended by data qualifiers is included with the original hard copy reports.

The attached table summarizes the data that were qualified due to QC deficiencies. The table indicates compounds/analytes qualified based on electronic and manual validation. Refer to the associated method section of the validation checklist for a detailed explanation of qualification. All other data in these SDGs are considered usable as reported.

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB27009
February 2008

The following list of data qualifiers and definitions were applied in accordance with qualification criteria defined in the above guidance documents:

UB Compound/analyte detected in blank or associated blank, qualified as a non-detect at listed value.

J The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected above the reporting limit; however, the reported quantitation limit is approximate and may, or may not represent the actual limit of quantitation necessary to accurately and precisely measure analyte in the sample.

R The sample result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria; and the presence or absence of the analyte cannot be verified.

U Not detected at the quantitative reporting limit

DQM RUN BY:	Rachelle Borne	March 13, 2009
REVIEW PERFORMED BY:	Rachelle Borne	March 13, 2009
SIGNATURE:		March 13, 2009
PEER REVIEW:	Jane Kennedy	March 13, 2009

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB27009
February 2008

The following samples were included in this SDG:

sample delivery group	sys sample code	sample date	parent sample
KB27009	FST-24B-55(0-1)	02/26/09	

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB27009
February 2008

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Methods of analysis		X		X	
4. Reporting limits of analysis		X		X	
5. Master tracking list		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preparation/extraction date		X		X	
9. Sample analysis date		X		X	
10. Copy of chain-of-custody form signed by lab sample custodian		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Laboratory Signature		X		X	
13. South Carolina Certification Number		X		X	

QA - quality assurance

The analytical report was complete with the following exceptions or notations.

Note: the laboratory reported values between the quantitative reporting limit and the method detection limit as estimated concentrations. The "J" qualifier was retained in this validation. Non-detect values are reported at the quantitative reporting limit.

The following field QC samples were collected and included in this SDG:

Date Collected	QC Sample ID	Associated Samples	QC Type	SDG Number
No field QC samples were collected				

Comments:

All analyses were performed by Shealy Environmental Services, Inc. – West Columbia, South Carolina.

ARCADIS

HUNTER STEWART
ELECTRONIC VALIDATION REVIEW REPORT
SDGs: KB27009
February 2008

SEMIVOLATILE ORGANIC COMPOUNDS

Items Reviewed	DQM Deficiency		Qualification Applied	
	No	Yes	No	Yes
1. Holding times/Preservation	DQM		DQM	
2. Reporting limits	M		M	
3. Blanks				
A. Method blanks	DQM		DQM	
B. Equipment blanks	NA		NA	
4. Surrogate spike recoveries	DQM		DQM	
5. Laboratory control sample (LCS)				
A. LCS %R	DQM		DQM	
B. LCS duplicate (LCSD) %R	NA		NA	
C. LCS/LCSD RPD	NA		NA	
6. Matrix spike (MS)				
A. MS %R	NA		NA	
B. MS duplicate (MSD) %R	NA		NA	
C. MS/MSD precision (RPD)	NA		NA	
7. Field Duplicate precision (RPD)	NA		NA	

M – Manual Review %R - percent recovery RPD - relative percent difference DQM – Data Qualification Module

Comments:
This section presents a discussion of any additions or changes to the electronic data validation for compounds analyzed by Method 8270.

2. FST-24B-55(0-1) was analyzed at a 2x and 5x dilution due to elevated concentrations of target analytes. There were no elevated reporting limits for non-detect results.

ARCADIS

Appendix C

Waste Manifests

30448

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of 1	3. Emergency Response Phone	4. Waste Tracking Number
			[illegible]	[illegible]

GENERATOR

5. Generator's Name and Mailing Address: Fort Stewart
c/o ARCADIS, 2839 Paces Ferry Rd.
Suite 490, Atlanta, GA 30339
Generator's Phone: 770-431-8666

Generator's Site Address (if different than mailing address)
Fort Stewart
Ft. Stewart, GA

6. Transporter 1 Company Name: S&D Environmental Services (SC), LLC (fka SulfCo Environmental Services, LLC) — U.S. EPA ID Number: SCD987080231

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: WLS
305 South Main Street
Moncks, SC 29582
Facility's Phone: 843-462-8153 — U.S. EPA ID Number: SCR000702688

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON-HAZARDOUS NON-REGULATED MATERIAL Purge water Profile# 6319	3	DM	250	P	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
PO# 12156 A&D(SC)
JOB# 2006-007
(88336)
Contact at ARCADIS: Erica Madison 770-431-8666
Project#: GP02HAFS.0006
Prime Contract#: W912LK-05-D-0015

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year
Lynda Lee		04	23	07

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
Kenzie Hickman		04	23	07
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year
John Wall		4	27	07

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)	Month	Day	Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[illegible]	04	27	07