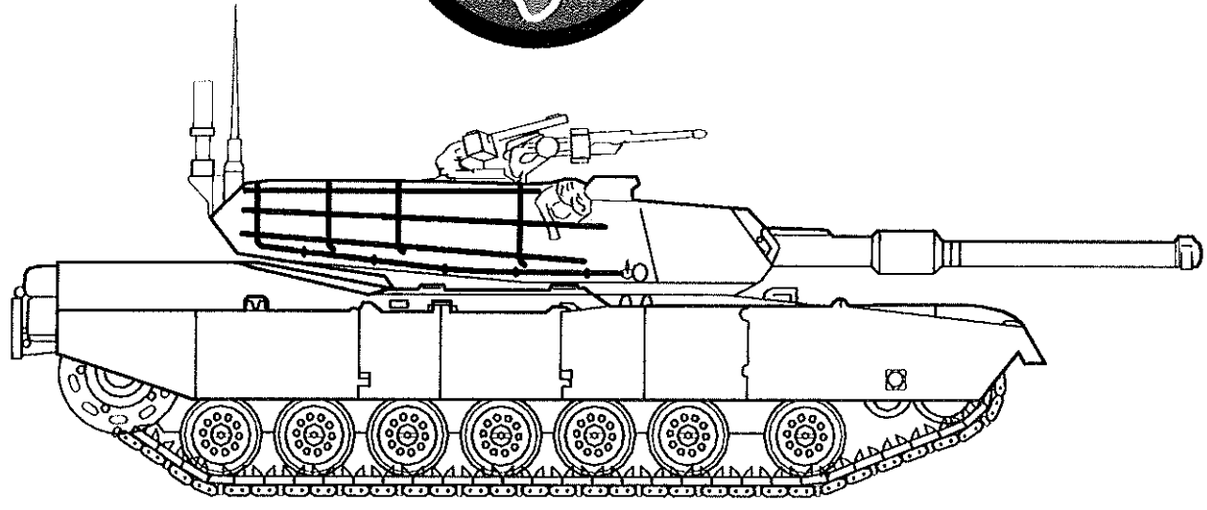
Corrected Final
Phase I RCRA Facility Investigation Report
For 24 Solid Waste Management Units
At Fort Stewart, Georgia

Volume I of III



May 1996

Job No. 87528.000

Prepared For

US Army Corps of Engineers
Savannah District

Prepared By

RUST ENVIRONMENT & INFRASTRUCTURE

DOCUMENT 6

CORRECTED FINAL

PHASE I
RCRA FACILITY INVESTIGATION REPORT
FOR 24 SOLID WASTE MANAGEMENT UNITS
AT FORT STEWART, GEORGIA
VOLUME I OF III

Prepared For

UNITED STATES ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT

Contract DACA21-93-D-0029
Delivery Order 0005
Rust Project No. 87528.000
May 1996

Prepared By
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1.0 INTRODUCTION

This Corrected Final Phase I Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report for 24 Solid Waste Management Units (SWMUs) provides the results of implementation of the Phase I RFI Work Plan performed at Fort Stewart, Georgia. This Corrected Final Phase I RFI Report has been prepared by RUST Environment and Infrastructure, Inc. (RUST E&I) for the United States Army Corps of Engineers (USACE), Savannah District, Contract No. DACA21-93-D-0029, Delivery No. 0005.

The information provided in this report is based upon data provided by the USACE and Geraghty and Miller, Inc. Environmental Services (G&M). The field activities were completed in accordance with the Corrected Final Phase I RFI Work Plan (April, 1993) prepared by G&M. The Corrected Final Phase I RFI Report has been prepared in accordance with the USACE Scope of Work dated August 17, 1993 and is presented in the same format as the Corrected Final Phase I RFI Work Plan.

Twenty-four (24) SWMUs are discussed in this report. Two (2) SWMUs not included in this report are SWMU8 EOD Area (FST-008) and SWMU13 Fire Training Pit (FST-013) which are being addressed under other contracts.

The G&M field activities included the installation of 30 new ground-water monitoring wells at various SWMUs throughout the installation. During well drilling, G&M collected soil samples for analysis. The USACE completed all other sampling (ground-water, soil, sediment, surface soil, surface water, wastewater and sludge).

The soil samples for the G&M field investigations were analyzed by Savannah Laboratories in Savannah, Georgia and the Quality Assurance (QA) soil samples were analyzed by the USACE South Atlantic Division (SAD) Laboratory in Marietta, Georgia. The soil samples for the USACE field investigations were analyzed by James H. Carr and Associates, Inc.

(Carr Laboratory) in Columbia, South Carolina and International Technology Corporation Analytical Services (IT Laboratory) in Knoxville, Tennessee. The USACE QA samples were also submitted to the SAD Laboratory. All raw data from the laboratories has been included in Volume III, Appendix U of this Corrected Final Phase I RFI Report.

A Quality Control Summary Report (QCSR) and Analytical Package was prepared by G&M for the work completed by G&M in one (1) 3-ring notebook (1994). A QCSR was also prepared by USACE for the work completed by USACE in three (3) 3-ring notebooks (Volumes I, II and III)(1994).

With the exception of the following changes, the sampling program adhered to the approved Corrected Final Phase I RFI Work Plan (1993).

- Two (2) up-gradient surface water samples were collected at SWMU1, instead of the proposed one (1) up-stream and one (1) down-stream samples. The proposed down-gradient surface water sample was mistakenly taken in an up-gradient location.
- Due to drought, one (1) surface soil sample was collected at the Tac-X Landfill SWMU3 in lieu of surface water and leachate samples.
- Based on the field records, soil samples were not collected below six feet below land surface or to the water table in the location chosen for soil boring MW4 at Burn Pit SWMU4B because of sustained OVA readings above the health and safety action levels. This soil boring was abandoned and the monitoring well SWMU4B, MW4(b) was later installed by the USACE.
- Four (4) extra surface soil samples were taken at EOD Area SWMU12.
- One (1) extra surface water sample and one (1) extra QA surface water sample were collected at the Industrial Wastewater Treatment Plant SWMU18.
- No sludge sample was available at the Radiator Shop SWMU24A.
- Five (5) extra ground-water samples and five (5) extra soil samples were collected at the Waste Oil Tanks SWMU25.

- Two (2) extra soil samples and two (2) surface soil samples were collected at the 724th Tanker Purging Station SWMU26.
- Field duplicated soil samples were mistakenly collected and submitted by G&M for laboratory analysis by pH and specific conductance at SWMU2, SWMU4A through 4F, and SWMU14.
- The analytical methods used to analyze the ground-water samples were inadvertently switched by the laboratory from SW-846 Method 8080 to Method 608. During all future sampling and analyses, it will be ensured that only SW-846 methods will be utilized.
- The detection limits for vinyl chloride and toxaphene were inadvertently higher than their MCLs, SMCLs, and/or action levels. During all future sample analyses, it will be ensured that the detection limits for all parameters are less than, or equal to, their MCLs, SMCLs, and/or action levels.

5.2 Camp Oliver Landfill SWMU2(FST-002)

5.2.1 Site Description

Camp Oliver Landfill SWMU2(FST-002) is located just north of the Camp Oliver bivouac area, approximately 17 miles northwest of the Fort Stewart cantonment area, on the northern side of State Highway 129 (Figure 5-10). Camp Oliver Landfill comprises about two acres situated on the northern side of a small hill. There is approximately 25 feet of relief across the site. Reported landfill dimensions are 15 feet wide by 300 feet long by 5 to 6 feet deep (G&M, 1993a).

Little obvious surface evidence of a landfill or open dumping area exists. Small soil piles, some roofing tin and wooden construction-type debris were observed during a November 15, 1993 site reconnaissance. Spent small weapons cartridges were observed in the ditch along the site southwest and southeast boundaries during the reconnaissance. Monitoring wells are located near the northern corner, eastern corner, western boundary, and in the ungraded portion of the intersection between Fort Stewart 13 and State Highway 129, near the southern site boundary (Figures 5-11 and 5-12). Two closed, 55-gallon steel drums containing investigation derived materials (purged water or drill cuttings) were observed near the southernmost monitoring well. The area is presently overgrown with grass, trees (mainly pines), and brush. A detailed map of Camp Oliver Landfill showing topography, borehole/monitoring well locations, sampling locations and drainage is provided in Figure 5-11. Photographs from the site inspection are shown in Figure 5-12.

From the 1960s to 1979, the area is reported to have been used for disposal of refuse from troop training activities and nearby residents via open-pit burning (G&M, 1993). Camp Oliver Landfill was officially closed in 1979. However the trench method of solid waste disposal is reported to still have been used. General refuse from ground maintenance activities and construction debris was placed in the Camp Oliver Landfill from 1979 to 1984, during the annual 3 to 4-month training activities (G&M, 1993).

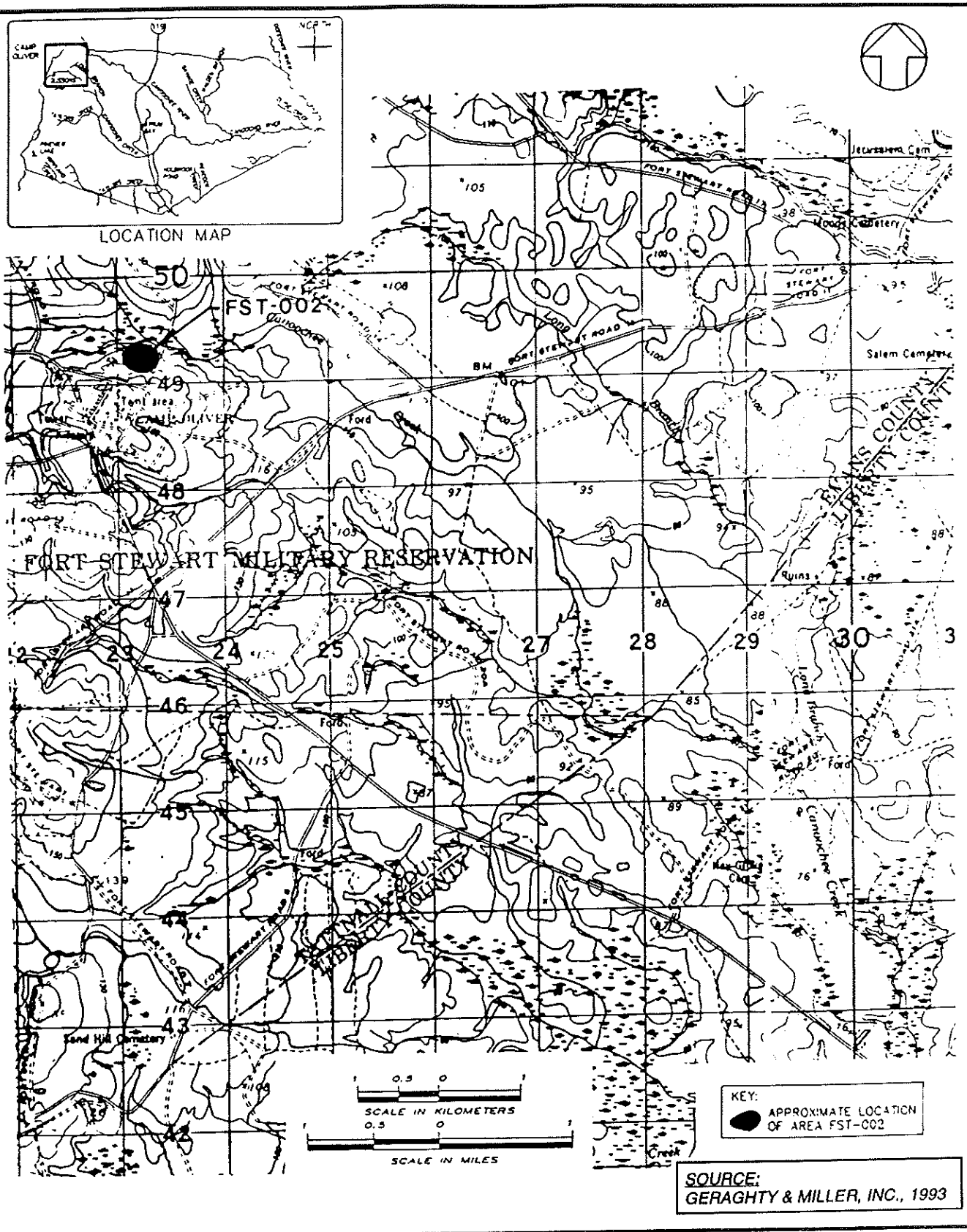

FIGURE 5-10

LOCATION MAP
SWMU-2 (FST-002)

CAMP OLIVER LANDFILL, FORT STEWART, GEORGIA
PROJECT NO. 87528.000

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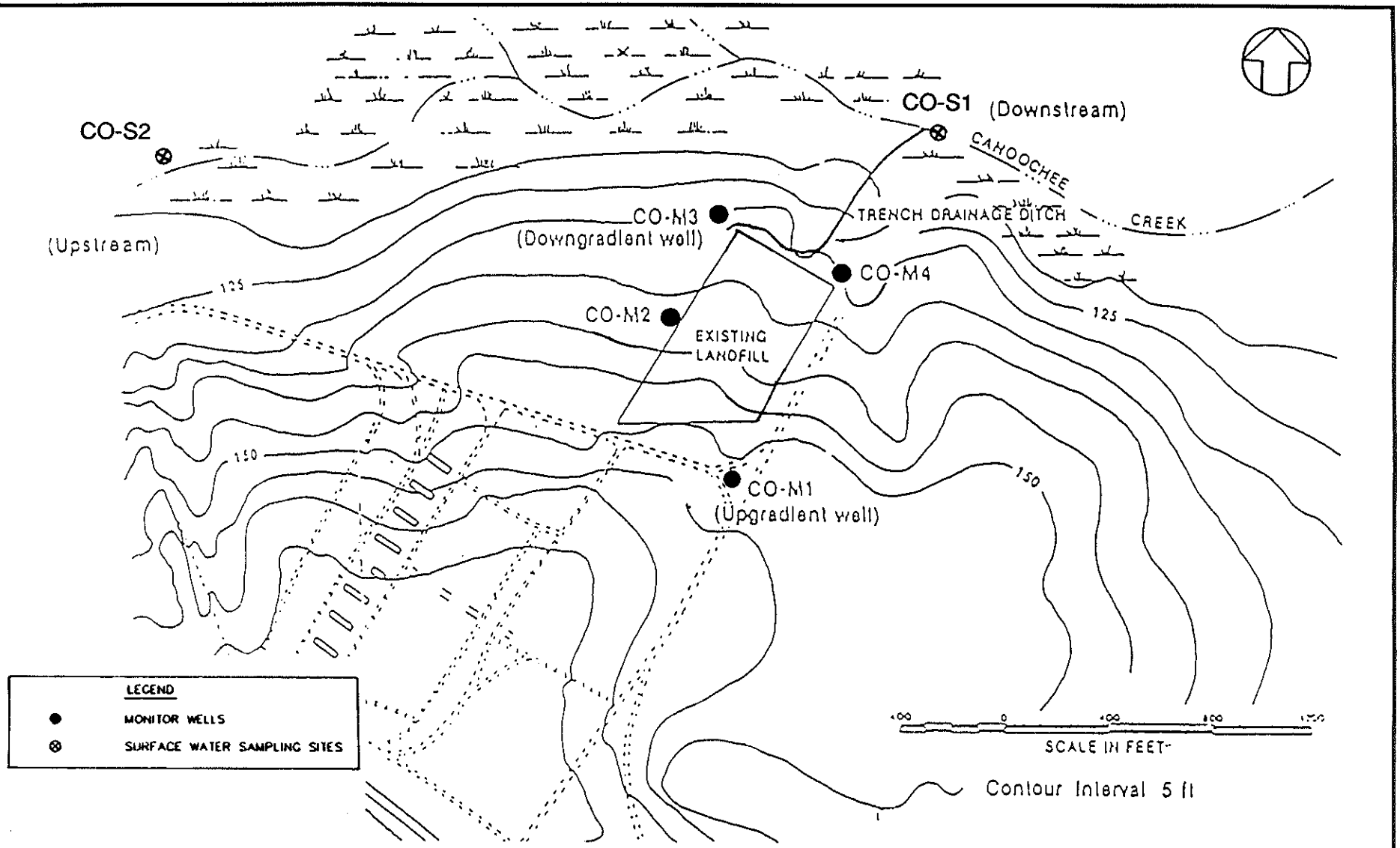

SOURCE:
GERAGHTY & MILLER, INC., 1993

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FIGURE 5-11
MONITORING WELL, SOIL BORING, AND SURFACE WATER LOCATIONS
SWMU-2 (FST-002)

CAMP OLIVER LANDFILL, FORT STEWART, GEORGIA
PROJECT NO. 87528.000

PHOTO SOUTHEASTWARD, MW 2

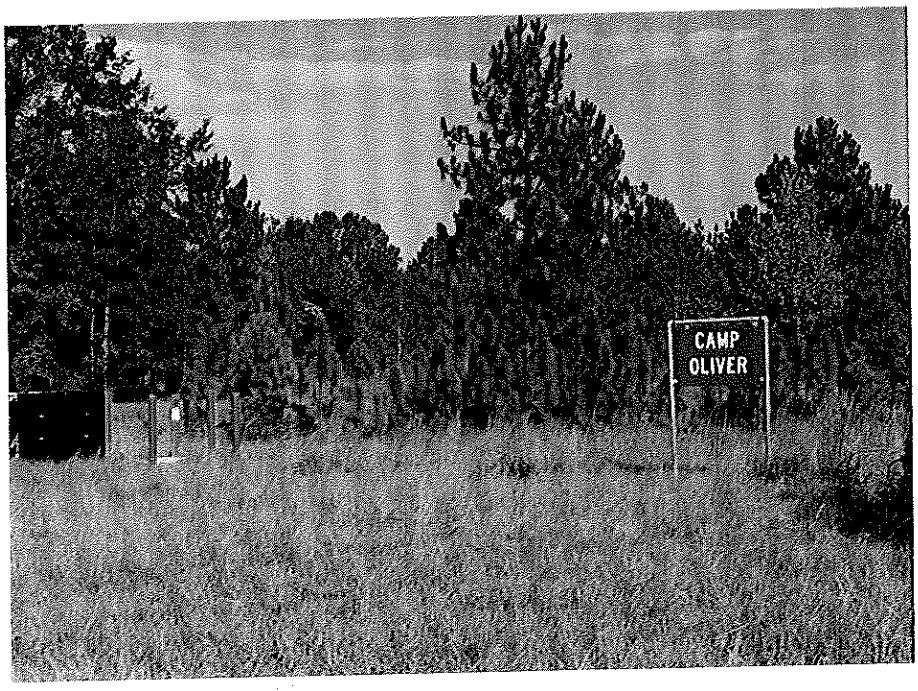

PHOTO NORTH WARD, MW 1

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FIGURE 5-12

PHOTOGRAPHS
SWMU-2 (FST-002)

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5.2.2 Work Completed

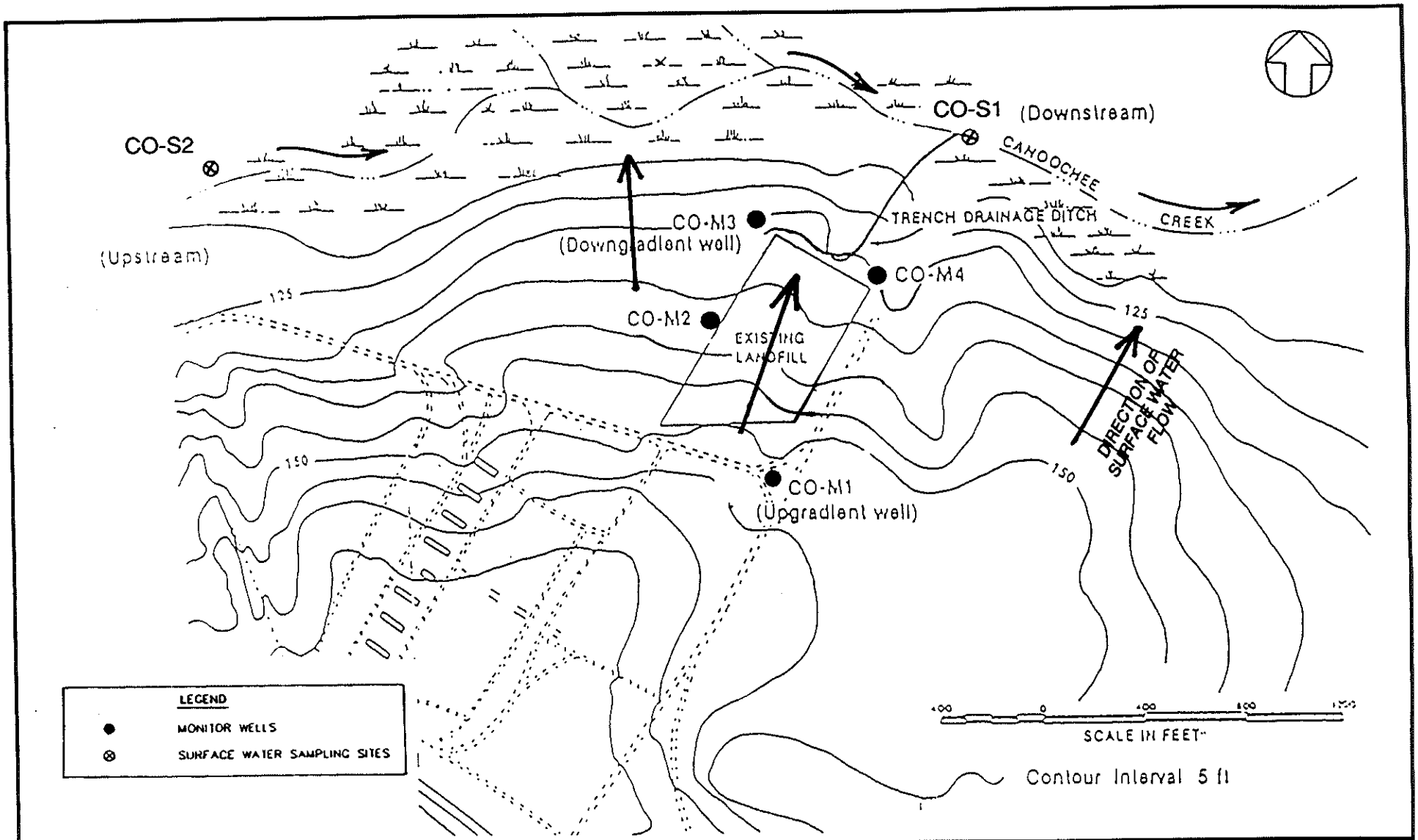
The previously existing Camp Oliver Landfill SWMU2(FST-002) up-gradient monitoring well (M1)was abandoned in July 2, 1993 (G&M, 1994) and a replacement monitoring well (M1) was constructed on July 1, 1993. The abandoned boring/well record for monitoring well CO-M1 is provided in Appendix G1. Several attempts were made to locate monitoring well M4 but it could never be located. A replacement well for the previous monitoring well M4 was also constructed on July 1, 1993 (G&M, 1994). Well protection, including lockable well covers and protective posts (at each well pad corner), was installed at all four wells (G&M, 1994).

A generalized surface-water flow map for the site was completed as part of the RFI report. One round of ground-water level evaluation data was collected and used to construct a piezometric contour map. Geologic cross-sections were constructed using lithologic data collected from the monitoring well construction.

Soil samples were analyzed for VOCs, RCRA total metals, specific conductance, and pH in accordance with the Phase I RFI Work Plan (1993). Ground-water samples were collected from all four monitoring wells and one up-gradient and one down-gradient surface water locations were sampled. Ground-water and surface water analyses described in the Phase I RFI Work Plan (G&M, 1993) were: pH, specific conductance, VOCs, RCRA total metals and pesticides/PCBs. Laboratory analytical results for pH and specific conductance were not reported, however, field pH and specific conductance were reported in the USACE QSCR (February, 1994) and are summarized in Table 5-3. An analytical results summary is presented in Section 5.2.5.

5.2.3 Site Characterization

The Camp Oliver Landfill (SWMU2) monitoring well, soil boring, and surface water sampling location map is provided as Figure 5-11. The surface water flow direction, based on topography is to the north (Figure 5-13). The shallow ground-water flow direction across the site is also to the north. A ground-water level elevation map of the surficial aquifer is



SOURCE:
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FIGURE 5-13

SURFACE WATER FLOW MAP
SWMU-2 (FST-002)

CAMP OLIVER LANDFILL, FORT STEWART, GEORGIA
PROJECT NO. 87528.000

provided as Figure 5-14. The ground-water level elevation data are provided in Appendix G2. The calculated horizontal hydraulic gradient across the site was 0.009 ft/ft (Appendix G3). North-south and east-west oriented geologic cross-sections are shown in Figures 5-15, 5-16, and 5-17. The monitoring well logs, soil boring logs, and monitoring well development logs and photographs are provided in Appendix G4. Soils reported underlying the site are predominantly clayey sands and sands. Contaminant distributions are discussed in Section 5.2.5.

5.2.4 Waste Characterization

Material characterization for the Camp Oliver Landfill SWMU2(FST-002) includes refuse from troop training activities and nearby residents by open pit burning. The landfill was officially closed in 1979. However, the trench method of solid waste disposal was reportedly still used. General refuse from ground maintenance activities and construction debris was placed in the landfill from 1979 to 1984, during the annual 3 to 4 month trailing activities (G&M, 1993). During the site reconnaissance, some debris was visible on land surface consisting of asphaltic roofing, tin and wooden construction material. Spent small weapons cartridges were present in the perimeter ditch on the southeast site boundaries.

5.2.5 Analytical Results

The following section briefly summarizes analytical results for soil, ground-water and surface water samples collected at Camp Oliver Landfill. Soil samples were collected from two (2) intervals: SL1-12 (10 to 12 feet) and SL4-8 (6 to 8 feet). Ground-water samples were collected from four (4) monitoring wells and surface water samples were collected from one (1) up-stream location (S2) and one (1) down-stream location (S1). The soil, ground-water and surface water sampling locations are shown in Figure 5-11. The soil samples were collected on July 1, 1993 by G&M and analyzed for VOCs, RCRA total metals, specific conductance and pH. The ground-water and surface water samples were collected on October 6, 1993 by USACE and analyzed for VOCs, RCRA total metals, and pesticide/PCBs. The pesticide/PCB ground-water samples were resampled on November 16, 1993. No laboratory derived analytical data were provided for specific conductance and

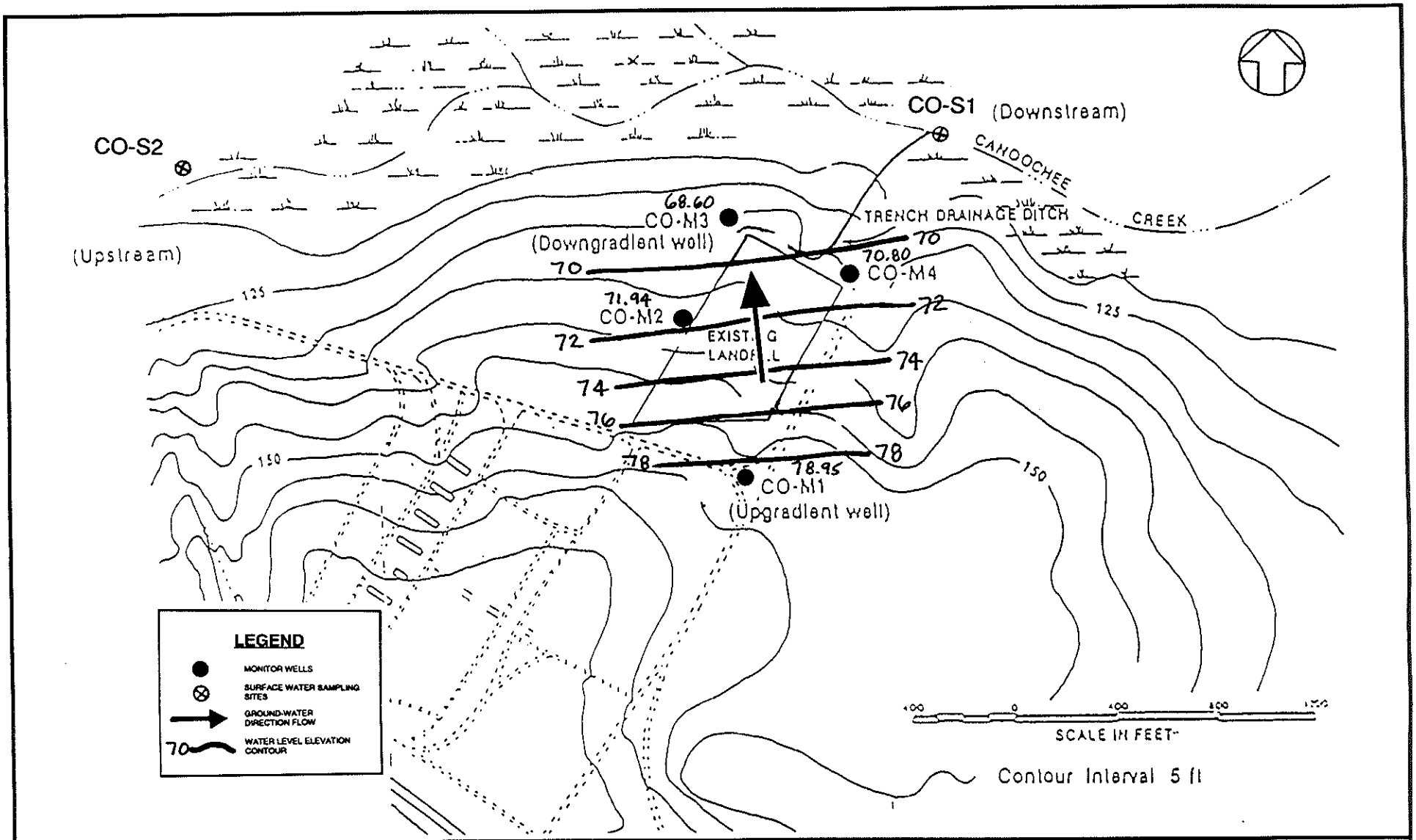

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FIGURE 5-14
WATER LEVEL ELEVATION MAP
NOVEMBER 16, 1993
SWMU-2 (FST-002)

CAMP OLIVER LANDFILL, FORT STEWART, GEORGIA
PROJECT NO. 87528.000

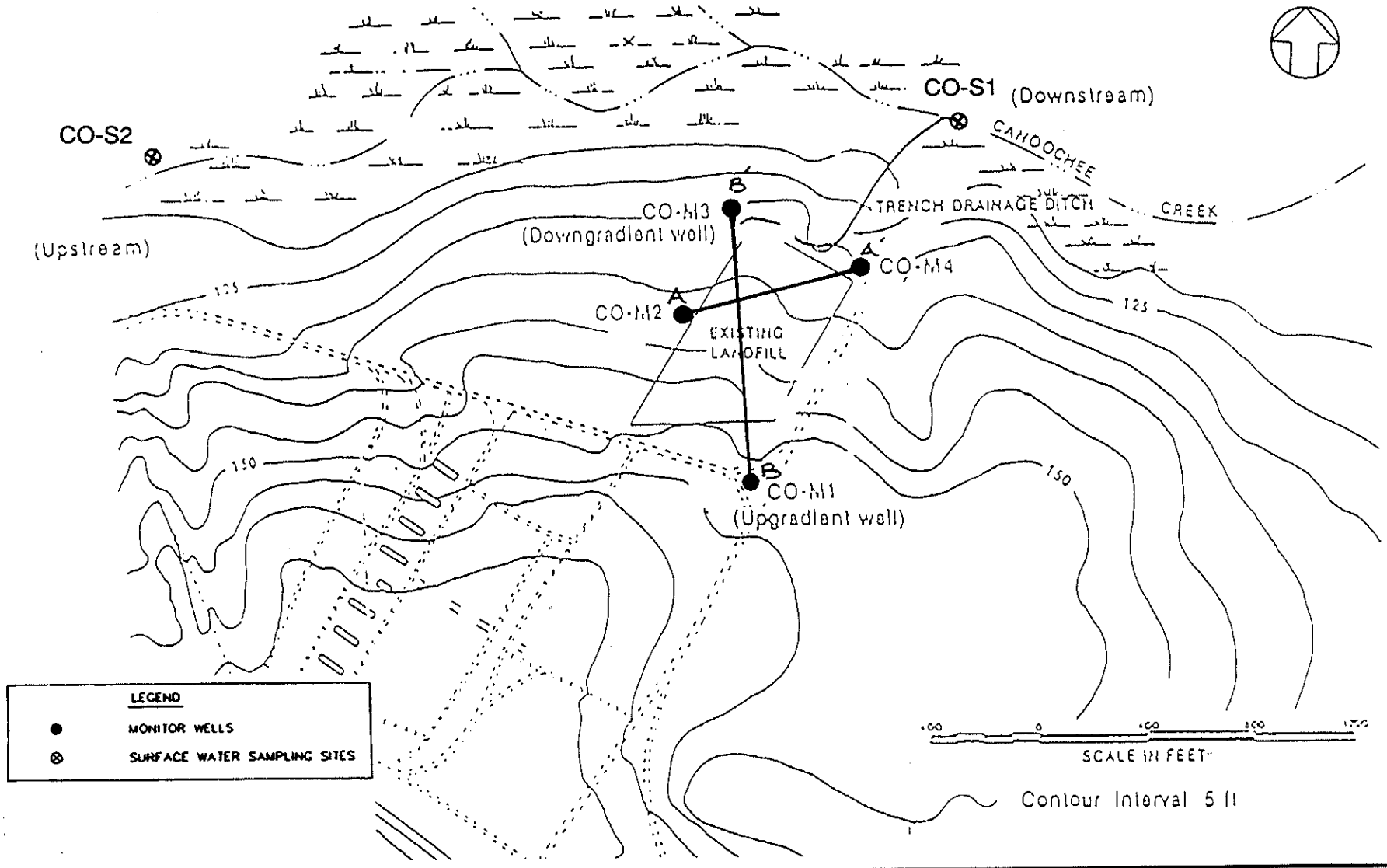

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FIGURE 5-15

TRACE OF GEOLOGIC CROSS-SECTIONS
SWMU-2 (FST-002)
CAMP OLIVER LANDFILL, FORT STEWART, GEORGIA
PROJECT NO. 87528.000

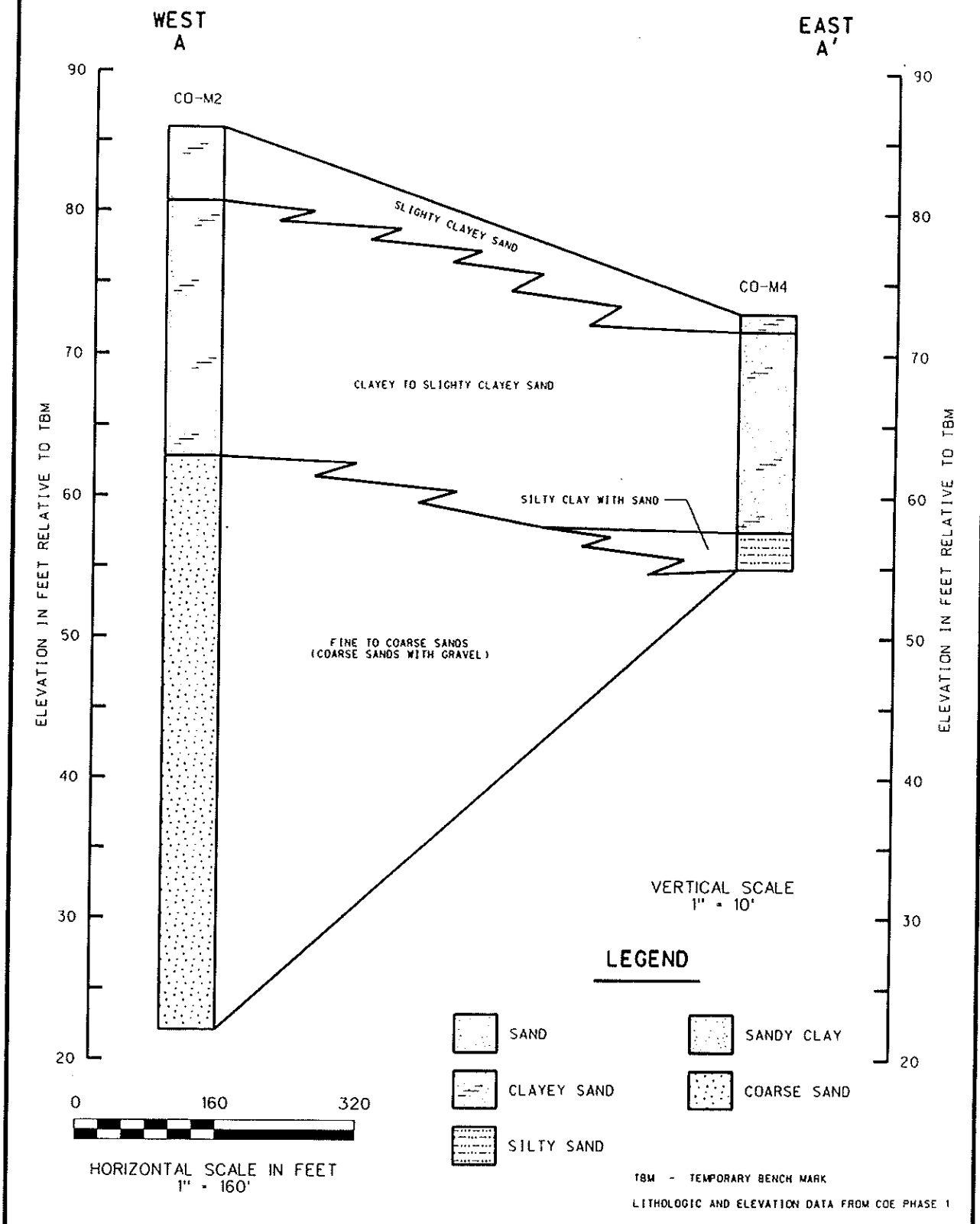

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FIGURE 5-16

GEOLOGIC CROSS-SECTION A-A';
SWMU-2 (FST-002) CAMP OLIVER LANDFILL

FORT STEWART, GEORGIA
PROJECT NO. 87528.000

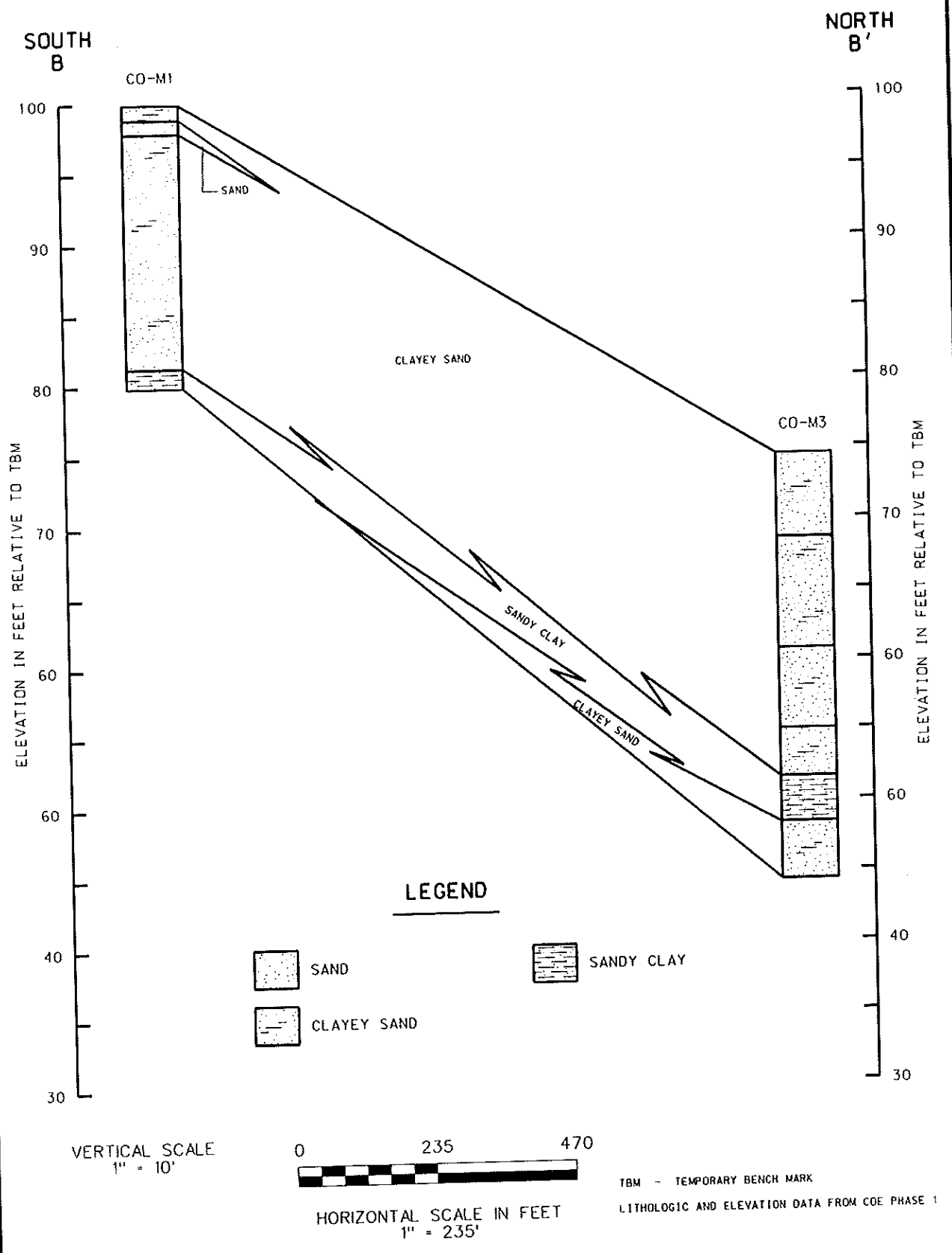

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FIGURE 5-17

GEOLOGIC CROSS-SECTION B-B';
SWMU-2 (FST-002) CAMP OLIVER LANDFILL

FORT STEWART, GEORGIA
PROJECT NO. 87528.000

pH in the ground-water or surface water samples, however, field pH and specific conductance were reported.

5.2.5.1 Action Levels and Clean-Up Standards

Tables 5-2 and 5-3 summarize the analytical results for the soil, ground-water and surface water samples collected from the Camp Oliver Landfill. These tables highlight (in bold) the parameters detected above the MCL, SMCL, action level or site-specific background concentrations (for unregulated parameters) in each soil and ground-water sample and above the GAEPD standard as specified in the Rules and Regulations for Water Quality Control or site-specific background concentrations (for unregulated parameters) in each surface water sample. The complete analytical results are included in the G&M QCSR (January, 1994) and USACE QCSR (February, 1994), and Appendix U of this report.

5.2.5.2 Soil

Volatile Organic Compounds

VOC concentrations were not reported above detection limit in the soil samples.

Metals

As noted in Table 5-2, arsenic, chromium, lead and barium were slightly above site-specific background concentrations (SL1-12). Figure 5-18 shows the metal concentration distribution in soils at the Camp Oliver Landfill.

Specific Conductance and pH

The laboratory specific conductance in the soil samples ranged from 3.6 to 5.7. The pH ranged from 4.2 to 4.3.

5.2.5.3 Ground-Water

Volatile Organic Compounds

VOC concentrations were not reported above detection limit in ground-water samples.

TABLE 5-2
SUMMARY OF SOIL ANALYTICAL RESULTS
SWMU2(FST-002) - CAMP OLIVER LANDFILL
JULY 1, 1993

ID	Volatile Organic Compounds (mg/kg)	Metals (mg/kg)	Specific Conductance	pH
SL1-12 (Background)	BDL	Ar 2.0 Ba 1.2 Cr 9.5 Pb 1.4	5.7	4.3
SL4-8/SL94-8 DUP	BDL/BDL	**Ar 1.8/2.2** **Ba 4.2/5.8** **Cr 7.9/14.0** **Pb 3.1/2.6**	4.2/3.6	4.2/4.2

NOTES:

Dup = Duplicate
BDL = Below Detection Level
Ar = Arsenic
Ba = Barium
Cr = Chromium
Pb = Lead

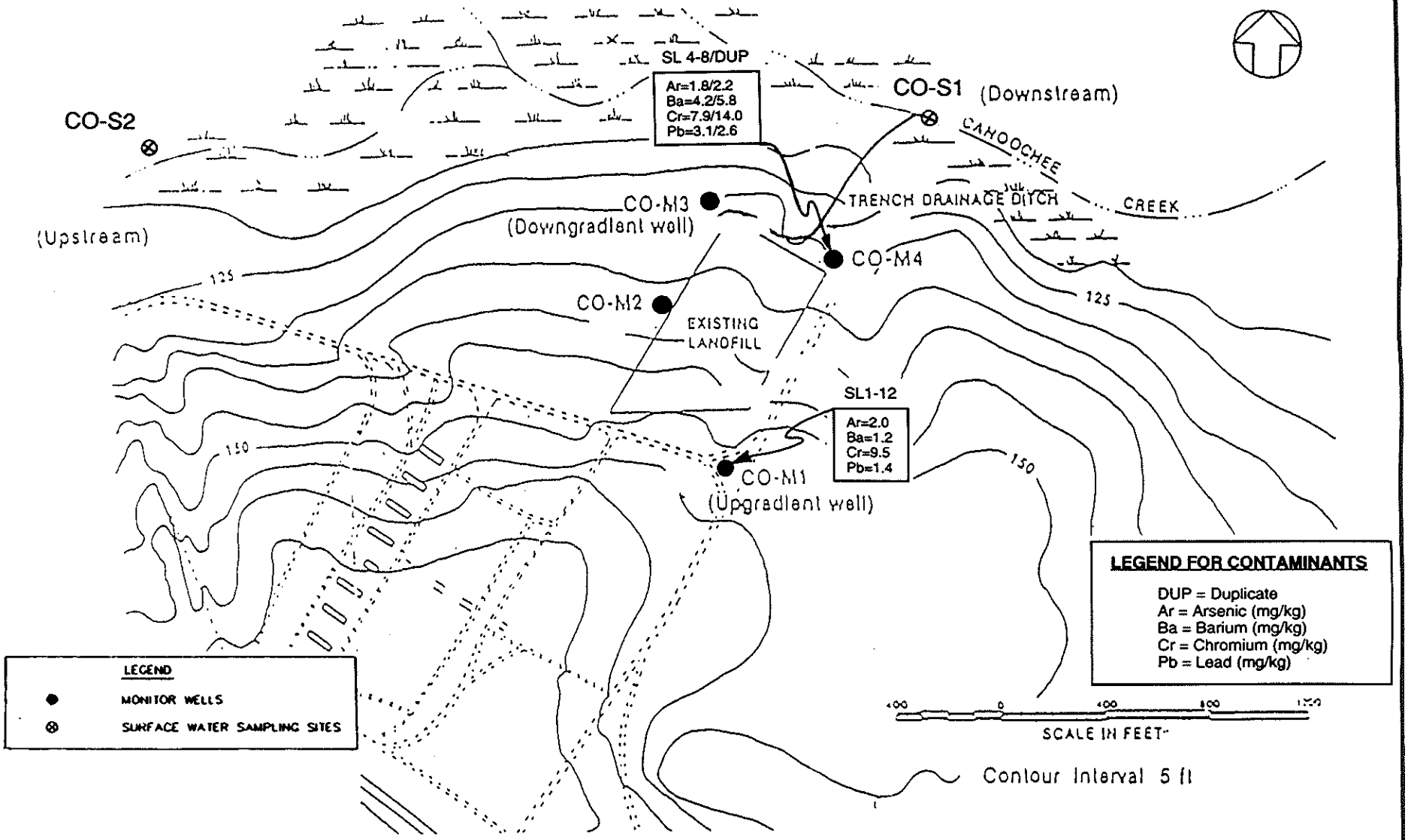
TABLE 5-3
SUMMARY OF GROUND-WATER AND SURFACE WATER ANALYTICAL RESULTS
SWMU2(FST-002) - CAMP OLIVER LANDFILL
OCTOBER AND NOVEMBER 1993

ID	Volatile Organic Compounds [1] (mg/l)	Metals [1] (mg/l)	Pesticide/PCBs [2] (pCi/l)	Field pH/Specific Conductance (mohm)
M1 (Background)	BDL	Pb 0.008	BDL	6.47 /0.04
M2	BDL	BDL	BDL/BDL(Dup)	6.45 /0.04
M3	BDL/BDL(Dup)	BDL/BDL(Dup)	BDL	6.43 /0.05
M4	BDL	Ba 0.11 Cr 0.11 Pb 0.136 Hg 0.00023	BDL	6.47 /0.05
S1 (Background)	BDL/Toluene = 0.0064	BDL/ Pb 0.0061 (Dup)	BDL/BDL(Dup)	6.81/0.23
S2	BDL	Ba 0.06 Pb 0.013	BDL	6.93/0.19
MCL (Ground-Water)	Toluene = 1.0	Ba 2.0 Cr 0.1 Pb 0.015* Hg 0.002	NA	(S) 6.5-8.5/NL
GAEPD Standard (Surface Water)	Toluene = 200	Ba NL Pb 0.0013	NA	ND

NOTES:
(1) October 6, 1993
(2) November 16, 1993
* USEPA action level

(S) = Secondary MCL

MCL = Maximum Contaminant Limit
Dup = Duplicate
Ba = Barium
Cr = Chromium
Pb = Lead
Hg = Mercury
NA = Not Applicable
ND = No Data
BDL = Below Detection Limit
NL = Not Listed



SOURCE:
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FIGURE 5-18

METAL CONCENTRATION DISTRIBUTION IN SOILS
SWMU-2 (FST-002)

CAMP OLIVER LANDFILL, FORT STEWART, GEORGIA
PROJECT NO. 87528.000

Metals

Chromium and lead were reported in monitoring well M4 above their respective MCLs. The chromium concentration of 0.11 mg/l was slightly in excess of the MCL of 0.1 mg/l. The lead concentration of 0.136 mg/l was above the action level of 0.015 mg/l as well as the previous MCL of 0.05 mg/l. Figure 5-19 shows the metal contaminant distribution in ground-water at the site.

Pesticide/PCBs

No pesticide/PCB concentrations were reported above detection limit in the ground-water samples.

Specific Conductance and pH

No laboratory analytical data were provided for specific conductance and pH in the ground-water samples. Field pH measurements in ground-water were reported in the USACE QCSR (February, 1994) from 6.43 to 6.47 units. Field ground-water specific conductance measurements were reported from 0.04 to 0.05 mohm. Note: resistance was reported in mohm, conductance should be reported in mmho.

5.2.5.4 Surface Water

Volatile Organic Compounds

A toluene concentration of 0.0064 mg/l was reported in surface water sample S1, but was below the GAEPD guideline of 200 mg/l.

Metals

Barium and lead were reported in the surface water samples. Lead was reported above its GAEPD guideline of 0.0013 mg/l and barium was reported in the upstream surface water sample. Figure 5-20 shows the metal contaminant distribution in surface water at the site.

Pesticide/PCBs

No pesticide/PCB concentrations were reported above detection limit in the surface water

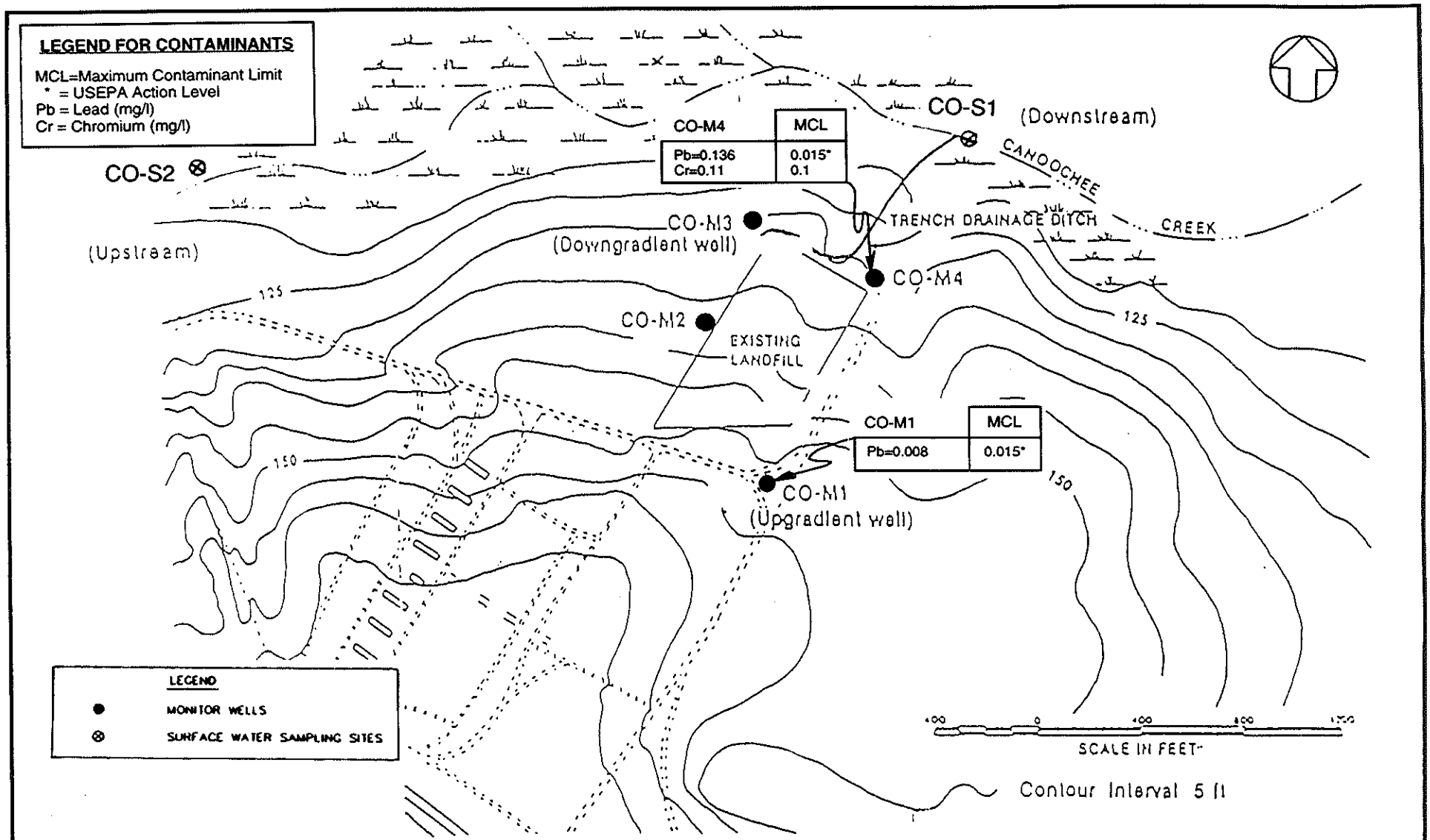

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FIGURE 5-19
METAL CONTAMINANT DISTRIBUTION
IN GROUND-WATER
SWMU-2 (FST-002)

CAMP OLIVER LANDFILL, FORT STEWART, GEORGIA
PROJECT NO. 87528.000

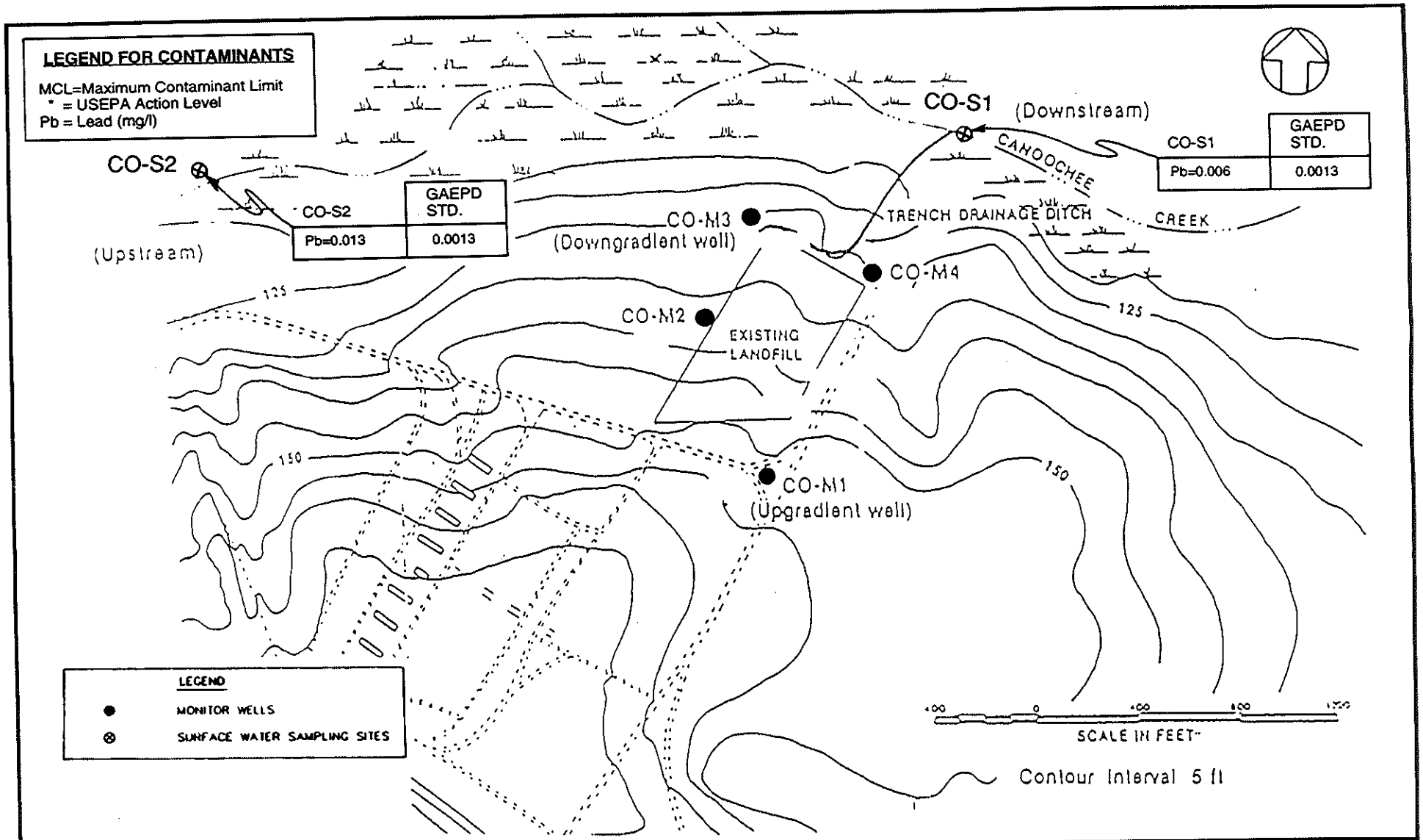

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FIGURE 5-20
METAL CONTAMINANT DISTRIBUTION IN SURFACE-WATER SWMU-2 (FST-002)

CAMP OLIVER LANDFILL, FORT STEWART, GEORGIA
PROJECT NO. 87528.000

samples.

Specific Conductance and pH

No laboratory analytical data were provided for specific conductance and pH in the surface water samples. Field pH measurements in surface water were reported in the USACE QCSR (February, 1994) from 6.81 to 6.93 units. Field surface water specific conductance measurements were reported from 0.19 to 0.23 mohm.

5.2.5.5 Data Evaluation

Soil

According to the G&M QCSR (1994), the VOC and metal concentrations for the Camp Oliver Landfill demonstrated acceptable analytical precision with the exception of arsenic, lead and selenium. Because the MS/MSD recovery of 78% and 34% for lead suggest a potential analytical bias due to significant variances within the precision of the analyses, the sample data for this analyte were classified as estimated. Poor recoveries (44% and 60%) and RPD (31%) results were reported for arsenic MS/MSD analyses, and all results were classified as estimated values. The selenium MS/MSD recovery data (24% and 33%) indicated a significant negative analytical bias, thus sample data for this analyte were classified as unusable. The laboratory control sample (LCS) recoveries of both the pH and specific conductance parameters were acceptable.

Ground-Water and Surface Water

According to the USACE QCSR (February, 1994), Carr Laboratory inadvertently found that samples, duplicate and blanks, including laboratory blanks, collected on October 6, 1993 were contaminated by the laboratory with Aldrin, a pesticide. The site was resampled for the pesticide parameters on November 16, 1993. Both the data quality objectives and completeness criteria were met for SWMU2 and that the data met the project objectives.

5.2.6 Evidence of Release from the Site

The analytical results indicate that chromium and lead concentrations in one ground-water

monitoring well were in excess of the MCL or action level, that lead concentrations in the surface water were above the GAEPD standard, and that arsenic, barium, chromium, and lead were above site-specific background concentrations in soils at the Camp Oliver Landfill SWMU2, which may indicate that a release has occurred at the site.

5.2.7 Health and Environmental Assessment

The objective of the Health and Environmental Assessment (HEA) is to provide information necessary to evaluate the need for appropriate interim corrective measures or for a Corrective Measures Study (CMS). The following sections describe transport pathways and potential exposure routes for the receiving media of concern, human health and environmental toxicity criteria, and the preliminary risk evaluation for constituents and media of potential concern. Following the identification of exposure routes, constituent concentrations detected in each medium were compared to exposure-limit criteria developed for selected exposure pathways. Human and ecological exposure criteria were developed using procedures described in Chapter 8 of the *Interim Final RCRA Facility Investigation (RFI) Guidance - Development of an RFI Work Plan and General Considerations for RCRA Facility Investigations* (USEPA, 1989a).

5.2.7.1 Human Health Assessment

Transport Mechanisms and Exposure Pathways

Following release from a source, contaminants may migrate in environmental media by any of several transport mechanisms, including:

- Resuspension and airborne dispersal of contaminated soil particulates,
- Volatilization of organics from soil, surface water, or ground-water,
- Uptake of contaminants by biota,
- Stormwater runoff to surface water and sediments,
- Infiltration/percolation of soil contaminants to ground-water, and
- Discharge of ground-water to surface water and sediments.

For the purposes of this assessment, all potentially contaminated media were considered, however, only those media considered to present the most significant exposure potential were quantitatively evaluated. At SWMU2, soil, ground-water, and surface water samples were collected from areas of probable contamination. The resulting data were used in quantitatively evaluating the following potential mechanisms of contaminant migration: stormwater runoff to surface water, infiltration and/or percolation of soil contaminants to ground-water, and discharge of ground-water into surface water.

A complete exposure pathway includes a contaminant source, a transport mechanism, an exposure point where contact by a receptor with the contaminated medium may occur, and a route of intake of the contaminated medium at the exposure point.

Potential human exposure pathways at SWMU2 include ingestion of and dermal contact with soil, ground-water, surface water, and sediment; inhalation of vapor and contaminated soil particulates; and ingestion of contaminated biota. All pathways considered to be complete were addressed and those that represented the greatest potential for risk were quantitatively evaluated. Potential exposure pathways that were quantitatively evaluated for human receptors included ingestion of surface water, ground-water, and soil.

Toxicity Criteria

The primary element of the human health assessment is the set of criteria (risk-based constituent concentrations) used to evaluate constituent concentrations associated with SWMU2. Human health criteria were based on EPA-established chronic exposure limits.

The maximum contaminant levels (MCLs) for drinking water promulgated under the Safe Drinking Water Act were used as the toxicity criteria for human drinking water consumption for constituents released to ground-water or surface water. If MCLs did not exist for a particular constituent of concern, the criterion used was the health-based criterion for carcinogens, the health-based criterion for noncarcinogens, or the lower of these two values if both existed for the constituent of potential concern.

The health-based criteria for carcinogens, calculated from Risk-Specific Doses (RSDs), were developed in accordance with EPA RCRA Facility Investigation (RFI) Guidance (USEPA, 1989a). The RSD is an upper bound estimate of the average daily dose of a carcinogen corresponding to an excess cancer risk for lifetime exposure of 10^{-6} for Class A and B carcinogens, or 10^{-5} for Class C carcinogens. The criteria, presented in Appendix T, were calculated from RSDs as follows:

$$C_i = (R/SF) \times (W/I) \qquad \text{(Equation 1)}$$

where:

C_i = criterion concentration for the constituent of concern,

R = risk level (10^{-6} for Class A and B, 10^{-5} for Class C carcinogens) ,

SF = carcinogenic slope factor $(mg/kg\text{-}day)^{-1}$,

(R/SF) = the RSD,

W = assumed weight of the exposed individual (receptor), and

I = intake amount for a given time period.

The most current slope factors (SFs) were obtained from EPA's Integrated Risk Information System (IRIS) database (USEPA, 1994). When SFs were not available in IRIS, they were selected from the Health Effects Assessment Summary Tables (HEAST) (USEPA, 1993). If SFs could not be obtained from HEAST, provisional values supplied by the Superfund Health Risk Technical Support Center of the EPA Environmental Criteria and Assessment Office (SHRTSC-ECAO) were used.

The values (from USEPA 1989a) for the assumed weight (W) and intake rate (I) used in the calculation were:

Soil Ingestion

0.1 g/day for 70 kg person (70 year exposure period for carcinogens)

Ground-water and Surface Water Ingestion

2.0 liters/day for 70 kg adult (70 year exposure period)

The human health-based criteria for noncarcinogens, calculated from the Reference Dose (RfD), are an estimate of the daily exposure that an individual (including sensitive individuals) can experience without appreciable risk of adverse health effects during a lifetime exposure. The criteria, shown in Appendix T, were calculated using the following equation:

$$C_i = (RfD) \times (W/I) \qquad \text{(Equation 2)}$$

where:

C_i = criterion concentration for the constituent of concern,

RfD = reference dose in mg/kg-day,

W = assumed weight of the exposed individual (receptor), and

I = intake amount for a given time period.

The most current RfDs were obtained, in order of priority, from EPA's IRIS, HEAST, or SHRTSC-ECAO. The values used for the assumed weight (W) and intake rate (I) were the same as those used in calculating the carcinogen criteria, with the exception of soil ingestion.

TABLE 5-3A
COMPARISON OF INDIVIDUAL CONSTITUENT CONCENTRATIONS
WITH HUMAN HEALTH CRITERIA
SWMU2(FST-002) - CAMP OLIVER LANDFILL

Exposure Medium	Units	Constituent Released	Release Concentration*	Criterion Type Used	Criterion Value	Release Concentrations Exceed Criterion?
GROUND WATER	mg/l	Toluene	6.40E-03	MCL	1.00E+00	No
		Barium	1.10E-01	MCL	2.00E+00	No
		Chromium	1.10E-01	MCL	1.00E-01	Yes
		Lead	1.36E-01	MCL	1.50E-02	Yes
		Mercury	2.30E-04	MCL	2.00E-03	No
SURFACE WATER	mg/l	Barium	6.00E-02	MCL	2.00E+00	No
		Lead	1.30E-01	MCL	1.50E-02	Yes
SOIL	mg/kg	Arsenic	2.00E+00	C	4.00E-01	Yes
		Barium	4.20E+00	NC	5.60E+03	No
		Chromium	9.50E+00	NC	4.00E+02	No
		Lead	3.10E+00	EPA	5.00E+02	No

* Release concentration represents the maximum detected concentration for each constituent.

C - Carcinogen
EPA - Environmental Protection Agency's Interim Soil Cleanup Level, OSWER Directive #9355.4-02
MCL - Maximum Contaminant Level
NC - Noncarcinogen

TABLE 5-3B
COMPARISON OF INDIVIDUAL CONSTITUENT CONCENTRATIONS
WITH ECOLOGICAL CRITERIA
SWMU2(FST-002) - CAMP OLIVER LANDFILL

Exposure Medium	UNITS	Constituent Released	Release Concentration	Criterion Type Used	Criterion Value*	Release Concentrations Exceed Criterion?
SURFACE WATER	mg/l	Toluene	6.40E-03	AWQC	.75E+00	No
		Barium	6.00E-02	AWQC	4.1E+04*	No
		Lead	1.30E-01	AWQC	3.20E-03	Yes

* Availabel AWQC value (1.75E+01) was for acute exposure. Therefore, criterion value was calculated as 1/10 of this value.

For soil ingestion, the assumed intake rate of 0.2 g/day was based on a 5-year exposure period for a 16-kg child.

For a given constituent of potential concern associated with systemic health effects, the noncarcinogen criteria for water and soil (ingestion) were used unless MCLs or lower carcinogen criteria existed.

Preliminary Risk Evaluation

Following the calculation of exposure-limit criteria ("action levels"), comparisons were made between the action levels and the constituent concentrations present at the SWMU. Maximum detected concentrations were used for the comparison. Concentrations that exceeded human health exposure action levels are shown in Table 5-3A.

Soil samples collected from SWMU2 were analyzed for volatile organic compounds (VOCs), and metals. Ground-water and surface water samples collected from SWMU2 were analyzed for VOCs, metals, pesticides, and PCBs.

Of the four metals detected in ground-water samples collected at SWMU2, two metals were present in concentrations which exceeded their respective oral exposure criterion value. Although ingestion was considered to be the most likely exposure pathway for ground-water, discharge of ground-water to surface water and sediments in Canoochee Creek could potentially result in additional exposure pathways. Other potential pathways resulting from the discharge of ground-water to Canoochee Creek include: ingestion of and dermal contact with surface water and sediment, and ingestion of contaminated biota.

Of the two metals (barium and lead) and one VOC (toluene) detected in surface water samples collected from SWMU2, no concentrations exceeded oral exposure criterion values. No risk from surface water ingestion is indicated . However, considering that the majority of lead transported in surface water is expected to be in an undissolved form associated with sediment or organic matter, uptake by terrestrial and aquatic organisms represent an

additional transport mechanism. A potential exposure route resulting from uptake by terrestrial and aquatic organisms includes the ingestion of contaminated biota.

One of the four metals, arsenic, detected in soil samples exceeded their oral exposure criteria values. In addition to the ingestion pathway, which was quantitatively evaluated, metals may migrate through the airborne dispersal of contaminated particulates, uptake by biota, stormwater runoff to surface water and sediments, and infiltration/percolation of contaminants to ground-water. Potential exposures may result from dermal contact with soil, surface water, and sediments; inhalation of particulates; and ingestion of contaminated biota.

5.2.7.2 Environmental Assessment

Transport Mechanisms and Exposure Pathways

Potential transport mechanisms and complete exposure pathways for ecological receptors are the same as those described in Section 5.2.7.1 for human receptors, except for direct exposure to ground-water. All potentially complete exposure pathways were considered. Those that represented the greatest potential for risk were quantitatively evaluated unless the human health assessment had already indicated that further SWMU assessment for that pathway would be required.

The human health assessment showed that further evaluation would be required for the ground-water and soil exposure pathways. Direct exposure to ground-water is not a complete exposure pathway for ecological receptors. Contaminants in soil at SWMU2 were found to be of concern based on comparison to human toxicity criteria; therefore, this medium was considered likely to be of concern for ecological receptors as well, and ecological toxicity was not evaluated separately for soil. Accordingly, the potential exposure pathway that was quantitatively evaluated for ecological receptors was exposure of aquatic organisms to surface water.

Toxicity Criteria

The ecological criteria used in evaluating potential exposure of aquatic receptors to surface

water at SWMU2 were EPA Ambient Water Quality Criteria for the protection of aquatic life . In the absence of an established AWQC for a contaminant, available toxicity data for an aquatic animal species was used. Aquatic toxicity data generally are expressed in the form of an LC_{50}, which represents the median lethal concentration, i.e., the concentration which was lethal to 50 percent of the test organisms in a study. The LC_{50} value obtained for the toxicity of barium to a commonly studied aquatic species (the invertebrate *Daphnia magna*) was divided by an uncertainty factor of 10 to allow for possible longer-term environmental exposures, inter-species differences in susceptibility, and sub-lethal effects. The resulting concentration was used as the surface water criterion in the absence of an AWQC. Only an acute AWQC value was available for toluene, so that value was divided by an uncertainty factor of 10 to allow for possible longer-term environmental exposures.

Preliminary Risk Evaluation

Toxicity to ecological receptors was evaluated by comparison of ecological exposure criteria (derived as described above) to maximum detected release concentrations. The results of this evaluation are shown in Table 5-3B. The release concentrations of toluene and barium were well below their criterion values, indicating that these constituents do not pose a significant risk to aquatic ecological receptors in surface water at the unit. However, lead does appear to pose a potential risk to ecological receptors in surface water at the unit, based on comparison of its maximum detected concentration to its criterion value. In addition to direct ingestion of lead in surface water, ecological receptors may be exposed to lead through the food chain as a result of bioconcentration in aquatic organisms, although this pathway could not be evaluated quantitatively.

Direct exposure to ground-water is not a complete pathway for ecological receptors; therefore, ground-water was not evaluated. Ingestion of soil is a potentially complete ecological exposure pathway at SWMU2 and contaminants in soil were found to be of concern based on comparison to human toxicity criteria. Accordingly, these media were considered likely to be of concern for ecological receptors as well, and ecological toxicity was not evaluated separately. The available human toxicity criteria are generally better

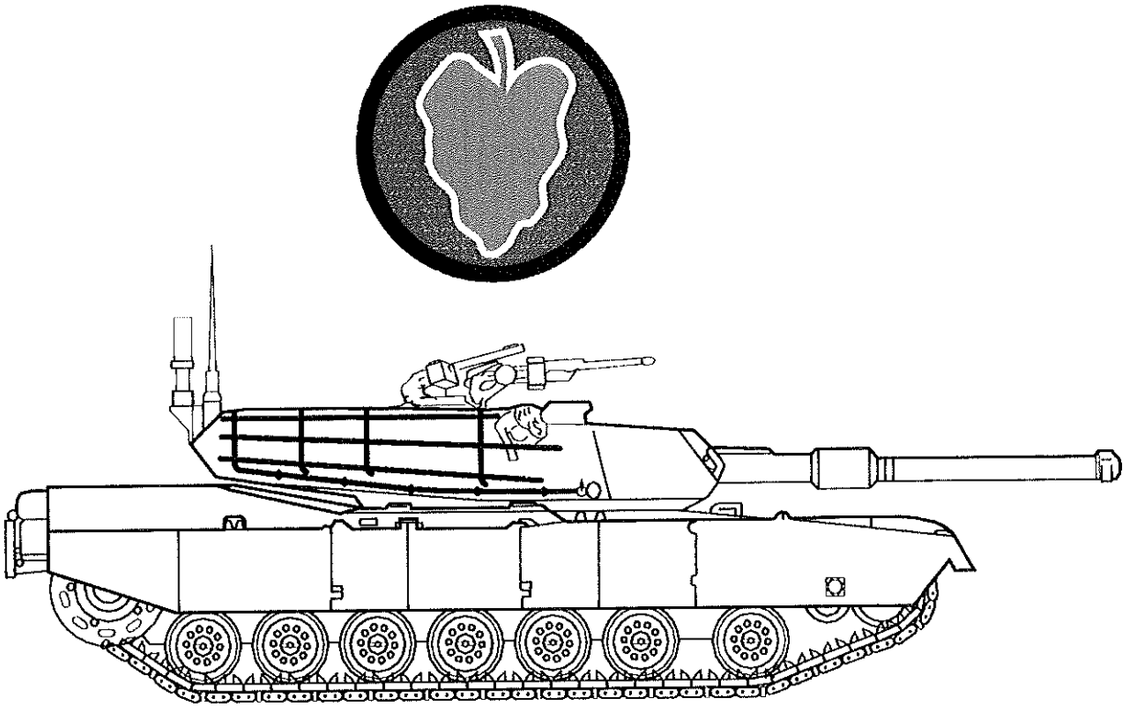
substantiated, more consistent, and more reliable than the toxicity data available for ecological receptors, resulting in less uncertainty associated with the validity of conclusions based on human toxicity. Also, ecological receptors may be more susceptible than humans to the toxic effects of contaminants due to greater sensitivity or extent of exposure. Therefore, where human health was found to be of concern, as in soil at SWMU2, potential ecological effects should be quantitively evaluated as part of additional risk evaluation at the unit.

5.2.8 Potential for Phase II Investigation

As stated in Section 5.2.6,the analytical results indicate that a release may have occurred at SWMU2. Based on the Phase I results, a Phase II investigation is recommended. The Phase II investigation would include re-sampling the ground-water monitoring wells and the surface water for RCRA metals, pH and specific conductance. An HEA is recommended as part of the Phase II investigation.

Corrected Final
Phase I RCRA Facility Investigation Report
For 24 Solid Waste Management Units
At Fort Stewart, Georgia

Volume II of III



May 1996

Job No. 87528.000

Prepared For

US Army Corps of Engineers
Savannah District

Prepared By

RUST ENVIRONMENT & INFRASTRUCTURE

CORRECTED FINAL

PHASE I
RCRA FACILITY INVESTIGATION REPORT
FOR 24 SOLID WASTE MANAGEMENT UNITS
AT FORT STEWART, GEORGIA
VOLUME II OF III

Prepared For

UNITED STATES ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT

Contract DACA21-93-D-0029
Delivery Order 0005
Rust Project No. 87528.000
May 1996

Prepared By
RUST ENVIRONMENT AND INFRASTRUCTURE
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803/572-5600

Appendix G

SWMU2(FST-002) Camp Oliver Landfill

Appendix G1

Abandoned Boring/Well Record for Monitoring Well CO-M1

ABANDONED BORING/WELL RECORD
FOR CAMP OLIVER LANDFILL MONITORING WELL CO-M1
FT. STEWART RCRA FACILITY INVESTIGATION
FT. STEWART GEORGIA

1. **Project and boring/well designation:** Ft. Stewart RFI, Ft. Stewart, GA
   Camp Oliver Landfill (FST-002)
   Monitoring Well CO-M1

2. **Location with respect to the replacement boring or well (if any):** The replacement well, FST-002-MW1, was installed approximately 100 feet east of abandoned monitoring well CO-M1 in a triangular grassy area where two dirt roads intersect (See Attachment 1 - Figures 4.7 and 2).

3. **Open depth of well/annulus/boring prior to grouting:** The open well depth prior to grouting was 37 ft bls.

4. **Casing or items left in hole by length, depth, composition, description, and size:** Approximately 30 feet of 4-inch PVC casing and five feet of 4-inch PVC screen were left inside the borehole during abandonment.

5. **Copy of boring log:** A copy of the boring log is attached (Attachment 2).

6. **Copy of construction diagram for abandoned well:** A copy of the construction diagram is attached (Attachment 2).

7. **Reason for abandonment:** The 4-inch PVC casing had been damaged and the well had been open to the environment for an unknown period of time.

8. **Description of total quantity of ground used initially:** Approximately 30 gallons of cement grout consisting of Portland Type I-II cement (ASTM-C 150) and 5-10% by weight of bentonite powder was used to abandon monitoring well CO-MW1. The well was abandoned by the tremie method from the bottom of the well to land surface.

9. **Description and daily quantities of grout used to compensate for settlement:** Significant settlement of the grout was not noted. After the grout had set, the depression created while removing the concrete pad, grout, and PVC casing (from approximately one foot below land surface to land surface) was filled with soil and sand.

10. **Dates of grouting:** Monitoring Well CO-M1 was abandoned on July 2, 1993 (Attachment 3).

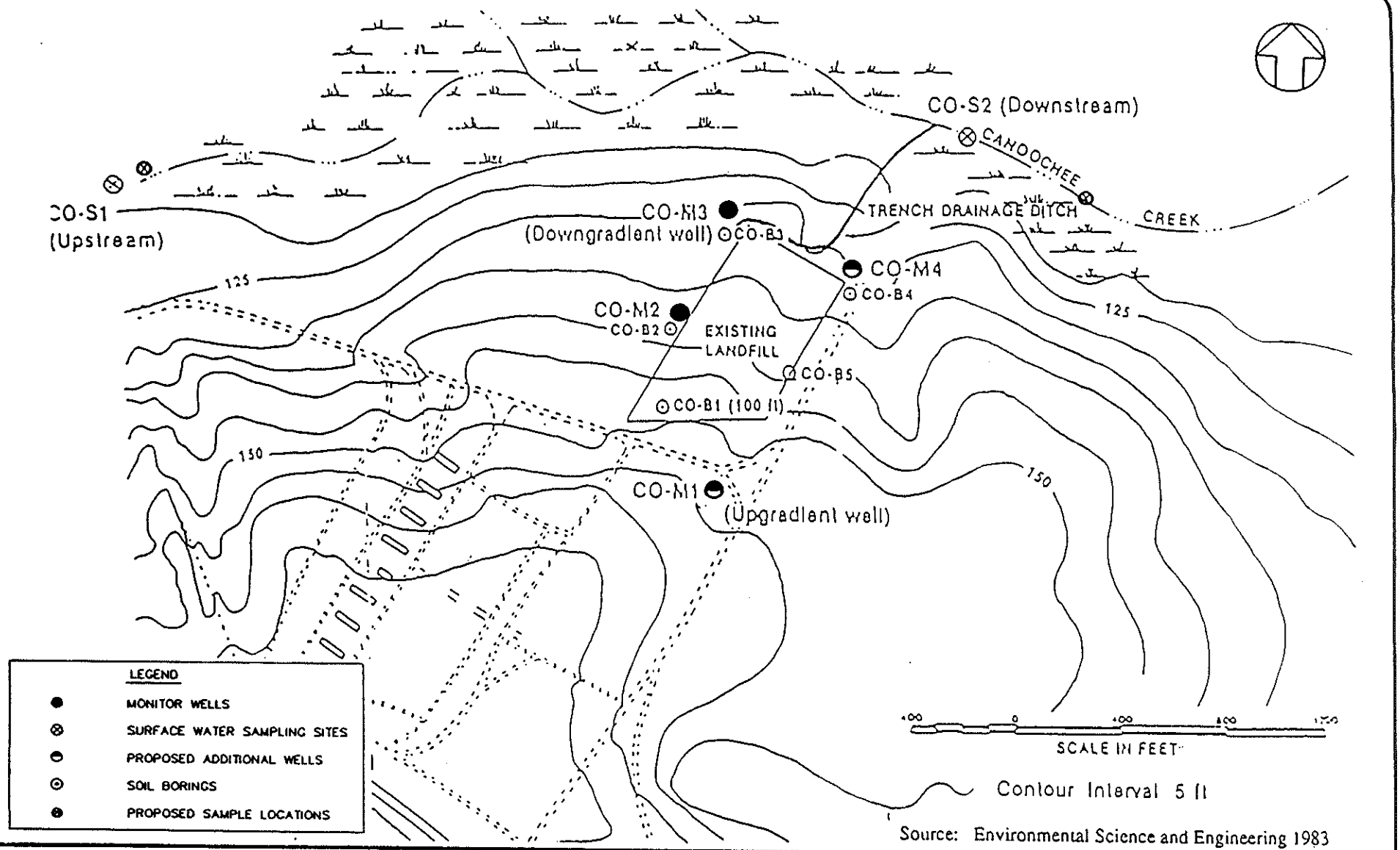
F:\PROJ\TF764\WELLGCM.W51

11. **Water or mud level (specify) prior to grouting and date measured:** A water level measurement was not collected in monitoring well CO-M1 prior to abandonment; however, the water table was at approximately 13 feet bls during drilling of FST-002-MW1, the replacement well for CO-M1, on July 1, 1993.

12. **Remaining casing above ground surface:** There was no 4-inch PVC casing above ground surface after the CO-M1 was abandoned. The 4-inch PVC casing was cut off approximately one foot below land surface. After the grout set, the depression created while removing the concrete pad, grout, and PVC casing (from one foot bls to land surface) was filled in with clean soil and sand.

ATTACHMENT 1

F:\PROJ\TF764\WELLGCM.W51



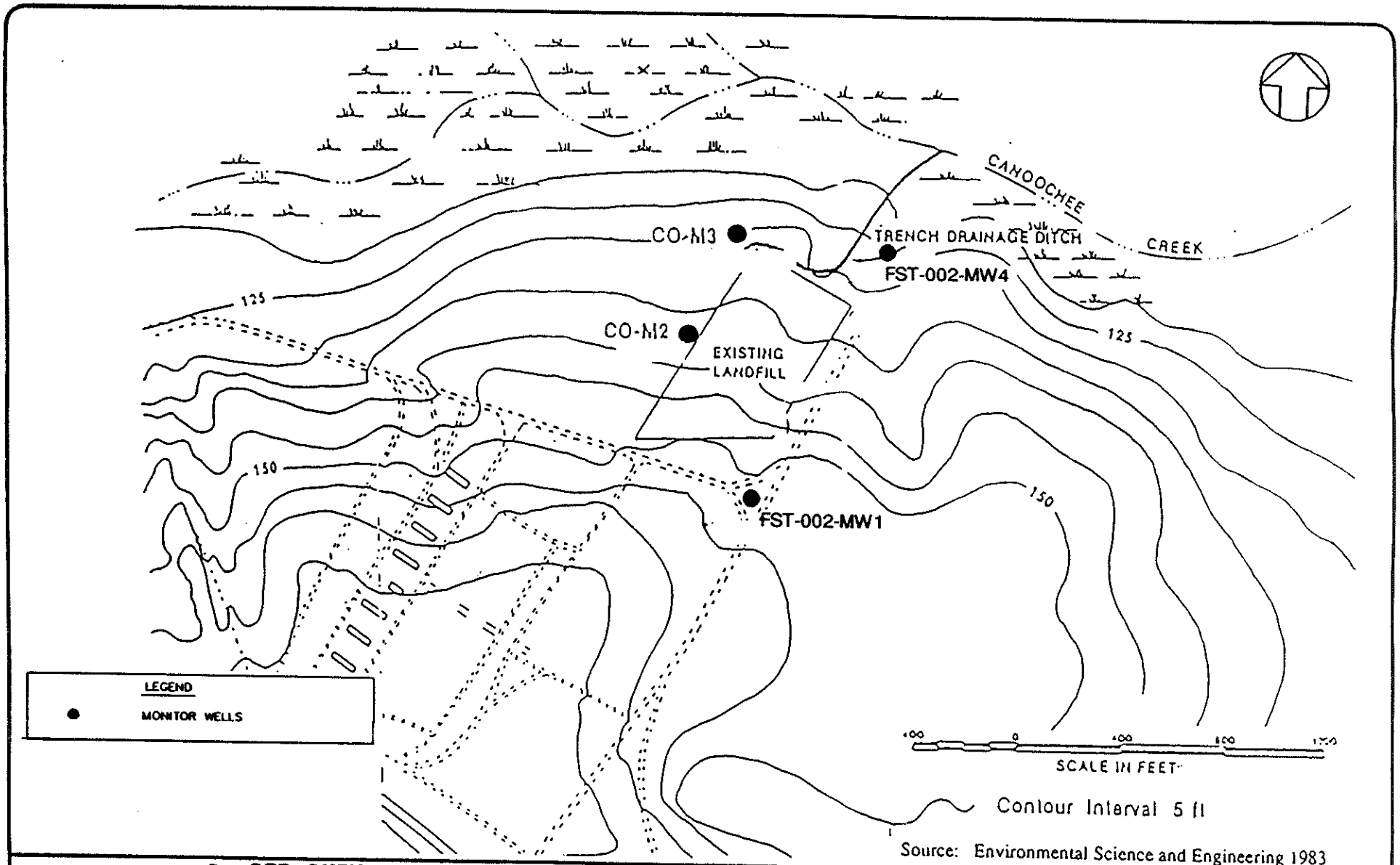
GERAGHTY & MILLER, INC.
Environmental Services
Jacksonville, Florida

U.S. ARMY ENGINEER DISTRICT, SAVANNAH
CORPS OF ENGINEERS
SAVANNAH, GEORGIA

RCRA FACILITY INVESTIGATION
CAMP OLIVER MONITORING WELL & SOIL BORING ELEVATIONS AND LOCATIONS MAP FST-002
FORT STEWART GEORGIA

FIGURE
4.7

G-4



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U.S. ARMY ENGINEER DISTRICT, SAVANNAH
CORPS OF ENGINEERS
SAVANNAH, GEORGIA

RCRA FACILITY INVESTIGATION
CAMP OLIVER MONITOR WELL LOCATION MAP FST-002
FORT STEWART, GEORGIA

FIGURE
2

ATTACHMENT 2

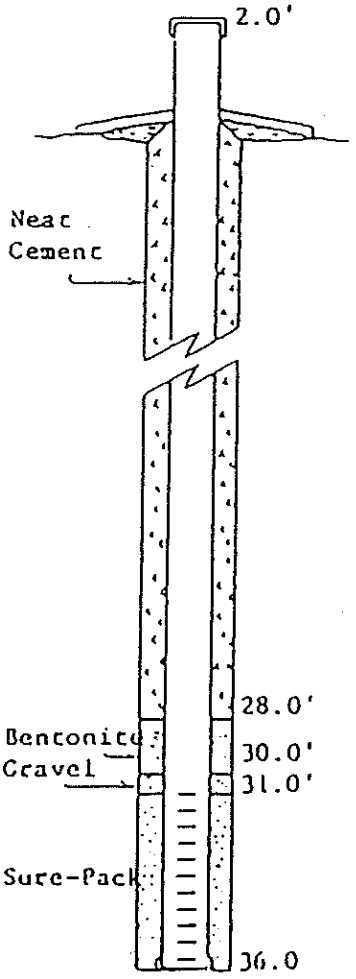
F:\PROJ\TF764\WELLGCM.W51

Hole No. CO-M1

DRILLING LOG	DIVISION: South Atlantic	INSTALLATION: Fort Stewart, GA	SHEET 1 OF 2 SHEETS

1. PROJECT	Fort Stewart RCRA Studies
2. LOCATION (Coordinates or Station)	N756176.22 E608888.74
3. DRILLING AGENCY	Paul N. Clawson
4. HOLE NO. (As shown on drawing title) and title number)	CO-M1
5. NAME OF DRILLER	Paul N. Clawson
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	
8. DEPTH DRILLED INTO ROCK	0'
9. TOTAL DEPTH OF HOLE	50'
10. SIZE AND TYPE OF BIT	9"
11. DATUM FOR ELEVATION SHOWN (TIDE or MSL)	MSL
12. MANUFACTURER'S DESIGNATION OF DRILL	SIMCO
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED / UNDISTURBED	0 / 0
14. TOTAL NUMBER CORE BOXES	
15. ELEVATION GROUND WATER	12.5 @ 24 hrs.
16. DATE HOLE: STARTED / COMPLETED	2/11/80 / 2/13/80
17. ELEVATION TOP OF HOLE	151.27'
18. TOTAL CORE RECOVERY FOR BORING	
19. SIGNATURE OF INSPECTOR	Robert Gregory

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc. if significant) g
	5		Rusty Brown - Clayey fine to medium sand			dry, tough, compacted, hard drilling
			9.0'			
	10		Light Grey - coarse slightly clayey sand			
			13.0'			
	15		Purple - tough plastic clay. Below 15 ft. to 22 ft. with medium to coarse sand (10 to 30%)			
	20					
			24.0'			
	25		White - sandy clay, sand very fine 26.0'			
	30		White to rusty brown - sandy clay, sand very fine, makes up less than 30% of samples 30.0'			



FST-002

Source: Environmental Science and Engineering 1982

DRILLING LOG (Cont Sheet) | ELEVATION TOP OF HOLE 151.27' | Hole No. CO-N1

PROJECT: Fort Stewart RCRA Studies | INSTALLATION: Fort Stewart, GA. | SHEET 2 of 2 SHEETS

ATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV-ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			33.0'			
	35		Light grey - clayey fine to medium sand 35.0'			
	40		Brown to pink - silty sandy clay. silt and extremely fine sand make up 40 to 60% of samples			
	45					
	50					

FST-002

Source: Environmental Science and Engineering 1982

ATTACHMENT 3

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Environmental Services

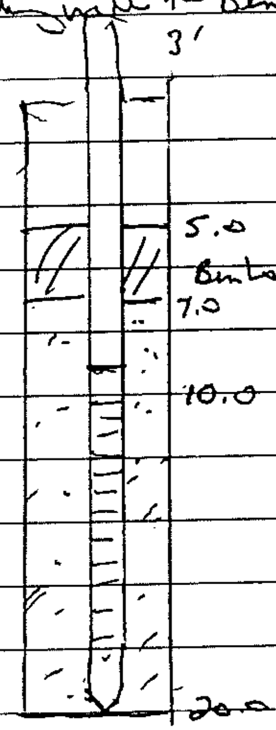
DAILY LOG

Well(s) FST-002-mw1 Project/No. Ft Stewart / TF764.03 Page 23 of 27

Site Location Ft Stewart, GA, FST-002

Prepared By Kathy Thalman (KT)

Date/Time 7/1/93

Date/Time	Description of Activities
	clay has come up in auger & ~~clogged~~ plugged them - removing clay plug
1510	Finished setting well to bentonite (KT)
	
	Wet at approx 13' out
	screen from 10-20
	used 4 bags of sand
	hydrated pellets
1542	Drilling post holes for protective posts at
	~~at~~ FST-002-mw1
	Selected interval 10-12' bls for lab analysis
	directly above wet with highest OVA 0.4 reading
	Collecting IDW soil sample
1630	Drillers left to get gas & ~~hose~~ hose to abandon
	~~Est~~ CO-mw1 - Did paper work
1800	Drillers arrived back on site - beginning to abandon
	CO-mw1

G&M Form 02 6-86 Southprint 89-1256

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Environmental Services

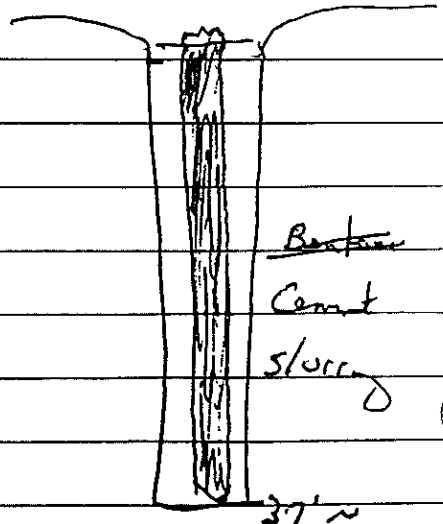
DAILY LOG

Co-mw1 Abandonment
Well(s) Project/No. TF764.03 Page 24 of 2?

Site Location Ft Stewart - Camp Oliver - CO-MW1

Prepared By Kathy Thalman

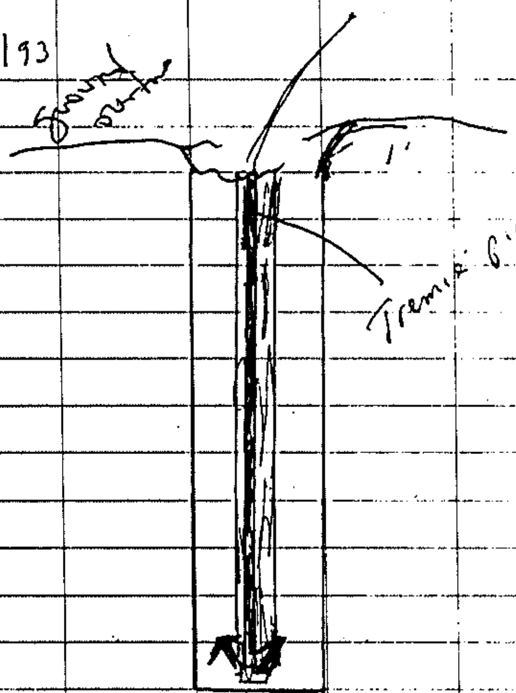
Date/Time	Description of Activities
	cutting casing off approx 1 Ft bg.
	0.165 gal/ft
	X 37 ft
	24+ gallons
~~1815~~ ~~0615~~	Waiting to see if it rains - Thunder & lightning - started raining.
1830	Left Site
1915	Arrived at Hotel.
7/2/93	
0530	Left for Camp Oliver
0633	Arrived at camp oliver (FST-002)
	70's, foggy, calm
	Mixing grout to abandon ~~FST-002~~ CO-MW1
	Bags of portland 3
	~21 gallons of water
	2-3% bentonite added
	pumped from bottom of well up
	using a tremie pipe
	grout displaced water in well
0700	Finished abandoning well



Took ~30 gallons of grout.

G-11

7/2/93



Told drillers to fill in hole with sand & soil

0700 Finished abandoning well – took ~30 gallons of grout.

Ø Drillers cleaning up rig pump – drilling grout holes at FST-002-MW4

7/2/93

Signed 16 on drillers hours

0800 Left site FST-002

0835 Arrived at site FST-014 – Garrett turned over well development equipment

0910 Left to buy ice & supplies

0930 Beginning to set up to develop FST-014-MW1

0950 Toni Nickelson & surveyor visited site: with Garrett Wu.

1000 Visitors left site

Calibrating meters

	STD	Reading
pH	4.0	4.05
	7.0	7.00
SPC	1413	1350
	447.1	480

(34)

7/1/93

1630 Drilling left to get hose to grout & gasoline for rig to abandon CO-MW1
Doing paperwork

1800 Drilling retd - beginning to set up to mix grout
cutting casing off approx 1 ft bls
Will take 24 gallons of grout to fill well
0.65 gal/ft
x 37 ft
24 gallons

1815 Waiting to see if it rains
lightning & thunder in the area

1830 Started to storm left early

1915 Arrived back at hotel -

(35)

Am foggy - cool 70's - calm
Kathy Tholen
Jason Samuels
Robert Holcomb

7/2/93

0530 Left Hotel for Camp Olin

0633 Arrived at camp Olin
(FST-002)
mixing grout to abandon
CO-MW1

Mixed 3 bags of Portland
~21 gallons of water
2-3% bentonite.

Grout pumped from bottom of
monitoring well to surface using
tremie pipe method.
grout displaced the water in well -
pumped until grout at top of
monitoring well

7/1/93

1038 Moved rig forward ~4' and collected additional 3' split spoon for split & chem samples. Finished sampling & collecting IDW samples. Moved rig to FST-002-MW1

1130 Drilling broke for lunch

1200 Began drilling FST-002-MW1

1400 Clay kt plugging in auger had to pull out 15' of augers & replace lead auger

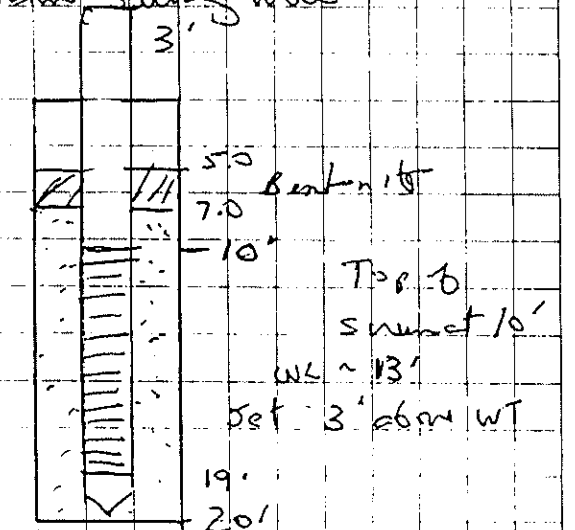
1500 Collected split spoon to 20' beginning to set well

1510 Clay in augers again — plugging them — removed augers to remove plug.

7/1/93

~~well open~~ kt

1510 Finished setting well



used 4 bags of sand

1542 Drilling post holes for protective posts at FST-002-MW1
Selected 10-12' interval for lab analyses - clean 60 mm WT & kt highest OVA reading.
Collecting IDW soil samples

Appendix G2

Water Level Elevation Data

WATER ELEVATIONS
SWMU2(FST-002)
CAMP OLIVER LANDFILL
NOVEMBER 16, 1993

WELL ID	TOC ELEVATION	DEPTH TO WATER	WATER LEVEL ELEVATION
CO-M1	100.89	21.94	78.95
CO-M2	87.95	16.01	71.94
CO-M3	75.48	6.88	68.60
CO-M4	76.92	6.12	70.80

NOTES:

TOC = Top of Casing

Fort Stewart RFI

Dec. 1993 Survey

	El. Top of Riser
FST-001	
MW-1	60.71
MW-2	66.69
MW-3	52.52
MW-4	56.09
MW-5	69.41
MW-6	69.55
FST-002*	
MW-1	100.89
MW-2	87.95
MW-3	75.48
MW-4	76.92
FST-003**	
MW-1	100.68
MW-2	98.43
MW-3	95.46
MW-4	94.69

* Assummed elevation of 100' for TBM (nail in telephone pole)

** Assummed elevation of 100' for TBM (nail in tree)

readings

WATER LEVEL ~~ELEVATIONS~~

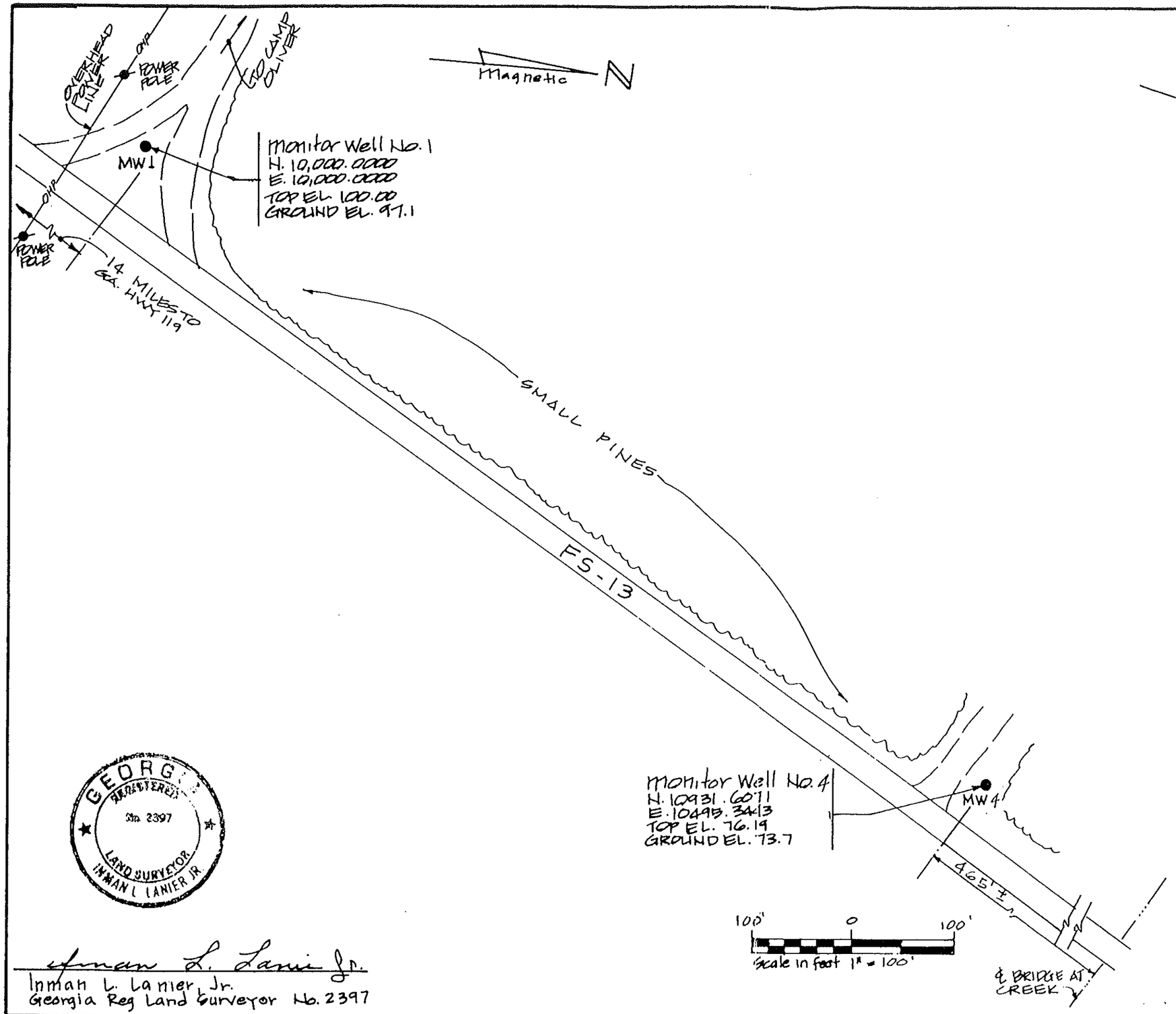
SITE NAME	DEPTH TO WATER (ft.)	TOP OF RISER (ft) (height)	DATE	WL Elev.
South Central Landfill				
FST-001-SCM1	8.32	3.50	10/05/93	
FST-001-SCM2	9.45	0.75	10/05/93	
FST-001-SCM3	0.00	0.75	10/05/93	
FST-001-SCM4	3.17	0.75	10/05/93	
FST-001-SCM5	10.10	0.75	10/05/93	
FST-001-SCM6	11.52	3.50	10/05/93	
Camp Olivier Landfill				
FST-002-MW1	21.94	2.70	11/16/93	78.95
FST-002-MW2	16.01	2.00	11/16/93	71.94
FST-002-MW3	6.88	2.45	11/16/93	68.60
FST-002-MW4	6.12	2.50	11/16/93	70.80
Tac-X Landfill				
FST-003-MW1	11.96	2.40	11/17/93	
FST-003-MW2	10.65	2.00	11/17/93	
FST-003-MW3	7.90	2.60	11/18/93	
FST-003-MW4	6.72	2.40	11/17/93	
Burn Pits				
FST-004A-MW1	10.39	2.80	08/21/93	
FST-004A-MW2	10.49	2.65	08/21/93	
FST-004A-MW3	9.80	2.50	08/21/93	
FST-004A-MW4	12.20	2.82	08/21/93	
FST-004B-MW1	13.33	2.46	08/22/93	
FST-004B-MW2	10.35	2.10	08/22/93	
FST-004B-MW3	11.44	2.75	08/22/93	
FST-004B-MW4	14.95	2.75	08/22/93	
FST-004C-MW1	5.78	3.05	11/09/93	
FST-004C-MW2	4.58	3.03	11/09/93	
FST-004C-MW3	4.72	2.61	11/10/93	
FST-004C-MW4	7.29	2.88	11/10/93	
FST-004D-MW1	9.55	3.27	07/30/93	
FST-004D-MW2	10.12	3.50	07/30/93	
FST-004D-MW3	9.84	3.00	07/30/93	
FST-004D-MW4	7.96	3.15	07/30/93	
FST-004E-MW1	13.72	2.80	08/19/93	
FST-004E-MW2	13.82	2.92	08/19/93	
FST-004E-MW3	13.39	2.95	08/19/93	
FST-004E-MW4	13.30	3.00	08/19/93	
FST-004F-MW1	16.14	2.90	08/20/93	
FST-004F-MW2	13.63	3.10	08/20/93	
FST-004F-MW3	18.03	2.90	08/20/93	
FST-004F-MW4	17.50	2.60	08/20/93	
Old Fire Training Pit				
FST-014-MW1	11.70	2.45	07/28/93	
FST-014-MW2	11.40	2.50	07/28/93	
FST-014-MW3	11.02	3.00	07/28/93	
FST-014-MW4	12.97	2.50	07/28/93	

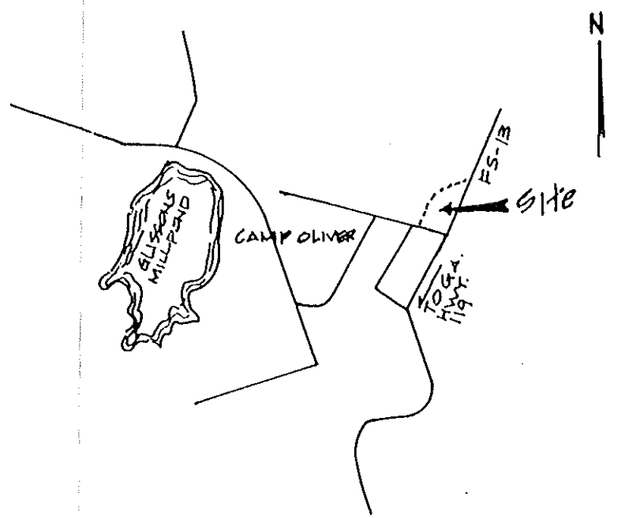
WATER LEVEL ELEVATIONS
Temporary Monitoring Well Readings

SITE NAME	DEPTH TO WATER (ft.)	TOP OF RISER (ft) height	DATE
86 Waste Oil Tanks			
FST-025-4A	11.11	2.37	10/14/93
FST-025-4AA	14.64	3.78	11/09/93
FST-025-56	13.12	5.45	10/14/93
FST-025-64	12.63	4.83	09/02/93
FST-025-64A	-	3.65	09/03/93
FST-025-67	5.07	0.65	10/25/93
FST-025-70	17.95	0.75	10/25/93
FST-025-94	5.07	0.65	10/25/93
FST-025-94B	9.11	2.38	09/02/93
FST-025-94C	-	1.47	09/02/93
FST-025-100A	14.25	2.00	09/02/93
FST-025-100B	8.90	1.34	09/02/93
FST-025-214	8.21	0.80	10/17/93
FST-025-215	12.25	3.75	10/17/93
FST-025-220	10.85	3.20	10/13/93
FST-025-232	10.60	3.15	10/13/93

SURVEY ELEVATIONS FOR MONITORING WELLS INSTALLED
AT THE BURN PITS (FST-004A - FST-004F), CAMP OLIVER
LANDFILL (FST-002), AND THE OLD FIRE TRAINING PIT (FST-014)
FT. STEWART, GEORGIA

Monitoring Well	Top of PVC Casing (ft TBM)	Top of Steel Casing (ft TBM)	Top of Concrete (ft TBM)	Ground surface (ft TBM)
FST-014-MW1	88.32	88.22	85.9	85.6
FST-014-MW2	87.6	87.53	85.32	85
FST-014-MW3	88.46	88.39	85.91	85.3
FST-014-MW4	87.69	87.66	85.17	84.8
FST-004A-MW1	70.41	70.41	68.01	67.6
FST-004A-MW2	70.38	70.36	67.96	67.6
FST-004A-MW3	69.53	69.54	67.14	66.6
FST-004A-MW4	71.53	71.55	68.97	68.5
FST-004B-MW1	79.95	79.84	77.58	77.2
FST-004B-MW2	77.16	77.18	74.95	74.9
FST-004B-MW3	78.34	78.31	75.67	75.6
FST-004B-MW4(b)	81.55	81.64	78.65	78.5
FST-004C-MW1	73.81	73.79	71.29	70.8
FST-004C-MW2	73.34	73.34	70.71	70.3
FST-004C-MW3	74.75	74.95	72.42	71.9
FST-004C-MW4	74.92	74.87	72.32	71.9
FST-004D-MW1	73.08	73.06	70.24	69.9
FST-004D-MW2	74.45	74.45	71.45	71.1
FST-004D-MW3	73.47	73.5	71.06	70.5
FST-004D-MW4	71.48	71.51	68.94	68.6
FST-004E-MW1	73.78	73.81	71.16	70.9
FST-004E-MW2	76.91	76.86	74.11	73.8
FST-004E-MW3	78.49	78.5	75.65	75.1
FST-004E-MW4	76.14	76.1	73.51	73.2
FST-004F-MW1	38.25	38.25	35.74	35.2
FST-004F-MW2	35.78	35.7	33.24	32.7
FST-004F-MW3	38.95	38.85	36.78	36.4
FST-004F-MW4	40.35	40.39	37.82	37.5
FST-002-MW1	100.89	NA	NA	NA
FST-002-MW4	76.92	NA	NA	NA





Location Map
Scale: 1"=2000'

Note:
Elevations & Coordinates shown are Assumed.

Legend:

Symbol	Description
● MW1	Monitor Well Location
~~	Tree Boundary
—— OHP ——	Overhead Power line

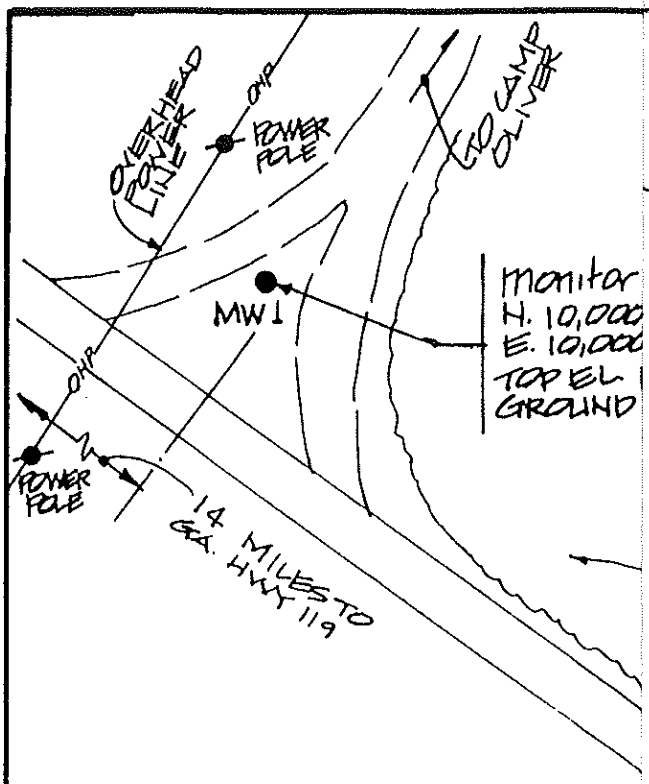
GEORGIA REGISTERED No. 2397 LAND SURVEYOR INMAN L LANIER JR.

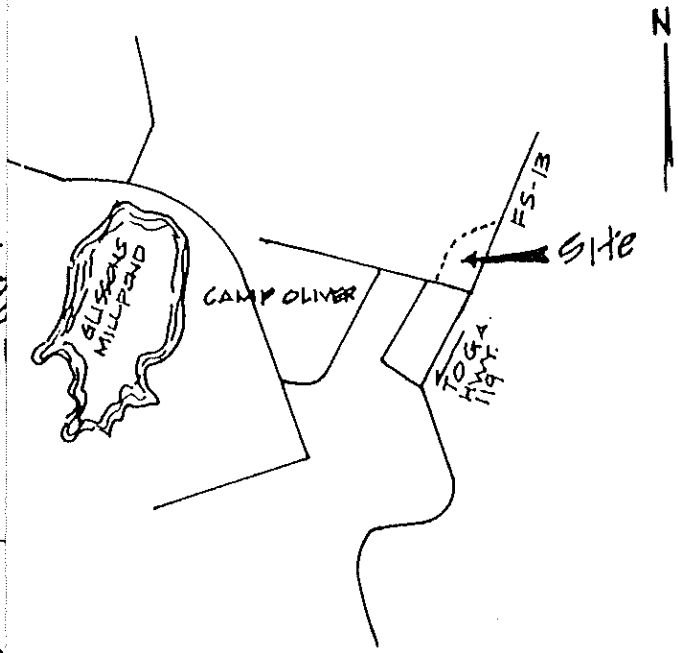
Inman L. Lanier Jr.
Inman L. Lanier, Jr.
Georgia Reg Land Surveyor No. 2397

FST-002
Monitor Well Locations "Camp Oliver" Fort Stewart, Georgia for Geraghty & Miller, Inc.

Date: Aug. 18, 1993 Job No. 93-199
Drawn: A.L. Ch'kd: I.L.L. Scale: 1"= 100'

Lanier Land Surveying, Inc.
Ph. 912-756-4366 Richmond Hill, Ga.





Location Map
Scale: 1" = 2000'

Note:
Elevations & Coordinates shown are Assumed.

Legend:

Symbol	Description
● MW1	Monitor Well Location
~~	Tree Boundary
—— OHP ——	Overhead Power line

FST-002
Monitor Well Locations
"Camp Oliver"
Fort Stewart, Georgia
for
Geraghty & Miller, Inc.

GEORGIA REGISTERED No. 2397 LAND SURVEYOR INMAN L. LANIER JR.

Inman L. Lanier, Jr.
Georgia Reg Land Surveyor No. 2

Date: Aug. 18, 1993 Job No. 93-199
Drawn: A.L. Ch'kd: I.L.L. Scale: 1" = 100'

Lanier Land Surveying, Inc.
Ph. 912-756-4366 Richmond Hill, Ga.

Appendix G3

Horizontal Hydraulic Gradient Calculations

HORIZONTAL HYDRAULIC GRADIENT CALCULATIONS
SWMU2 - CAMP OLIVER LANDFILL
FORT STEWART, GEORGIA
NOVEMBER 16, 1993

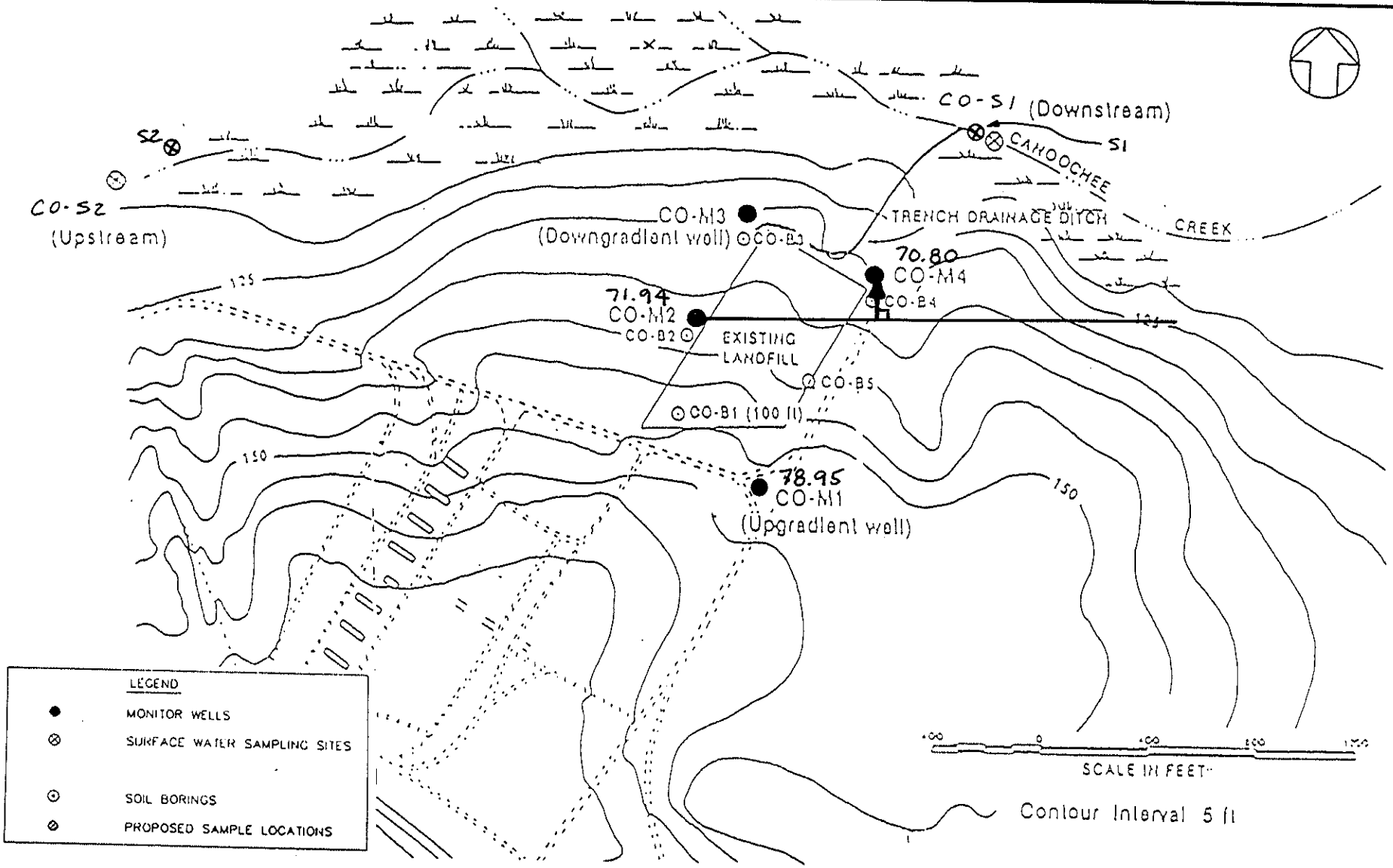
ID	WATER LEVEL ELEVATION
M1	78.95 HIGH
M2	71.94 MIDDLE
M4	70.80 LOW

$$\frac{78.95 - 71.94}{X} = \frac{78.95 - 70.80}{840}$$

$$X = 722$$

$$\frac{71.94 - 70.80}{131} = 0.0087 \text{ ft/ft gradient}$$

Ground-water flow direction is north.



G-22

SOURCE:
GERAGHTY & MILLER, INC., 1993

RUST ENVIRONMENT & INFRASTRUCTURE

HORIZONTAL HYDRAULIC GRADIENT

SWMU-2 (FST-002)

CAMP OLIVER LANDFILL, FORT STEWART, GEORGIA

PROJECT NO. 87528.000

Appendix G4

Monitoring Well, Soil Boring and Monitoring Well Development Logs and Photographs

Geraghty & Miller, Inc. Environmental Consultants 14497 N Dale Mabry Hwy, Suite No. 200 Tampa, FL 33618 Phone (813) 961-1921 Fax (813) 963-1447	**Log of Well FST-002-MW1** Ft. Stewart RFI, Ft. Stewart, GA U.S. Army Corps of Engineers Contract No. DACA21-90-C-0079	**Sheet 1 of 1** **Job Number:** TF0764.003 **Elevation:** 100.89ft (TOC rel.toTBM)

Driller: Layne Environmental Services - X. Samuel	**Drilling**	**Date**	**Time**
Drill Method: 8" Hollow Stem Auger - Mobile B-57	**Started**	7/1/93	12:00
Sample Method: Split Spoon	**Finished**	7/1/93	15:10
Borehole Diameter: 8 in. **Water Level:** 13 ft. BGS	**Logged By:** Katherine Thalman	**Checked By:** G. Weiss, PG	6-24

Sample No.	Blow Counts	OVA Unfiltered	OVA Filtered
SL1-2	15/18 11/14	<0.1	<0.1
SL1-4	18/20 15/11	<0.1	<0.1
SL1-6	13/20 31/28	<0.1	<0.1
SL1-8	17/18 19/20	0.4	0.2
SL1-10	7/14 16/18	<0.1	<0.1
SL1-12*	3/9 13/15	0.4	0.4
SL1-14	10/12 13/15	<0.1	<0.1
SL1-16	5/8 9/7	0.5	0.2
SL1-18	7/8 9/10	<0.1	<0.1
SL1-20	8/9 7/11	<0.1	<0.1

Depth (feet): 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24

Graphic Log

Materials Description

Ground Elevation is not available.

Silty clayey SAND, poorly sorted; light brown (5YR5/6); dry; roots; (SC-SM)

Silty SAND, medium to fine, mod. sorted; trace clay; dark yellowish brown (10YR4/2); dry; medium dense. (SM)

Silty clayey SAND, fine to coarse; mod. sorted; not sticky; light brown (5YR5/6); moist @ 3'; dense. (SC-SM)

Same as above, mod. reddish brown to grayish orange (10YR4/6,10YR7/4); very dense. (SC-SM)

Same as above, medium dense. (SC-SM)

Same as above, mod. reddish to dark yellowish brown (10R4/6,10YR6/6); moist; (SC-SM)

Same as above, trace fine gravel; medium dense. (SC-SM)

Same as above, wet @ 13'. (SC-SM)

Same as above. (SC-SM)

Same as above, mod. reddish brown (10YR4/6); very dense. (SC-SM)

Same as above, mod.reddish brown to yellowish gray to mod./dusky red (10YR4/6,5Y8/1,5R5/4,5R3/4), (SC-SM), over

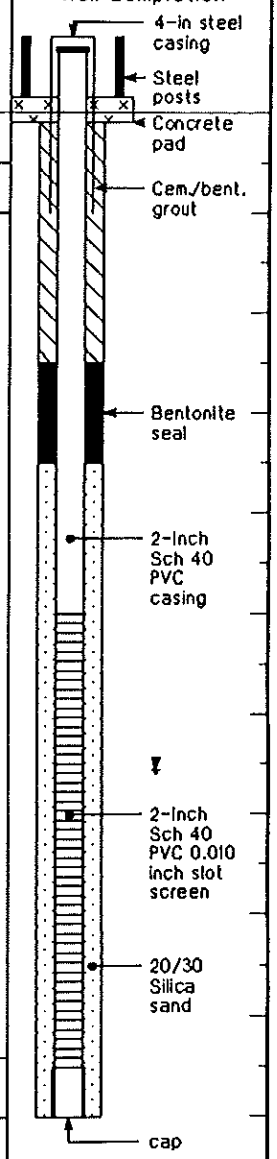
Silty CLAY with sand; yellowish gray to mod. red to dusky red (5Y8/1,5R5/4,5R3/4); firm; plastic. (CL)

Bottom of boring at 20 feet.

NOTES:

1. Second code in Sample No. indicates the sampling depth.
2. Sample marked with (*) is taken for chemical analyses: VOC, RCRA metals, SPC, and pH.
3. TBM is Topographic Bench Mark provided by USACE.
4. TOC is Top of PVC Casing.

Well Completion

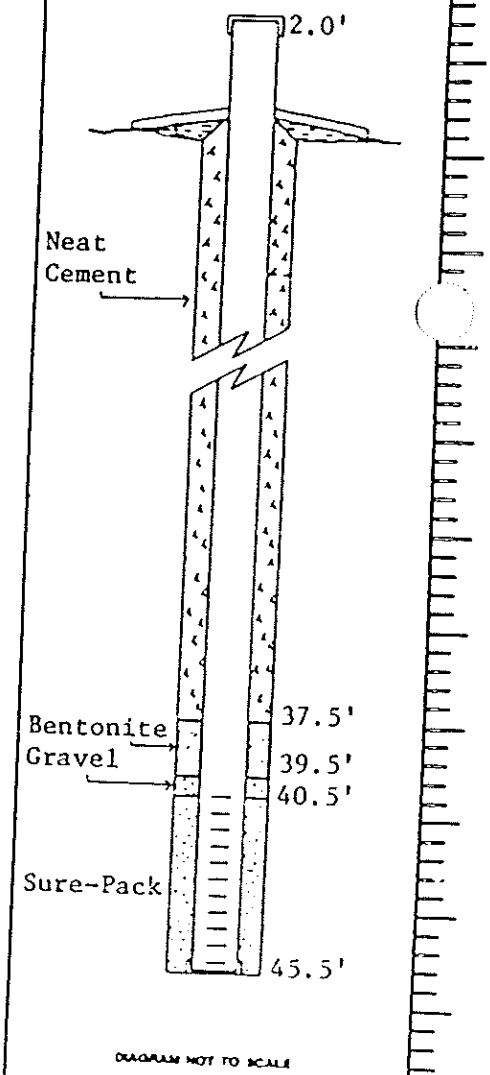


Hole No. CO-M2

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS
	South Atlantic	Fort Stewart, GA	

1. PROJECT	Fort Stewart RCRA Studies
2. LOCATION (Coordinates or Station)	N754755.01 E608897.65
3. DRILLING AGENCY	Paul N. Clawson
4. HOLE NO. (As shown on drawing title and file number)	CO-M2
5. NAME OF DRILLER	Paul N. Clawson
6. DIRECTION OF HOLE	☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.
7. THICKNESS OF OVERBURDEN	
8. DEPTH DRILLED INTO ROCK	0'
9. TOTAL DEPTH OF HOLE	50'
10. SIZE AND TYPE OF BIT	9"
11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	MSL
12. MANUFACTURER'S DESIGNATION OF DRILL	SIMCO
13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED 0 / UNDISTURBED 0
14. TOTAL NUMBER CORE BOXES	
15. ELEVATION GROUND WATER	
16. DATE HOLE	STARTED 2/14/80 / COMPLETED 2/17/80
17. ELEVATION TOP OF HOLE	136.97'
18. TOTAL CORE RECOVERY FOR BORING	%
19. SIGNATURE OF INSPECTOR	Robert Mennie

ELEVATION (a)	DEPTH (b)	LEGEND (c)	CLASSIFICATION OF MATERIALS (Description) (d)	% CORE RECOVERY (e)	BOX OR SAMPLE NO. (f)	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) (g)
			See soil boring log CO-B2			



Hole No. CO-M3

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Fort Stewart, GA
	SHEET 1 OF 1 SHEETS
1. PROJECT: Fort Stewart RCRA Studies	10. SIZE AND TYPE OF BIT: 9"
2. LOCATION (Coordinates or Station): N755318.55 E609187.01	11. DATUM FOR ELEVATION SHOWN (TBM or MSL): MSL
DRILLING AGENCY: Paul N. Clawson	12. MANUFACTURER'S DESIGNATION OF DRILL: SIMCO
4. HOLE NO. (As shown on drawing title and file number): CO-M3	13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED 0 / UNDISTURBED 0
5. NAME OF DRILLER: Paul N. Clawson	14. TOTAL NUMBER CORE BOXES
6. DIRECTION OF HOLE: ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.	15. ELEVATION GROUND WATER: 3.25' @ 24 hrs.
7. THICKNESS OF OVERBURDEN	16. DATE HOLE: STARTED 2/18/80 / COMPLETED 2/21/80
8. DEPTH DRILLED INTO ROCK: 0'	17. ELEVATION TOP OF HOLE: 124.55'
9. TOTAL DEPTH OF HOLE: 30'	18. TOTAL CORE RECOVERY FOR BORING: %
	19. SIGNATURE OF INSPECTOR: Robert Clawson

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	5		Brown - clayey fine to medium sand, 10 to 20% clay, color changed to grey-brown at 5 ft. 6.0'			
	10		Light grey - clayey fine sand, clay 20 to 30% 14.0'			
	15		Rust brown - clayey silty fine to medium sand 19.5'			
	20		Light grey silty, sandy clay top 2 ft. plastic 23.0'			
	25		Light grey-fine to coarse sand, clay less than 5% 26.0'			
	30		Light grey - clayey silty fine to coarse sand, 20 to 30% clay			

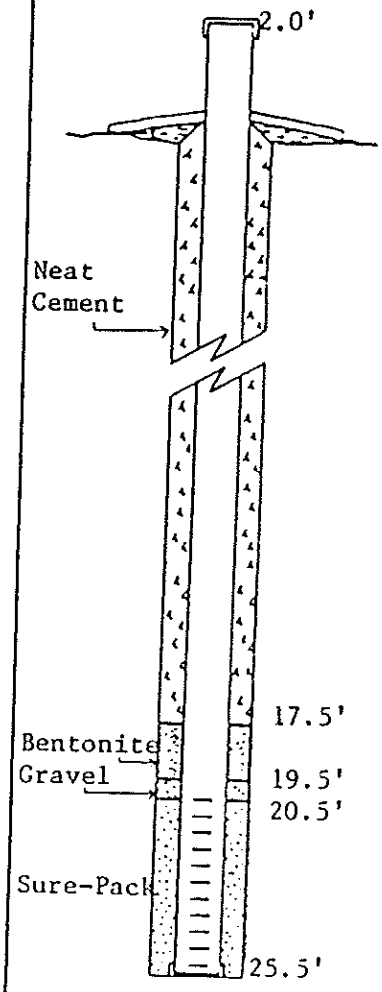


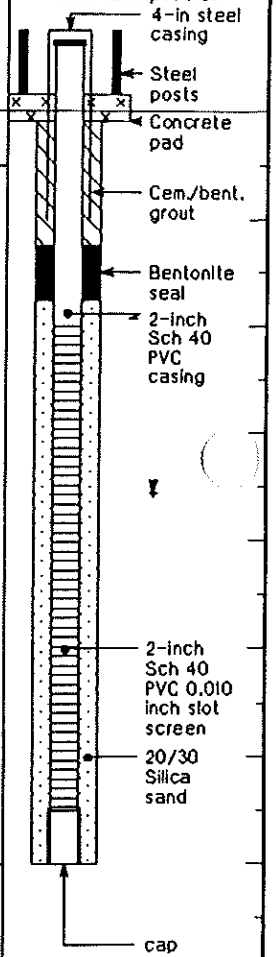
DIAGRAM NOT TO SCALE

Geraghty & Miller, Inc. Environmental Consultants 14497 N Dale Mabry Hwy, Suite No. 200 Tampa, FL 33618 Phone (813) 961-1921 Fax (813) 963-1447	**Log of Well FST-002-MW4** Ft. Stewart RFI, Ft. Stewart, GA U.S. Army Corps of Engineers Contract No. DACA21-90-C-0079	**Sheet 1 of 1** **Job Number:** TF0784.003 **Elevation:** 76.92ft (TOC rel.toTBM)

Driller: Layne Environmental Services - X. Samuel	**Drilling**	**Date**	**Time**
Drill Method: 8" Hollow Stem Auger - Mobile B-57	**Started**	7/1/93	08:30
Sample Method: Split Spoon	**Finished**	7/1/93	10:30
Borehole Diameter: 8 in. **Water Level:** 7 ft. BGS	**Logged By:** Katherine Thalman	**Checked By:** G. Weiss, PG GW	

Sample No.	Blow Counts	OVA Unfiltered	OVA Filtered	Depth (feet)	Graphic Log	Materials Description
						Ground Elevation is not available.
SL4-2	4/12 8/8	0.2	<0.1			Silty SAND, medium to fine, well sorted; trace clay; dark yellowish brown (10YR4/2); (SM)
				2		Silty clayey SAND, poorly sorted; very friable, not sticky; light brown (5YR5/8); medium dense. (SC-SM)
SL4-4	5/7 9/8	0.1	<0.1			Same as above, mod. sorted. (SC-SM)
				4		Same as above, mod. sorted; pale yellowish brown to mod. red (10YR6/2,5R4/6); (SC-SM)
SL4-8	11/13 18/17	<0.1	<0.1			
				6		Same as above, mod. yellowish brown to yellowish gray (10YR4/6,5Y8/1); moist; (SC-SM)
SL4-8*	8/10 18/15	0.2	<0.1			
				8		Same as above. (SC-SM)
SL4-10	5/8 8/10	0.8	0.3			
				10		Same as above, yellowish gray to light brown to very dark red (5Y8/1 ,5YR5/8,5R2/8), loose. (SC-SM)
SL4-12	2/3 4/8	1.8	0.4			
				12		Silty CLAY with sand; firm; yellowish gray to grayish red to light brown to moderate reddish orange (5Y8/1,10R4/2,5YR/5/8,10R6/8). (CL)
SL4-14	n/a	0.1	<0.1			
				14		*Bottom of boring at 14 feet.*
				16		
				18		
				20		
				22		

Well Completion



NOTES:

1. Second code in Sample No. indicates the sampling depth.
2. Sample marked with (*) is taken for chemical analyses: VOC, RCRA metals, SPC, and pH.
3. TBM is Topographic Bench Mark provided by USACE.
4. TOC is Top of PVC Casing.

WELL DEVELOPMENT SUMMARY

Project Name/No.: TF76403 Well: FST002 MW1

County/State: Evans Co / Georgia KT Site I.D.: FST-002 KT

Client: FT Stewart Prepared By: M G Moser

Screen: 10 ft Date Installed: 7/1/93 Started 1200 Completed 1510

Method/Equipment: Centrifugal pump / bailer

KT 8/3/93

Static DTW 23.5 ~~18.54~~ Pumping DTW ~~23.5~~ dry (KT) (ft below MP)

Pumping Rate: 1/2 qt/min then bailed gpm Pumping Duration: 2 hr

Specific Capacity ______ gpm/ft

Water Removed During Development 11 gallons

Water Quality and Observations

Flow	Volume	Date	Time	pH	SC	Temperature (°C)	Visual	Turbid NTUs
	Initial	7-17-93	9:50	5.68	90	44	Tan	98
1/2 qt/min	4.5	7-17-93	10:20	5.57	80	37	Clear	5
same	9.0	7-17-93	10:50	5.43	80	44	Slightly Turbid	22
Bail dry	9.5	7-17-93	12:00	5.31	70	23	Slightly Cloudy	68
Bailer	10	7-17-93	12:15	5.33	70	22	Clear	15
Bailer	10.5 gal	7-17-93	12:30	5.20	70	22	Clear	10
Bailer	11.0 gal	7-17-93	12:45	5.22	70	22	Clear	8

STARTED TO BAIL

Sample

Date	Time	pH	SC	Temperature (°C)	Visual
7-17-93	12:45	5.22	70	22	Clear

KT 8/3/93

Nephlemetric Turbidity: 8 NTUs

Remarks: ______

WELL DEVELOPMENT SUMMARY

Project Name/No.: TF76403 Well: FST002 MW4

County/State: Evans Co, Georgia Site I.D.: FST-002

Client: Ft Stewart Prepared By: [signature]

Screen: 10ft Date Installed: 7/1/93 Started 0830 Completed 1030

Method/Equipment: 1" centrifugal, 1/4 drop tube

TOW 11.00

Static DTW 9.41 Pumping DTW bottom of well pumps dry (ft below MP)

Pumping Rate: .25-.5 gpm (well pumps dry) Pumping Duration: 2 h

Specific Capacity _____ gpm/ft

Water Removed During Development 55 gallons

Water Quality and Observations

Flow(gpm)	Volume (gal)	Date	Time	pH	SC	Temperature (°C)	Visual	Turb NTUs
.5	Initial	7-17-93	8:45	4.93	60	32	brown coffee	>100
.25		7-17-93	9:00	5.24	60	29	clear	17
.25		7-17-93	9:40	5.27	60	30	Clear	5
.50		7-17-93	10:00	5.25	50	30	clear	6
.50	45gal	7-17-93	10:40	5.19	50	26	Clear	8
.50	55	7-17-93	11:00	5.19	60	31	clear	6

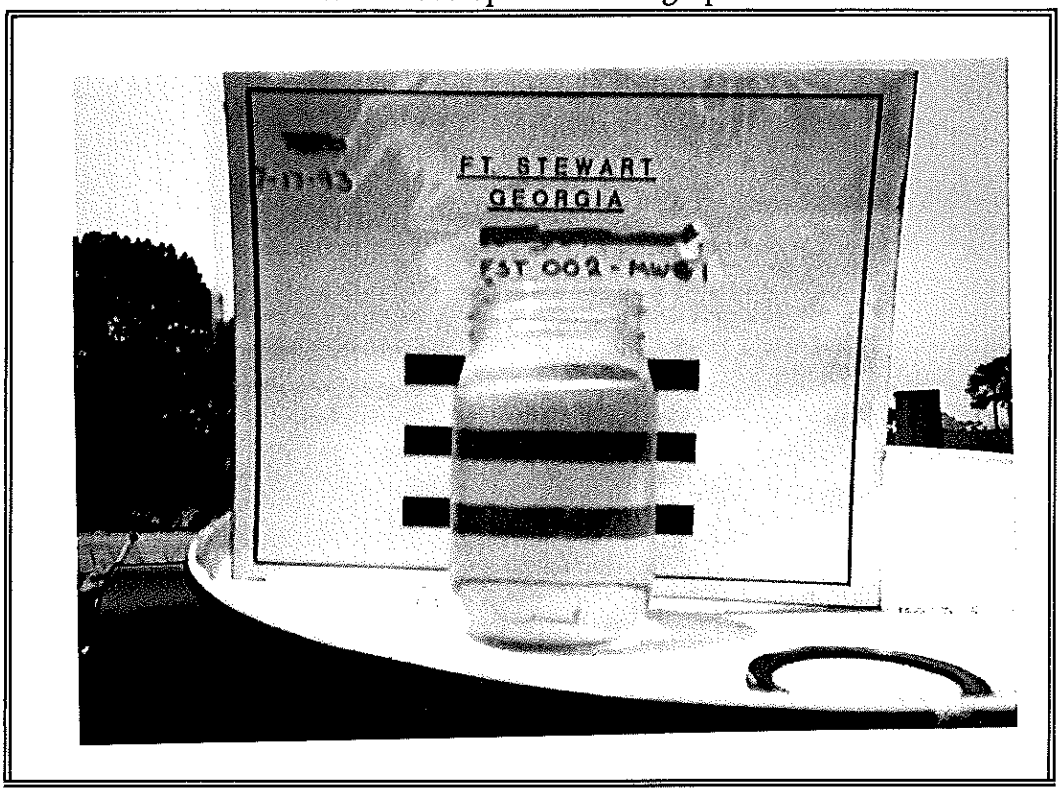
Sample

	Date	Time	pH	SC	Temperature (°C)	Visual
KS 8/4/93	7-17-93	11:00	5.19	60	31	Clear

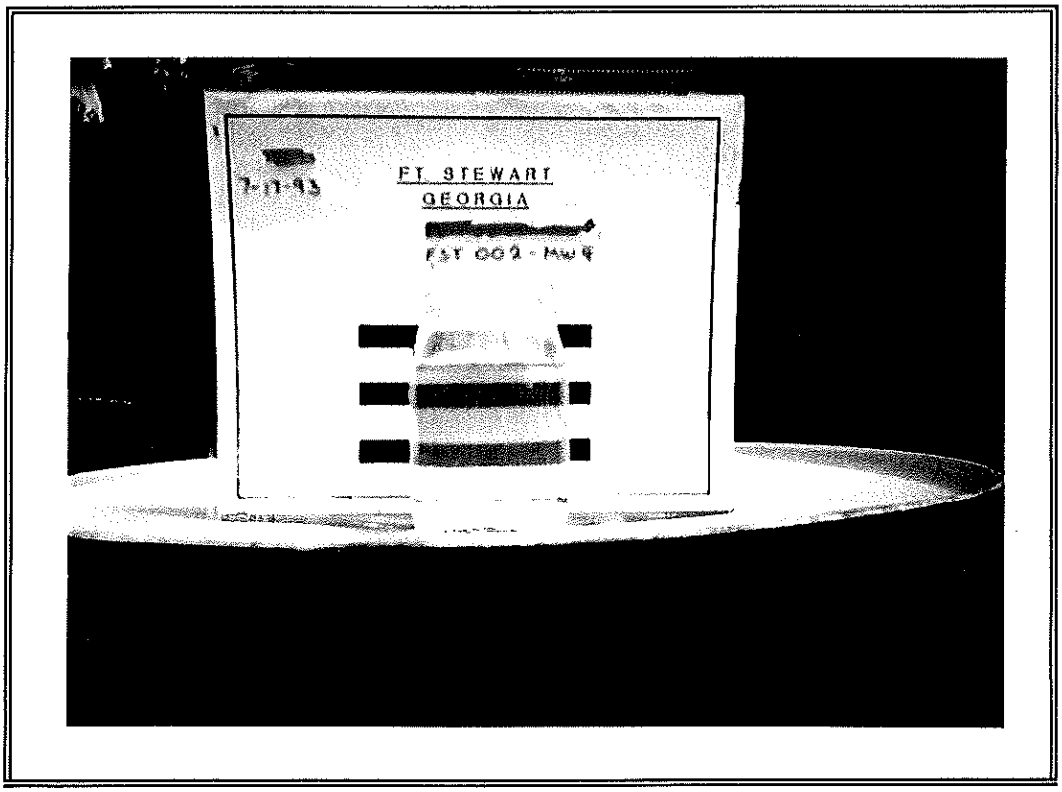
Nephlemetric Turbidity: 6 NTUs

Remarks: _____

Ft. Stewart, Georgia
Camp Oliver Landfill, FST-002
Well Development Photographs



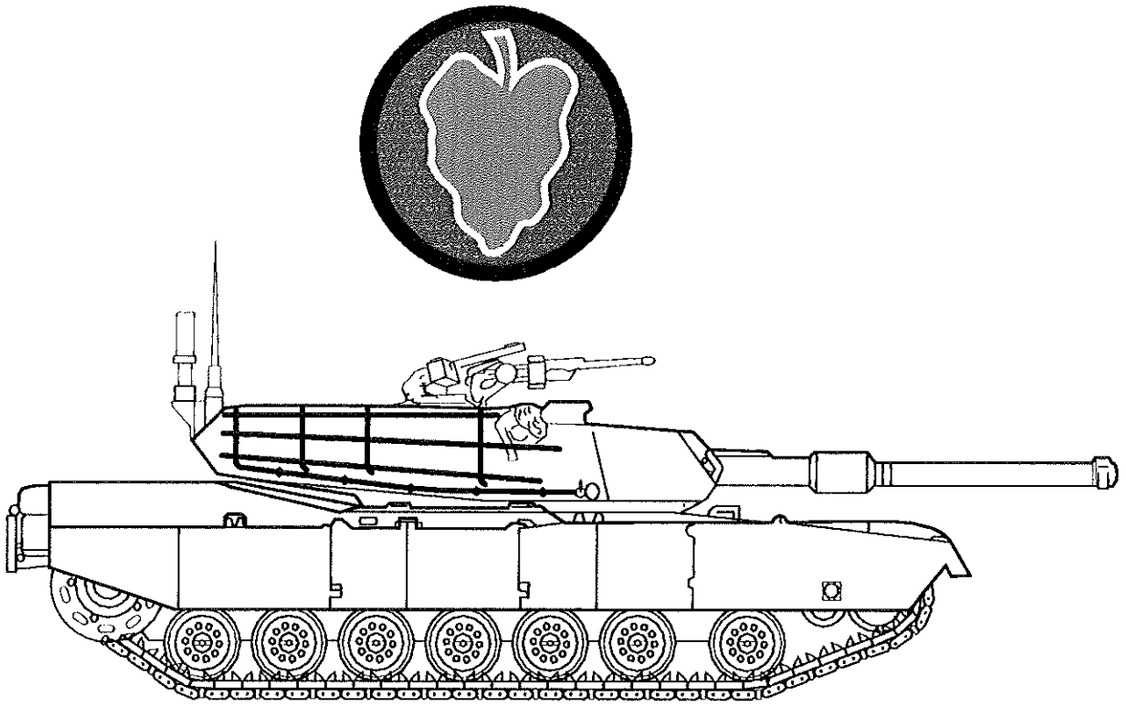
Monitor Well FST-002-MW1



Monitor Well FST-002-MW4

Corrected Final
Phase I RCRA Facility Investigation Report
For 24 Solid Waste Management Units
At Fort Stewart, Georgia

Volume III of III



May 1996

Job No. 87528.000

Prepared For

US Army Corps of Engineers
Savannah District

Prepared By

RUST ENVIRONMENT & INFRASTRUCTURE

CORRECTED FINAL

PHASE I
RCRA FACILITY INVESTIGATION REPORT
FOR 24 SOLID WASTE MANAGEMENT UNITS
AT FORT STEWART, GEORGIA
VOLUME III OF III

Prepared For

UNITED STATES ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT

Contract DACA21-93-D-0029
Delivery Order 0005
Rust Project No. 87528.000
May 1996

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12/06/93

Ms. Toni Nicholson
Corps of Engineers
PO Box 889
Savannah, GA 31402

Dear Ms. Nicholson:

The following are the results of the parameters you requested we check on your FST-002 samples listed below.

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 10/06/93 In House # 10-6929-93 Source: MW1-10-93 Location: FT.STEWART							
Metals Sample Preparation - water	MCB	10/19/93	19:00	0.000		0.00	
Pesticide - water extraction	MR	10/11/93	15:00	0.000		0.00	
PCB - water extraction	MR	10/11/93	15:00	0.000		0.00	
Arsenic - liquid	CW	10/22/93	08:25	< 5.000	ug/l	5.00 ug/l	206.2
Selenium - Liquid	CW	10/22/93	18:54	< 5.000	ug/l	5.00 ug/l	270.2
Barium - Liquid	CMP	10/25/93	16:30	< 0.050	mg/l	0.05 mg/l	200.7
Cadmium - Liquid	CMP	10/25/93	16:30	< 0.010	mg/l	0.01 mg/l	200.7
Chromium - Liquid	CMP	10/25/93	16:30	< 0.050	mg/l	0.05 mg/l	200.7
Lead - Liquid	CW	10/22/93	01:07	8.000	ug/l	5.00 ug/l	239.2
Silver - Liquid	KAH	11/01/93	17:39	< 0.050	mg/l	0.05 mg/l	200.7
Mercury - Liquid	KAH	10/19/93	16:00	< 0.200	ug/l	0.20 ug/l	245.1
Carbon Disulfide - liquid	KG	10/19/93	16:19	< 10.000	ug/l	10.00 ug/l	624.
2-Hexanone - Liquid	KG	10/19/93	16:19	< 50.000	ug/L	50.00 ug/L	8240
Styrene - Liquid	KG	10/19/93	16:19	< 5.000	ug/L	5.00 ug/L	8240
Chloroethane - liquid	KG	10/19/93	16:19	< 10.000	ug/l	10.00 ug/l	624
Methyl chloride - liquid	KG	10/19/93	16:19	< 10.000	ug/l	10.00 ug/l	624
Methyl bromide - liquid	KG	10/19/93	16:19	< 10.000	ug/l	10.00 ug/l	624
Vinyl chloride - liquid	KG	10/19/93	16:19	< 10.000	ug/l	10.00 ug/l	624
Methylene Chloride - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
1,1-Dichloroethane - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Trans 1,2-Dichloroethene - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
1,2-Dichloroethane - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
1,1,1-Trichloroethane - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Bromodichloromethane - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
1,2-Dichloropropane - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Trans-1,3-Dichloropropene - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Trichloroethene - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Chlorodibromomethane - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
1,1,2-Trichloroethane - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Cis-1,3-Dichloropropene - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Benzene - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Bromoform - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
1,1,2,2,-Tetrachloroethane - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Tetrachloroethene - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Toluene - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Chlorobenzene - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Ethylbenzene - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Chloroform - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Carbon Tetrachloride - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624
Xylene - liquid	KG	10/19/93	16:19	< 10.000	ug/l	10.00 ug/l	624
Acetone - liquid	KG	10/19/93	16:19	< 20.000	ug/l	20.00 ug/l	624.
1,1-Dichloroethene - liquid	KG	10/19/93	16:19	< 5.000	ug/l	5.00 ug/l	624.

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 10/06/93 In House # 10-6929-93		Source: MW1-10-93 - CONTINUED -		Location: FT.STEWART			
Acrylonitrile - liquid	KG	10/19/93	16:19 <	10.000 mg/l		10.00 mg/l	624.
Trichlorofluoromethane - liquid	KG	10/19/93	16:19 <	12.000 ug/l		12.00 ug/l	624.
2- Butanone - liquid	KG	10/19/93	16:19 <	10.000 ug/l		10.00 ug/l	624.
4-Methyl - 2 pentanone - liquid	KG	10/19/93	16:19 <	10.000 ug/l		10.00 ug/l	624.
Vinyl Acetate - liquid	KG	10/19/93	16:19 <	10.000 ug/l		10.00 ug/l	8240

Comments:
The volatile run was initiated at 14:43.

Sample Date: 10/06/93 In House # 10-6930-93		Source: MW2-10-93		Location: FT.STEWART			
Metals Sample Preparation - water	MCB	10/19/93	19:00	0.000		0.00	
Pesticide - water extraction	MR	10/11/93	15:00	0.000		0.00	
PCB - water extraction	MR	10/11/93	15:00	0.000		0.00	
Arsenic - liquid	CW	10/22/93	08:31 <	5.000 ug/l		5.00 ug/l	206.2
Selenium - Liquid	CW	10/22/93	19:01 <	5.000 ug/l		5.00 ug/l	270.2
Barium - Liquid	CMP	10/25/93	16:34 <	0.050 mg/l		0.05 mg/l	200.7
Cadmium - Liquid	CMP	10/25/93	16:34 <	0.010 mg/l		0.01 mg/l	200.7
Chromium - Liquid	CMP	10/25/93	16:34 <	0.050 mg/l		0.05 mg/l	200.7
Lead - Liquid	CW	10/22/93	01:13 <	5.000 ug/l		5.00 ug/l	239.2
Silver - Liquid	KAH	11/01/93	17:43 <	0.050 mg/l		0.05 mg/l	200.7
Mercury - Liquid	KAH	10/19/93	16:00 <	0.200 ug/l		0.20 ug/l	245.1
Carbon Disulfide - liquid	KG	10/19/93	16:20 <	10.000 ug/l		10.00 ug/l	624.
2-Hexanone - Liquid	KG	10/19/93	16:20 <	50.000 ug/L		50.00 ug/L	8240
Styrene - Liquid	KG	10/19/93	16:20 <	5.000 ug/L		5.00 ug/L	8240
Chloroethane - liquid	KG	10/19/93	16:20 <	10.000 ug/l		10.00 ug/l	624
Methyl chloride - liquid	KG	10/19/93	16:20 <	10.000 ug/l		10.00 ug/l	624
Methyl bromide - liquid	KG	10/19/93	16:20 <	10.000 ug/l		10.00 ug/l	624
Vinyl chloride - liquid	KG	10/19/93	16:20 <	10.000 ug/l		10.00 ug/l	624
Methylene Chloride - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
1,1-Dichloroethane - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Trans 1,2-Dichloroethene - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
1,2-Dichloroethane - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
1,1,1-Trichloroethane - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Bromodichloromethane - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
1,2-Dichloropropane - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Trans-1,3-Dichloropropene - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Trichloroethene - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Chlorodibromomethane - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
1,1,2-Trichloroethane - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Cis-1,3-Dichloropropene - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Benzene - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Bromoform - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
1,1,2,2,-Tetrachloroethane - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Tetrachloroethene - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Toluene - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Chlorobenzene - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Ethylbenzene - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Chloroform - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Carbon Tetrachloride - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Xylene - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624
Acetone - liquid	KG	10/19/93	16:20 <	10.000 ug/l		10.00 ug/l	624
1,1-Dichloroethene - liquid	KG	10/19/93	16:20 <	20.000 ug/l		20.00 ug/l	624.
Acrylonitrile - liquid	KG	10/19/93	16:20 <	5.000 ug/l		5.00 ug/l	624.
Trichlorofluoromethane - liquid	KG	10/19/93	16:20 <	10.000 mg/l		10.00 mg/l	624.
2- Butanone - liquid	KG	10/19/93	16:20 <	12.000 ug/l		12.00 ug/l	624.
4-Methyl - 2 pentanone - liquid	KG	10/19/93	16:20 <	10.000 ug/l		10.00 ug/l	624.
Vinyl Acetate - liquid	KG	10/19/93	16:20 <	10.000 ug/l		10.00 ug/l	624.
	KG	10/19/93	16:20 <	10.000 ug/l		10.00 ug/l	8240

Comments:
The volatile run was initiated at 15:09.

Sample Date: 10/06/93 In House # 10-6931-93		Source: MW3-10-93		Location: FT.STEWART			
Metals Sample Preparation - water	MCB	10/19/93	19:00	0.000		0.00	

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 10/06/93 In House # 10-6931-93		Source: MW3-10-93 - CONTINUED -		Location: FT.STEWART			
Pesticide - water extraction	MR	10/11/93 15:00		0.000		0.00	
PCB - water extraction	MR	10/11/93 15:00		0.000		0.00	
Arsenic - liquid	CW	10/22/93 08:38	<	5.000	ug/l	5.00 ug/l	206.2
Selenium - Liquid	CW	10/22/93 19:07	<	5.000	ug/l	5.00 ug/l	270.2
Barium - Liquid	CMP	10/25/93 16:58	<	0.050	mg/l	0.05 mg/l	200.7
Cadmium - Liquid	CMP	10/25/93 16:58	<	0.010	mg/l	0.01 mg/l	200.7
Chromium - Liquid	CMP	10/25/93 16:58	<	0.050	mg/l	0.05 mg/l	200.7
Lead - Liquid	CW	10/22/93 01:18	<	5.000	ug/l	5.00 ug/l	239.2
Silver - Liquid	KAH	11/01/93 17:47	<	0.050	mg/l	0.05 mg/l	200.7
Mercury - Liquid	KAH	10/19/93 16:00	<	0.200	ug/l	0.20 ug/l	245.1
Carbon Disulfide - liquid	KG	10/19/93 16:21	<	10.000	ug/l	10.00 ug/l	624.
2-Hexanone - Liquid	KG	10/19/93 16:21	<	50.000	ug/L	50.00 ug/L	8240
Styrene - Liquid	KG	10/19/93 16:21	<	5.000	ug/L	5.00 ug/L	8240
Chloroethane - liquid	KG	10/19/93 16:20	<	10.000	ug/l	10.00 ug/l	624
Methyl chloride - liquid	KG	10/19/93 16:20	<	10.000	ug/l	10.00 ug/l	624
Methyl bromide - liquid	KG	10/19/93 16:20	<	10.000	ug/l	10.00 ug/l	624
Vinyl chloride - liquid	KG	10/19/93 16:20	<	10.000	ug/l	10.00 ug/l	624
Methylene Chloride - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
1,1-Dichloroethane - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Trans 1,2-Dichloroethene - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
1,2-Dichloroethane - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
1,1,1-Trichloroethane - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Bromodichloromethane - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
1,2-Dichloropropane - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Trans-1,3-Dichloropropene - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Trichloroethene - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Chlorodibromomethane - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
1,1,2-Trichloroethane - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Cis-1,3-Dichloropropene - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Benzene - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Bromoform - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
1,1,2,2,-Tetrachloroethane - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Tetrachloroethene - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Toluene - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Chlorobenzene - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Ethylbenzene - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Chloroform - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Carbon Tetrachloride - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624
Xylene - liquid	KG	10/19/93 16:20	<	10.000	ug/l	10.00 ug/l	624
Acetone - liquid	KG	10/19/93 16:20	<	20.000	ug/l	20.00 ug/l	624.
1,1-Dichloroethene - liquid	KG	10/19/93 16:20	<	5.000	ug/l	5.00 ug/l	624.
Acrylonitrile - liquid	KG	10/19/93 16:20	<	10.000	mg/l	10.00 mg/l	624.
Trichlorofluoromethane - liquid	KG	10/19/93 16:20	<	12.000	ug/l	12.00 ug/l	624.
2- Butanone - liquid	KG	10/19/93 16:20	<	10.000	ug/l	10.00 ug/l	624.
4-Methyl - 2 pentanone - liquid	KG	10/19/93 16:20	<	10.000	ug/l	10.00 ug/l	624.
Vinyl Acetate - liquid	KG	10/19/93 16:20	<	10.000	ug/l	10.00 ug/l	8240

Comments:
The volatile run was initiated at 15:36.

Sample Date: 10/06/93 In House # 10-6932-93		Source: SEECOMMENT		Location: FT.STEWART			
Metals Sample Preparation - water	MCB	10/19/93 19:00		0.000		0.00	
Pesticide - water extraction	MR	10/11/93 15:00		0.000		0.00	
PCB - water extraction	MR	10/11/93 15:00		0.000		0.00	
Arsenic - liquid	CW	10/22/93 08:44	<	5.000	ug/l	5.00 ug/l	206.2
Selenium - Liquid	CW	10/22/93 19:13	<	5.000	ug/l	5.00 ug/l	270.2
Barium - Liquid	CMP	10/25/93 17:01	<	0.050	mg/l	0.05 mg/l	200.7
Cadmium - Liquid	CMP	10/25/93 17:01	<	0.010	mg/l	0.01 mg/l	200.7
Chromium - Liquid	CMP	10/25/93 17:01	<	0.050	mg/l	0.05 mg/l	200.7
Lead - Liquid	CW	10/22/93 01:24	<	5.000	ug/l	5.00 ug/l	239.2
Silver - Liquid	KAH	11/01/93 17:51	<	0.050	mg/l	0.05 mg/l	200.7
Mercury - Liquid	KAH	10/19/93 16:00	<	0.200	ug/l	0.20 ug/l	245.1
Carbon Disulfide - liquid	KG	10/19/93 16:21	<	10.000	ug/l	10.00 ug/l	624.
2-Hexanone - Liquid	KG	10/19/93 16:21	<	50.000	ug/L	50.00 ug/L	8240

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 10/06/93 In House # 10-6932-93		Source: SEECOMMENT - CONTINUED -		Location: FT.STEWART			
Styrene - Liquid	KG	10/19/93	16:21 <	5.000 ug/L		5.00 ug/L	8240
Chloroethane - Liquid	KG	10/19/93	16:21 <	10.000 ug/l		10.00 ug/l	624
Methyl chloride - Liquid	KG	10/19/93	16:21 <	10.000 ug/l		10.00 ug/l	624
Methyl bromide - Liquid	KG	10/19/93	16:21 <	10.000 ug/l		10.00 ug/l	624
Vinyl chloride - Liquid	KG	10/19/93	16:21 <	10.000 ug/l		10.00 ug/l	624
Methylene Chloride - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
1,1-Dichloroethane - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Trans 1,2-Dichloroethene - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
1,2-Dichloroethane - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
1,1,1-Trichloroethane - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Bromodichloromethane - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
1,2-Dichloropropane - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Trans-1,3-Dichloropropene - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Trichloroethene - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Chlorodibromomethane - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
1,1,2-Trichloroethane - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Cis-1,3-Dichloropropene - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Benzene - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Bromoform - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
1,1,2,2,-Tetrachloroethane - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Tetrachloroethene - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Toluene - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Chlorobenzene - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Ethylbenzene - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Chloroform - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Carbon Tetrachloride - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Xylene - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624
Acetone - Liquid	KG	10/19/93	16:21 <	10.000 ug/l		10.00 ug/l	624
1,1-Dichloroethene - Liquid	KG	10/19/93	16:21 <	20.000 ug/l		20.00 ug/l	624.
Acrylonitrile - Liquid	KG	10/19/93	16:21 <	5.000 ug/l		5.00 ug/l	624.
Trichlorofluoromethane - Liquid	KG	10/19/93	16:21 <	10.000 mg/l		10.00 mg/l	624.
2- Butanone - Liquid	KG	10/19/93	16:21 <	12.000 ug/l		12.00 ug/l	624.
4-Methyl - 2 pentanone - Liquid	KG	10/19/93	16:21 <	10.000 ug/l		10.00 ug/l	624.
Vinyl Acetate - Liquid	KG	10/19/93	16:21 <	10.000 ug/l		10.00 ug/l	624.
	KG	10/19/93	16:21 <	10.000 ug/l		10.00 ug/l	8240

Comments:
Location: MW3-DUP-10-93

The volatile run was initiated at 16:03.

Sample Date: 10/06/93 In House # 10-6933-93		Source: SEECOMMENT		Location: FT.STEWART			
Metals Sample Preparation - Water	MCB	10/19/93	19:00	0.000		0.00	
Pesticide - Water extraction	MR	10/11/93	15:00	0.000		0.00	
PCB - Water extraction	MR	10/11/93	15:00	0.000		0.00	
Arsenic - Liquid	CW	10/22/93	08:50 <	5.000 ug/l		5.00 ug/l	206.2
Selenium - Liquid	CW	10/22/93	19:20 <	5.000 ug/l		5.00 ug/l	270.2
Barium - Liquid	CMP	10/25/93	17:05 <	0.050 mg/l		0.05 mg/l	200.7
Cadmium - Liquid	CMP	10/25/93	17:05 <	0.010 mg/l		0.01 mg/l	200.7
Chromium - Liquid	CMP	10/25/93	17:05 <	0.050 mg/l		0.05 mg/l	200.7
Lead - Liquid	CW	10/22/93	01:30 <	5.000 ug/l		5.00 ug/l	239.2
Silver - Liquid	KAH	11/01/93	17:59 <	0.050 mg/l		0.05 mg/l	200.7
Mercury - Liquid	KAH	10/19/93	10:00 <	0.200 ug/l		0.20 ug/l	245.1
Carbon Disulfide - Liquid	KG	10/19/93	15:54 <	10.000 ug/l		10.00 ug/l	624.
2-Hexanone - Liquid	KG	10/19/93	15:54 <	50.000 ug/L		50.00 ug/L	8240
Styrene - Liquid	KG	10/19/93	15:54 <	5.000 ug/L		5.00 ug/L	8240
Chloroethane - Liquid	KG	10/19/93	15:54 <	10.000 ug/l		10.00 ug/l	624
Methyl chloride - Liquid	KG	10/19/93	15:54 <	10.000 ug/l		10.00 ug/l	624
Methyl bromide - Liquid	KG	10/19/93	15:54 <	10.000 ug/l		10.00 ug/l	624
Vinyl chloride - Liquid	KG	10/19/93	15:54 <	10.000 ug/l		10.00 ug/l	624
Methylene Chloride - Liquid	KG	10/19/93	15:54 <	5.000 ug/l		5.00 ug/l	624
1,1-Dichloroethane - Liquid	KG	10/19/93	15:54 <	5.000 ug/l		5.00 ug/l	624
Trans 1,2-Dichloroethene - Liquid	KG	10/19/93	15:54 <	5.000 ug/l		5.00 ug/l	624
1,2-Dichloroethane - Liquid	KG	10/19/93	15:54 <	5.000 ug/l		5.00 ug/l	624
1,1,1-Trichloroethane - Liquid	KG	10/19/93	15:54 <	5.000 ug/l		5.00 ug/l	624

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 10/06/93 In House # 10-6933-93		Source: SEECOMMENT		Location: FT.STEWART			
		- CONTINUED -					
Bromodichloromethane - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
1,2-Dichloropropane - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
Trans-1,3-Dichloropropene - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
Trichloroethene - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
Chlorodibromomethane - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
1,1,2-Trichloroethane - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
Cis-1,3-Dichloropropene - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
Benzene - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
Bromoform - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
1,1,2,2,-Tetrachloroethane - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
Tetrachloroethene - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
Toluene - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
Chlorobenzene - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
Ethylbenzene - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
Chloroform - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
Carbon Tetrachloride - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624
Xylene - liquid	KG	10/19/93 15:54	<	10.000	ug/l	10.00 ug/l	624
Acetone - liquid	KG	10/19/93 15:54	<	20.000	ug/l	20.00 ug/l	624.
1,1-Dichloroethene - liquid	KG	10/19/93 15:54	<	5.000	ug/l	5.00 ug/l	624.
Acrylonitrile - liquid	KG	10/19/93 15:54	<	10.000	mg/l	10.00 mg/l	624.
Trichlorofluoromethane - liquid	KG	10/19/93 15:54	<	12.000	ug/l	12.00 ug/l	624.
2- Butanone - liquid	KG	10/19/93 15:54	<	10.000	ug/l	10.00 ug/l	624.
4-Methyl - 2 pentanone - liquid	KG	10/19/93 15:54	<	10.000	ug/l	10.00 ug/l	624.
Vinyl Acetate - liquid	KG	10/19/93 15:54	<	10.000	ug/l	10.00 ug/l	8240

Comments:
Location: MW-BLK-10-93

The volatile run was initiated at 18:20.

Sample Date: 10/06/93 In House # 10-6934-93		Source: MW4-10-93		Location: FT.STEWART			
Metals Sample Preparation - water	MCB	10/19/93 19:00		0.000		0.00	
Pesticide - water extraction	MR	10/11/93 15:00		0.000		0.00	
PCB - water extraction	MR	10/11/93 15:00		0.000		0.00	
Arsenic - liquid	CW	10/22/93 08:57	<	5.000	ug/l	5.00 ug/l	206.2
Selenium - Liquid	CW	10/22/93 19:26	<	5.000	ug/l	5.00 ug/l	270.2
Barium - Liquid	CMP	10/25/93 17:09		0.110	mg/l	0.05 mg/l	200.7
Cadmium - Liquid	CMP	10/25/93 17:09	<	0.010	mg/l	0.01 mg/l	200.7
Chromium - Liquid	CMP	10/25/93 17:09		0.110	mg/l	0.05 mg/l	200.7
Lead - Liquid	CW	10/22/93 01:46		136.000	ug/l	5.00 ug/l	239.2
Silver - Liquid	KAH	11/01/93 18:19	<	0.050	mg/l	0.05 mg/l	200.7
Mercury - Liquid	KAH	10/19/93 16:00		0.230	ug/l	0.20 ug/l	245.1
Carbon Disulfide - liquid	KG	10/19/93 15:57	<	10.000	ug/l	10.00 ug/l	624.
2-Hexanone - Liquid	KG	10/19/93 15:57	<	50.000	ug/L	50.00 ug/L	8240
Styrene - Liquid	KG	10/19/93 15:57	<	5.000	ug/L	5.00 ug/L	8240
Chloroethane - liquid	KG	10/19/93 15:57	<	10.000	ug/l	10.00 ug/l	624
Methyl chloride - liquid	KG	10/19/93 15:57	<	10.000	ug/l	10.00 ug/l	624
Methyl bromide - liquid	KG	10/19/93 15:57	<	10.000	ug/l	10.00 ug/l	624
Vinyl chloride - liquid	KG	10/19/93 15:57	<	10.000	ug/l	10.00 ug/l	624
Methylene Chloride - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
1,1-Dichloroethane - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
Trans 1,2-Dichloroethene - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
1,2-Dichloroethane - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
1,1,1-Trichloroethane - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
Bromodichloromethane - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
1,2-Dichloropropane - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
Trans-1,3-Dichloropropene - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
Trichloroethene - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
Chlorodibromomethane - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
1,1,2-Trichloroethane - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
Cis-1,3-Dichloropropene - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
Benzene - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
Bromoform - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624
1,1,2,2,-Tetrachloroethane - liquid	KG	10/19/93 15:57	<	5.000	ug/l	5.00 ug/l	624

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 10/06/93 In House # 10-6934-93		Source: MW4-10-93		Location: FT.STEWART			
		- CONTINUED -					
Tetrachloroethene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Toluene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Chlorobenzene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Ethylbenzene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Chloroform - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Carbon Tetrachloride - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Xylene - liquid	KG	10/19/93	15:57	< 10.000	ug/l	10.00 ug/l	624
Acetone - liquid	KG	10/19/93	15:57	< 20.000	ug/l	20.00 ug/l	624.
1,1-Dichloroethene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624.
Acrylonitrile - liquid	KG	10/19/93	15:57	< 10.000	mg/l	10.00 mg/l	624.
Trichlorofluoromethane - liquid	KG	10/19/93	15:57	< 12.000	ug/l	12.00 ug/l	624.
2- Butanone - liquid	KG	10/19/93	15:57	< 10.000	ug/l	10.00 ug/l	624.
4-Methyl - 2 pentanone - liquid	KG	10/19/93	15:57	< 10.000	ug/l	10.00 ug/l	624.
Vinyl Acetate - liquid	KG	10/19/93	15:57	< 10.000	ug/l	10.00 ug/l	8240
Comments:							
The volatile run was initiated at 19:08.							
Sample Date: 10/06/93 In House # 10-6935-93		Source: SW1-10-93		Location: FT.STEWART			
Metals Sample Preparation - water	MCB	10/19/93	19:00	0.000		0.00	
Pesticide - water extraction	MR	10/11/93	15:00	0.000		0.00	
PCB - water extraction	MR	10/11/93	15:00	0.000		0.00	
Arsenic - liquid	CW	10/22/93	09:06	< 5.000	ug/l	5.00 ug/l	206.2
Selenium - Liquid	CW	10/22/93	19:32	< 5.000	ug/l	5.00 ug/l	270.2
Barium - Liquid	CMP	10/25/93	17:14	< 0.050	mg/l	0.05 mg/l	200.7
Cadmium - Liquid	CMP	10/25/93	17:14	< 0.010	mg/l	0.01 mg/l	200.7
Chromium - Liquid	CMP	10/25/93	17:14	< 0.050	mg/l	0.05 mg/l	200.7
Lead - Liquid	CW	10/22/93	01:52	< 5.000	ug/l	5.00 ug/l	239.2
Silver - Liquid	KAH	11/01/93	18:23	< 0.050	mg/l	0.05 mg/l	200.7
Mercury - Liquid	KAH	10/19/93	16:00	< 0.200	ug/l	0.20 ug/l	245.1
Carbon Disulfide - liquid	KG	10/19/93	15:57	< 10.000	ug/l	10.00 ug/l	624.
2-Hexanone - Liquid	KG	10/19/93	15:58	< 50.000	ug/L	50.00 ug/L	8240
Styrene - Liquid	KG	10/19/93	15:58	< 5.000	ug/L	5.00 ug/L	8240
Chloroethane - liquid	KG	10/19/93	15:57	< 10.000	ug/l	10.00 ug/l	624
Methyl chloride - liquid	KG	10/19/93	15:57	< 10.000	ug/l	10.00 ug/l	624
Methyl bromide - liquid	KG	10/19/93	15:57	< 10.000	ug/l	10.00 ug/l	624
Vinyl chloride - liquid	KG	10/19/93	15:57	< 10.000	ug/l	10.00 ug/l	624
Methylene Chloride - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
1,1-Dichloroethane - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Trans 1,2-Dichloroethene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
1,2-Dichloroethane - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
1,1,1-Trichloroethane - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Bromodichloromethane - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
1,2-Dichloropropane - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Trans-1,3-Dichloropropene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Trichloroethene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Chlorodibromomethane - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
1,1,2-Trichloroethane - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Cis-1,3-Dichloropropene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Benzene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Bromoform - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
1,1,2,2,-Tetrachloroethane - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Tetrachloroethene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Toluene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Chlorobenzene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Ethylbenzene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Chloroform - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Carbon Tetrachloride - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624
Xylene - liquid	KG	10/19/93	15:57	< 10.000	ug/l	10.00 ug/l	624
Acetone - liquid	KG	10/19/93	15:57	< 20.000	ug/l	20.00 ug/l	624.
1,1-Dichloroethene - liquid	KG	10/19/93	15:57	< 5.000	ug/l	5.00 ug/l	624.
Acrylonitrile - liquid	KG	10/19/93	15:57	< 10.000	mg/l	10.00 mg/l	624.
Trichlorofluoromethane - liquid	KG	10/19/93	15:57	< 12.000	ug/l	12.00 ug/l	624.
2- Butanone - liquid	KG	10/19/93	15:57	< 10.000	ug/l	10.00 ug/l	624.

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 10/06/93 In House # 10-6935-93		Source: SW1-10-93 - CONTINUED -		Location: FT.STEWART			
4-Methyl - 2 pentanone - liquid	KG	10/19/93 15:57	<	10.000	ug/l	10.00 ug/l	624.
Vinyl Acetate - liquid	KG	10/19/93 15:57	<	10.000	ug/l	10.00 ug/l	8240

Comments:
The volatile run was initiated at 19:35.

Sample Date: 10/06/93 In House # 10-6936-93		Source: SEECOMMENT		Location: FT.STEWART			
Metals Sample Preparation - water	MCB	10/19/93 19:00		0.000		0.00	
Pesticide - water extraction	MR	10/11/93 15:00		0.000		0.00	
PCB - water extraction	MR	10/11/93 15:00		0.000		0.00	
Arsenic - liquid	CW	10/22/93 09:12	<	5.000	ug/l	5.00 ug/l	206.2
Selenium - Liquid	CW	10/22/93 19:39	<	5.000	ug/l	5.00 ug/l	270.2
Barium - Liquid	CMP	10/25/93 17:18	<	0.050	mg/l	0.05 mg/l	200.7
Cadmium - Liquid	CMP	10/25/93 17:18	<	0.010	mg/l	0.01 mg/l	200.7
Chromium - Liquid	CMP	10/25/93 17:18	<	0.050	mg/l	0.05 mg/l	200.7
Lead - Liquid	CW	10/22/93 02:16		6.100	ug/l	5.00 ug/l	239.2
Silver - Liquid	KAH	11/01/93 18:26	<	0.050	mg/l	0.05 mg/l	200.7
Mercury - Liquid	KH	10/19/93 12:00	<	0.200	ug/l	0.20 ug/l	245.1
Carbon Disulfide - liquid	KG	10/19/93 16:00	<	10.000	ug/l	10.00 ug/l	624.
2-Hexanone - Liquid	KG	10/19/93 16:00	<	50.000	ug/L	50.00 ug/L	8240
Styrene - Liquid	KG	10/19/93 16:00	<	5.000	ug/L	5.00 ug/L	8240
Chloroethane - liquid	KG	10/19/93 16:00	<	10.000	ug/l	10.00 ug/l	624
Methyl chloride - liquid	KG	10/19/93 16:00	<	10.000	ug/l	10.00 ug/l	624
Methyl bromide - liquid	KG	10/19/93 16:00	<	10.000	ug/l	10.00 ug/l	624
Vinyl chloride - liquid	KG	10/19/93 16:00	<	10.000	ug/l	10.00 ug/l	624
Methylene Chloride - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
1,1-Dichloroethane - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Trans 1,2-Dichloroethene - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
1,2-Dichloroethane - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
1,1,1-Trichloroethane - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Bromodichloromethane - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
1,2-Dichloropropane - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Trans-1,3-Dichloropropene - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Trichloroethene - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Chlorodibromomethane - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
1,1,2-Trichloroethane - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Cis-1,3-Dichloropropene - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Benzene - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Bromoform - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
1,1,2,2,-Tetrachloroethane - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Tetrachloroethene - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Toluene - liquid	KG	10/19/93 16:00		6.400	ug/l	5.00 ug/l	624
Chlorobenzene - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Ethylbenzene - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Chloroform - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Carbon Tetrachloride - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624
Xylene - liquid	KG	10/19/93 16:00	<	10.000	ug/l	10.00 ug/l	624
Acetone - liquid	KG	10/19/93 16:00	<	20.000	ug/l	20.00 ug/l	624.
1,1-Dichloroethene - liquid	KG	10/19/93 16:00	<	5.000	ug/l	5.00 ug/l	624.
Acrylonitrile - liquid	KG	10/19/93 16:00	<	10.000	mg/l	10.00 mg/l	624.
Trichlorofluoromethane - liquid	KG	10/19/93 16:00	<	12.000	ug/l	12.00 ug/l	624.
2- Butanone - liquid	KG	10/19/93 16:00	<	10.000	ug/l	10.00 ug/l	624.
4-Methyl - 2 pentanone - liquid	KG	10/19/93 16:00	<	10.000	ug/l	10.00 ug/l	624.
Vinyl Acetate - liquid	KG	10/19/93 16:00	<	10.000	ug/l	10.00 ug/l	8240

Comments:
Location: SW1-DUP-10-93

The volatile run was initiated at 20:01.

Sample Date: 10/06/93 In House # 10-6937-93		Source: SEECOMMENT		Location: FT.STEWART			
Metals Sample Preparation - water	MCB	10/19/93 19:00		0.000		0.00	
Pesticide - water extraction	MR	10/11/93 15:00		0.000		0.00	

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 10/06/93 In House # 10-6937-93		Source: SEECOMMENT		Location: FT.STEWART			
		- CONTINUED -					
PCB - water extraction	MR	10/11/93 15:00		0.000		0.00	
Arsenic - liquid	CW	10/22/93 09:18	<	5.000	ug/l	5.00 ug/l	206.2
Selenium - Liquid	CW	10/22/93 19:42	<	5.000	ug/l	5.00 ug/l	270.2
Barium - Liquid	CMP	10/25/93 17:22	<	0.050	mg/l	0.05 mg/l	200.7
Cadmium - Liquid	CMP	10/25/93 17:22	<	0.010	mg/l	0.01 mg/l	200.7
Chromium - Liquid	CMP	10/25/93 17:22	<	0.050	mg/l	0.05 mg/l	200.7
Lead - Liquid	CW	10/22/93 02:22	<	5.000	ug/l	5.00 ug/l	239.2
Silver - Liquid	KAH	11/01/93 18:30	<	0.050	mg/l	0.05 mg/l	200.7
Mercury - Liquid	KAH	10/19/93 16:00	<	0.200	ug/l	0.20 ug/l	245.1
Carbon Disulfide - liquid	KG	10/19/93 16:02	<	10.000	ug/l	10.00 ug/l	624.
2-Hexanone - Liquid	KG	10/19/93 16:02	<	50.000	ug/L	50.00 ug/L	8240
Styrene - Liquid	KG	10/19/93 16:02	<	5.000	ug/L	5.00 ug/L	8240
Chloroethane - liquid	KG	10/19/93 16:02	<	10.000	ug/l	10.00 ug/l	624
Methyl chloride - liquid	KG	10/19/93 16:02	<	10.000	ug/l	10.00 ug/l	624
Methyl bromide - liquid	KG	10/19/93 16:02	<	10.000	ug/l	10.00 ug/l	624
Vinyl chloride - liquid	KG	10/19/93 16:02	<	10.000	ug/l	10.00 ug/l	624
Methylene Chloride - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
1,1-Dichloroethane - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Trans 1,2-Dichloroethene - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
1,2-Dichloroethane - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
1,1,1-Trichloroethane - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Bromodichloromethane - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
1,2-Dichloropropane - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Trans-1,3-Dichloropropene - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Trichloroethene - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Chlorodibromomethane - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
1,1,2-Trichloroethane - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Cis-1,3-Dichloropropene - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Benzene - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Bromoform - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
1,1,2,2,-Tetrachloroethane - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Tetrachloroethene - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Toluene - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Chlorobenzene - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Ethylbenzene - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Chloroform - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Carbon Tetrachloride - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624
Xylene - liquid	KG	10/19/93 16:02	<	10.000	ug/l	10.00 ug/l	624
Acetone - liquid	KG	10/19/93 16:02	<	20.000	ug/l	20.00 ug/l	624.
1,1-Dichloroethene - liquid	KG	10/19/93 16:02	<	5.000	ug/l	5.00 ug/l	624.
Acrylonitrile - liquid	KG	10/19/93 16:02	<	10.000	mg/l	10.00 mg/l	624.
Trichlorofluoromethane - liquid	KG	10/19/93 16:02	<	12.000	ug/l	12.00 ug/l	624.
2- Butanone - liquid	KG	10/19/93 16:02	<	10.000	ug/l	10.00 ug/l	624.
4-Methyl - 2 pentanone - liquid	KG	10/19/93 16:02	<	10.000	ug/l	10.00 ug/l	624.
Vinyl Acetate - liquid	KG	10/19/93 16:02	<	10.000	ug/l	10.00 ug/l	8240

Comments:
Location: SW-BLK-10-93

The volatile run was initiated at 21:21.

Sample Date: 10/06/93 In House # 10-6938-93		Source: SW2-10-93		Location: FT.STEWART			
Metals Sample Preparation - water	MCB	10/19/93 19:00		0.000		0.00	
Pesticide - water extraction	MR	10/11/93 15:00		0.000		0.00	
PCB - water extraction	MR	10/11/93 15:00		0.000		0.00	
Arsenic - liquid	CW	10/22/93 09:40	<	5.000	ug/l	5.00 ug/l	206.2
Selenium - Liquid	CW	10/22/93 20:07	<	5.000	ug/l	5.00 ug/l	270.2
Barium - Liquid	CMP	10/25/93 15:55		0.060	mg/l	0.05 mg/l	200.7
Cadmium - Liquid	CMP	10/25/93 15:55	<	0.010	mg/l	0.01 mg/l	200.7
Chromium - Liquid	CMP	10/25/93 15:55	<	0.050	mg/l	0.05 mg/l	200.7
Lead - Liquid	CW	10/22/93 02:31		13.000	ug/l	5.00 ug/l	239.2
Silver - Liquid	KAH	11/01/93 16:52	<	0.050	mg/l	0.05 mg/l	200.7
Mercury - Liquid	KAH	10/19/93 16:00	<	0.200	ug/l	0.20 ug/l	245.1
Carbon Disulfide - liquid	KG	10/19/93 16:02	<	10.000	ug/l	10.00 ug/l	624.

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 10/06/93 In House # 10-6938-93 Source: SW2-10-93 Location: FT.STEWART							
· CONTINUED ·							
2-Hexanone - Liquid	KG	10/19/93	16:02	< 50.000	ug/L	50.00 ug/L	8240
Styrene - Liquid	KG	10/19/93	16:02	< 5.000	ug/L	5.00 ug/L	8240
Chloroethane - liquid	KG	10/19/93	16:02	< 10.000	ug/l	10.00 ug/l	624
Methyl chloride - liquid	KG	10/19/93	16:02	< 10.000	ug/l	10.00 ug/l	624
Methyl bromide - liquid	KG	10/19/93	16:02	< 10.000	ug/l	10.00 ug/l	624
Vinyl chloride - liquid	KG	10/19/93	16:02	< 10.000	ug/l	10.00 ug/l	624
Methylene Chloride - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
1,1-Dichloroethane - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Trans 1,2-Dichloroethene - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
1,2-Dichloroethane - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
1,1,1-Trichloroethane - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Bromodichloromethane - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
1,2-Dichloropropane - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Trans-1,3-Dichloropropene - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Trichloroethene - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Chlorodibromomethane - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
1,1,2-Trichloroethane - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Cis-1,3-Dichloropropene - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Benzene - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Bromoform - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
1,1,2,2,-Tetrachloroethane - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Tetrachloroethene - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Toluene - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Chlorobenzene - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Ethylbenzene - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Chloroform - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Carbon Tetrachloride - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624
Xylene - liquid	KG	10/19/93	16:02	< 10.000	ug/l	10.00 ug/l	624
Acetone - liquid	KG	10/19/93	16:02	< 20.000	ug/l	20.00 ug/l	624.
1,1-Dichloroethene - liquid	KG	10/19/93	16:02	< 5.000	ug/l	5.00 ug/l	624.
Acrylonitrile - liquid	KG	10/19/93	16:02	< 10.000	mg/l	10.00 mg/l	624.
Trichlorofluoromethane - liquid	KG	10/19/93	16:02	< 12.000	ug/l	12.00 ug/l	624.
2- Butanone - liquid	KG	10/19/93	16:02	< 10.000	ug/l	10.00 ug/l	624.
4-Methyl - 2 pentanone - liquid	KG	10/19/93	16:02	< 10.000	ug/l	10.00 ug/l	624.
Vinyl Acetate - liquid	KG	10/19/93	16:02	< 10.000	ug/l	10.00 ug/l	8240

Comments:
The volatile run was initiated at 21:47.

Sample Date: 10/06/93 In House # 10-6939-93 Source: TRIP BLANK Location: MW							
Carbon Disulfide - liquid	KG	10/19/93	16:03	< 10.000	ug/l	10.00 ug/l	624.
2-Hexanone - Liquid	KG	10/19/93	16:03	< 50.000	ug/L	50.00 ug/L	8240
Styrene - Liquid	KG	10/19/93	16:03	< 5.000	ug/L	5.00 ug/L	8240
Chloroethane - liquid	KG	10/19/93	16:03	< 10.000	ug/l	10.00 ug/l	624
Methyl chloride - liquid	KG	10/19/93	16:03	< 10.000	ug/l	10.00 ug/l	624
Methyl bromide - liquid	KG	10/19/93	16:03	< 10.000	ug/l	10.00 ug/l	624
Vinyl chloride - liquid	KG	10/19/93	16:03	< 10.000	ug/l	10.00 ug/l	624
Methylene Chloride - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
1,1-Dichloroethane - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
Trans 1,2-Dichloroethene - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
1,2-Dichloroethane - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
1,1,1-Trichloroethane - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
Bromodichloromethane - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
1,2-Dichloropropane - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
Trans-1,3-Dichloropropene - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
Trichloroethene - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
Chlorodibromomethane - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
1,1,2-Trichloroethane - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
Cis-1,3-Dichloropropene - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
Benzene - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
Bromoform - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
1,1,2,2,-Tetrachloroethane - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
Tetrachloroethene - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624
Toluene - liquid	KG	10/19/93	16:03	< 5.000	ug/l	5.00 ug/l	624

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 10/06/93 In House # 10-6939-93		Source: TRIP BLANK		Location: MW			
		- CONTINUED -					
Chlorobenzene - liquid	KG	10/19/93 16:03	<	5.000	ug/l	5.00 ug/l	624
Ethylbenzene - liquid	KG	10/19/93 16:03	<	5.000	ug/l	5.00 ug/l	624
Chloroform - liquid	KG	10/19/93 16:03	<	5.000	ug/l	5.00 ug/l	624
Carbon Tetrachloride - liquid	KG	10/19/93 16:03	<	5.000	ug/l	5.00 ug/l	624
Xylene - liquid	KG	10/19/93 16:03	<	10.000	ug/l	10.00 ug/l	624
Acetone - liquid	KG	10/19/93 16:03	<	20.000	ug/l	20.00 ug/l	624.
1,1-Dichloroethene - liquid	KG	10/19/93 16:03	<	5.000	ug/l	5.00 ug/l	624.
Acrylonitrile - liquid	KG	10/19/93 16:03	<	10.000	mg/l	10.00 mg/l	624.
Trichlorofluoromethane - liquid	KG	10/19/93 16:03	<	12.000	ug/l	12.00 ug/l	624.
2- Butanone - liquid	KG	10/19/93 16:03	<	10.000	ug/l	10.00 ug/l	624.
4-Methyl - 2 pentanone - liquid	KG	10/19/93 16:03	<	10.000	ug/l	10.00 ug/l	624.
Vinyl Acetate - liquid	KG	10/19/93 16:03	<	10.000	ug/l	10.00 ug/l	8240
Comments:							
The volatile run was initiated at 22:14.							
Sample Date: 10/06/93 In House # 10-6940-93		Source: TRIP BLANK		Location: SW			
Carbon Disulfide - liquid	KG	10/19/93 16:05	<	10.000	ug/l	10.00 ug/l	624.
2-Hexanone - Liquid	KG	10/19/93 16:05	<	50.000	ug/L	50.00 ug/L	8240
Styrene - Liquid	KG	10/19/93 16:05	<	5.000	ug/L	5.00 ug/L	8240
Chloroethane - liquid	KG	10/19/93 16:05	<	10.000	ug/l	10.00 ug/l	624
Methyl chloride - liquid	KG	10/19/93 16:05	<	10.000	ug/l	10.00 ug/l	624
Methyl bromide - liquid	KG	10/19/93 16:05	<	10.000	ug/l	10.00 ug/l	624
Vinyl chloride - liquid	KG	10/19/93 16:05	<	10.000	ug/l	10.00 ug/l	624
Methylene Chloride - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
1,1-Dichloroethane - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Trans 1,2-Dichloroethene - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
1,2-Dichloroethane - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
1,1,1-Trichloroethane - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Bromodichloromethane - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
1,2-Dichloropropane - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Trans-1,3-Dichloropropene - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Trichloroethene - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Chlorodibromomethane - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
1,1,2-Trichloroethane - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Cis-1,3-Dichloropropene - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Benzene - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Bromoform - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
1,1,2,2,-Tetrachloroethane - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Tetrachloroethene - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Toluene - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Chlorobenzene - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Ethylbenzene - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Chloroform - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Carbon Tetrachloride - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624
Xylene - liquid	KG	10/19/93 16:05	<	10.000	ug/l	10.00 ug/l	624
Acetone - liquid	KG	10/19/93 16:05	<	20.000	ug/l	20.00 ug/l	624.
1,1-Dichloroethene - liquid	KG	10/19/93 16:05	<	5.000	ug/l	5.00 ug/l	624.
Acrylonitrile - liquid	KG	10/19/93 16:05	<	10.000	mg/l	10.00 mg/l	624.
Trichlorofluoromethane - liquid	KG	10/19/93 16:05	<	12.000	ug/l	12.00 ug/l	624.
2- Butanone - liquid	KG	10/19/93 16:05	<	10.000	ug/l	10.00 ug/l	624.
4-Methyl - 2 pentanone - liquid	KG	10/19/93 16:05	<	10.000	ug/l	10.00 ug/l	624.
Vinyl Acetate - liquid	KG	10/19/93 16:05	<	10.000	ug/l	10.00 ug/l	8240
Comments:							
The volatile run was initiated at 22:40.							
Sample Date: 11/16/93 In House # 11-8374-93		Source: MW1-11-93		Location: FT STEWART			
Pesticide - water extraction	SS	11/22/93 08:00		0.000		0.00	
PCB - water extraction	SS	11/22/93 08:00		0.000		0.00	
Endrin - Liquid	RMK	11/30/93 00:05	<	0.100	ug/l	0.10 ug/l	608
Methoxychlor - Liquid	RMK	11/30/93 00:05	<	0.100	ug/l	0.10 ug/l	608
Aldrin - liquid	RMK	11/30/93 00:05	<	0.020	ug/l	0.02 ug/l	608.

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 11/16/93 In House # 11-8374-93		Source: MW1-11-93		Location: FT STEWART			
		- CONTINUED -					
Alpha BHC - liquid	RMK	11/30/93 00:05	<	0.020	ug/l	0.02 ug/l	608.
Beta BHC - liquid	RMK	11/30/93 00:05	<	0.020	ug/l	0.02 ug/l	608.
Delta BHC - liquid	RMK	11/30/93 00:05	<	0.020	ug/l	0.02 ug/l	608.
Gamma BHC - liquid	RMK	11/30/93 00:05	<	0.020	ug/l	0.02 ug/l	608.
4,4-DDT - liquid	RMK	11/30/93 00:05	<	0.100	ug/l	0.10 ug/l	608
4,4-DDE - liquid	RMK	11/30/93 00:05	<	0.020	ug/l	0.02 ug/l	608
4,4-DDD - liquid	RMK	11/30/93 00:05	<	0.100	ug/l	0.10 ug/l	608
Dieldrin - liquid	RMK	11/30/93 00:05	<	0.020	ug/l	0.02 ug/l	608
A-Endosulfan - liquid	RMK	11/30/93 00:05	<	0.020	ug/l	0.02 ug/l	608
B-Endosulfan - liquid	RMK	11/30/93 00:05	<	0.100	ug/l	0.10 ug/l	608
Endosulfan Sulfate - liquid	RMK	11/30/93 00:05	<	0.100	ug/l	0.10 ug/l	608
Endrin Aldehyde - liquid	RMK	11/30/93 00:05	<	0.100	ug/l	0.10 ug/l	608
Heptachlor - liquid	RMK	11/30/93 00:05	<	0.020	ug/l	0.02 ug/l	608
Heptachlor Epoxide - liquid	RMK	11/30/93 00:05	<	0.020	ug/l	0.02 ug/l	608
PCB-1242 - liquid	RMK	11/30/93 00:05	<	0.500	ug/l	0.50 ug/l	608
PCB-1254 - liquid	RMK	11/30/93 00:05	<	0.500	ug/l	0.50 ug/l	608
PCB-1221 - liquid	RMK	11/30/93 00:05	<	0.500	ug/l	0.50 ug/l	608
PCB-1232 - liquid	RMK	11/30/93 00:05	<	0.500	ug/l	0.50 ug/l	608
PCB-1248 - liquid	RMK	11/30/93 00:05	<	0.500	ug/l	0.50 ug/l	608
PCB-1260 - liquid	RMK	11/30/93 00:05	<	0.500	ug/l	0.50 ug/l	608
PCB-1016 - liquid	RMK	11/30/93 00:05	<	0.500	ug/l	0.50 ug/l	608
Chlordane - liquid	RMK	11/30/93 00:05	<	0.500	ug/l	0.50 ug/l	608.0
Toxaphene - liquid	RMK	11/30/93 00:05	<	2.000	ug/l	2.00 ug/l	608.0

Comments:
This is a recollected sample for Pest/PCB's originally collected on 10/6/93.

Sample Date: 11/18/93 In House # 11-8375-93		Source: MW4-11-93		Location: FT STEWART			
Pesticide - water extraction	SS	11/22/93 08:00		0.000		0.00	
PCB - water extraction	SS	11/22/93 08:00		0.000		0.00	
Endrin - Liquid	RMK	11/30/93 00:44	<	0.100	ug/l	0.10 ug/l	608
Methoxychlor - Liquid	RMK	11/30/93 00:44	<	0.100	ug/l	0.10 ug/l	608
Aldrin - liquid	RMK	11/30/93 00:44	<	0.020	ug/l	0.02 ug/l	608.
Alpha BHC - liquid	RMK	11/30/93 00:44	<	0.020	ug/l	0.02 ug/l	608.
Beta BHC - liquid	RMK	11/30/93 00:44	<	0.020	ug/l	0.02 ug/l	608.
Delta BHC - liquid	RMK	11/30/93 00:44	<	0.020	ug/l	0.02 ug/l	608.
Gamma BHC - liquid	RMK	11/30/93 00:44	<	0.020	ug/l	0.02 ug/l	608.
4,4-DDT - liquid	RMK	11/30/93 00:44	<	0.100	ug/l	0.10 ug/l	608
4,4-DDE - liquid	RMK	11/30/93 00:44	<	0.020	ug/l	0.02 ug/l	608
4,4-DDD - liquid	RMK	11/30/93 00:44	<	0.100	ug/l	0.10 ug/l	608
Dieldrin - liquid	RMK	11/30/93 00:44	<	0.020	ug/l	0.02 ug/l	608
A-Endosulfan - liquid	RMK	11/30/93 00:44	<	0.020	ug/l	0.02 ug/l	608
B-Endosulfan - liquid	RMK	11/30/93 00:44	<	0.100	ug/l	0.10 ug/l	608
Endosulfan Sulfate - liquid	RMK	11/30/93 00:44	<	0.100	ug/l	0.10 ug/l	608
Endrin Aldehyde - liquid	RMK	11/30/93 00:44	<	0.100	ug/l	0.10 ug/l	608
Heptachlor - liquid	RMK	11/30/93 00:44	<	0.020	ug/l	0.02 ug/l	608
Heptachlor Epoxide - liquid	RMK	11/30/93 00:44	<	0.020	ug/l	0.02 ug/l	608
PCB-1242 - liquid	RMK	11/30/93 00:44	<	0.500	ug/l	0.50 ug/l	608
PCB-1254 - liquid	RMK	11/30/93 00:44	<	0.500	ug/l	0.50 ug/l	608
PCB-1221 - liquid	RMK	11/30/93 00:44	<	0.500	ug/l	0.50 ug/l	608
PCB-1232 - liquid	RMK	11/30/93 00:44	<	0.500	ug/l	0.50 ug/l	608
PCB-1248 - liquid	RMK	11/30/93 00:44	<	0.500	ug/l	0.50 ug/l	608
PCB-1260 - liquid	RMK	11/30/93 00:44	<	0.500	ug/l	0.50 ug/l	608
PCB-1016 - liquid	RMK	11/30/93 00:44	<	0.500	ug/l	0.50 ug/l	608
Chlordane - liquid	RMK	11/30/93 00:44	<	0.500	ug/l	0.50 ug/l	608.0
Toxaphene - liquid	RMK	11/30/93 00:44	<	2.000	ug/l	2.00 ug/l	608.0

Comments:
This is a recollection sample for Pest/PCB's originally collected on 10/6/93.

Sample Date: 11/16/93 In House # 11-8376-93		Source: MW3-11-93		Location: FT STEWART			
Pesticide - water extraction	SS	11/22/93 08:00		0.000		0.00	
PCB - water extraction	SS	11/22/93 08:00		0.000		0.00	

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 11/16/93 In House # 11-8376-93		Source: MW3-11-93		Location: FT STEWART			
		- CONTINUED -					
Endrin - Liquid	RMK	11/30/93 01:23	<	0.100 ug/l		0.10 ug/l	608
Methoxychlor - Liquid	RMK	11/30/93 01:23	<	0.100 ug/l		0.10 ug/l	608
Aldrin - Liquid	RMK	11/30/93 01:23	<	0.020 ug/l		0.02 ug/l	608.
Alpha BHC - Liquid	RMK	11/30/93 01:23	<	0.020 ug/l		0.02 ug/l	608.
Beta BHC - Liquid	RMK	11/30/93 01:23	<	0.020 ug/l		0.02 ug/l	608.
Delta BHC - Liquid	RMK	11/30/93 01:23	<	0.020 ug/l		0.02 ug/l	608.
Gamma BHC - Liquid	RMK	11/30/93 01:23	<	0.020 ug/l		0.02 ug/l	608.
4,4-DDT - Liquid	RMK	11/30/93 01:23	<	0.100 ug/l		0.10 ug/l	608
4,4-DDE - Liquid	RMK	11/30/93 01:23	<	0.020 ug/l		0.02 ug/l	608
4,4-DDD - Liquid	RMK	11/30/93 01:23	<	0.100 ug/l		0.10 ug/l	608
Dieldrin - Liquid	RMK	11/30/93 01:23	<	0.020 ug/l		0.02 ug/l	608
A-Endosulfan - Liquid	RMK	11/30/93 01:23	<	0.020 ug/l		0.02 ug/l	608
B-Endosulfan - Liquid	RMK	11/30/93 01:23	<	0.100 ug/l		0.10 ug/l	608
Endosulfan Sulfate - Liquid	RMK	11/30/93 01:23	<	0.100 ug/l		0.10 ug/l	608
Endrin Aldehyde - Liquid	RMK	11/30/93 01:23	<	0.100 ug/l		0.10 ug/l	608
Heptachlor - Liquid	RMK	11/30/93 01:23	<	0.020 ug/l		0.02 ug/l	608
Heptachlor Epoxide - Liquid	RMK	11/30/93 01:23	<	0.020 ug/l		0.02 ug/l	608
PCB-1242 - Liquid	RMK	11/30/93 01:23	<	0.500 ug/l		0.50 ug/l	608
PCB-1254 - Liquid	RMK	11/30/93 01:23	<	0.500 ug/l		0.50 ug/l	608
PCB-1221 - Liquid	RMK	11/30/93 01:23	<	0.500 ug/l		0.50 ug/l	608
PCB-1232 - Liquid	RMK	11/30/93 01:23	<	0.500 ug/l		0.50 ug/l	608
PCB-1248 - Liquid	RMK	11/30/93 01:23	<	0.500 ug/l		0.50 ug/l	608
PCB-1260 - Liquid	RMK	11/30/93 01:23	<	0.500 ug/l		0.50 ug/l	608
PCB-1016 - Liquid	RMK	11/30/93 01:23	<	0.500 ug/l		0.50 ug/l	608
Chlordane - Liquid	RMK	11/30/93 01:23	<	0.500 ug/l		0.50 ug/l	608.0
Toxaphene - Liquid	RMK	11/30/93 01:23	<	2.000 ug/l		2.00 ug/l	608.0

Comments:
This is a recollected sample for Pest/PCB's originally collected on 10/6/93.

Sample Date: 11/16/93 In House # 11-8377-93		Source: MW2-11-93		Location: FT STEWART			
Pesticide - water extraction	SS	11/22/93 08:00		0.000		0.00	
PCB - water extraction	SS	11/22/93 08:00		0.000		0.00	
Endrin - Liquid	RMK	11/30/93 02:02	<	0.100 ug/l		0.10 ug/l	608
Methoxychlor - Liquid	RMK	11/30/93 02:02	<	0.100 ug/l		0.10 ug/l	608
Aldrin - Liquid	RMK	11/30/93 02:02	<	0.020 ug/l		0.02 ug/l	608.
Alpha BHC - Liquid	RMK	11/30/93 02:02	<	0.020 ug/l		0.02 ug/l	608.
Beta BHC - Liquid	RMK	11/30/93 02:02	<	0.020 ug/l		0.02 ug/l	608.
Delta BHC - Liquid	RMK	11/30/93 02:02	<	0.020 ug/l		0.02 ug/l	608.
Gamma BHC - Liquid	RMK	11/30/93 02:02	<	0.020 ug/l		0.02 ug/l	608.
4,4-DDT - Liquid	RMK	11/30/93 02:02	<	0.100 ug/l		0.10 ug/l	608
4,4-DDE - Liquid	RMK	11/30/93 02:02	<	0.020 ug/l		0.02 ug/l	608
4,4-DDD - Liquid	RMK	11/30/93 02:02	<	0.100 ug/l		0.10 ug/l	608
Dieldrin - Liquid	RMK	11/30/93 02:02	<	0.020 ug/l		0.02 ug/l	608
A-Endosulfan - Liquid	RMK	11/30/93 02:02	<	0.020 ug/l		0.02 ug/l	608
B-Endosulfan - Liquid	RMK	11/30/93 02:02	<	0.100 ug/l		0.10 ug/l	608
Endosulfan Sulfate - Liquid	RMK	11/30/93 02:02	<	0.100 ug/l		0.10 ug/l	608
Endrin Aldehyde - Liquid	RMK	11/30/93 02:02	<	0.100 ug/l		0.10 ug/l	608
Heptachlor - Liquid	RMK	11/30/93 02:02	<	0.020 ug/l		0.02 ug/l	608
Heptachlor Epoxide - Liquid	RMK	11/30/93 02:02	<	0.020 ug/l		0.02 ug/l	608
PCB-1242 - Liquid	RMK	11/30/93 02:02	<	0.500 ug/l		0.50 ug/l	608
PCB-1254 - Liquid	RMK	11/30/93 02:02	<	0.500 ug/l		0.50 ug/l	608
PCB-1221 - Liquid	RMK	11/30/93 02:02	<	0.500 ug/l		0.50 ug/l	608
PCB-1232 - Liquid	RMK	11/30/93 02:02	<	0.500 ug/l		0.50 ug/l	608
PCB-1248 - Liquid	RMK	11/30/93 02:02	<	0.500 ug/l		0.50 ug/l	608
PCB-1260 - Liquid	RMK	11/30/93 02:02	<	0.500 ug/l		0.50 ug/l	608
PCB-1016 - Liquid	RMK	11/30/93 02:02	<	0.500 ug/l		0.50 ug/l	608
Chlordane - Liquid	RMK	11/30/93 02:02	<	0.500 ug/l		0.50 ug/l	608.0
Toxaphene - Liquid	RMK	11/30/93 02:02	<	2.000 ug/l		2.00 ug/l	608.0

Comments:
This is a recollected sample for Pest/PCB's originally collected on 10/6/93.

Sample Date: 11/16/93 In House # 11-8378-93 Source: SEECOMMENT Location: FT STEWART

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 11/16/93 In House # 11-8378-93		Source: SEECOMMENT - CONTINUED -		Location: FT STEWART			
Pesticide - water extraction	SS	11/22/93 08:00		0.000		0.00	
PCB - water extraction	SS	11/22/93 08:00		0.000		0.00	
Endrin - Liquid	RMK	11/30/93 02:41	<	0.100	ug/l	0.10 ug/l	608
Methoxychlor - Liquid	RMK	11/30/93 02:41	<	0.100	ug/l	0.10 ug/l	608
Aldrin - liquid	RMK	11/30/93 02:41	<	0.020	ug/l	0.02 ug/l	608.
Alpha BHC - liquid	RMK	11/30/93 02:41	<	0.020	ug/l	0.02 ug/l	608.
Beta BHC - liquid	RMK	11/30/93 02:41	<	0.020	ug/l	0.02 ug/l	608.
Delta BHC - liquid	RMK	11/30/93 02:41	<	0.020	ug/l	0.02 ug/l	608.
Gamma BHC - liquid	RMK	11/30/93 02:41	<	0.020	ug/l	0.02 ug/l	608.
4,4-DDT - liquid	RMK	11/30/93 02:41	<	0.100	ug/l	0.10 ug/l	608
4,4-DDE - liquid	RMK	11/30/93 02:41	<	0.020	ug/l	0.02 ug/l	608
4,4-DDD - liquid	RMK	11/30/93 02:41	<	0.100	ug/l	0.10 ug/l	608
Dieldrin - liquid	RMK	11/30/93 02:41	<	0.020	ug/l	0.02 ug/l	608
A-Endosulfan - liquid	RMK	11/30/93 02:41	<	0.020	ug/l	0.02 ug/l	608
B-Endosulfan - liquid	RMK	11/30/93 02:41	<	0.100	ug/l	0.10 ug/l	608
Endosulfan Sulfate - liquid	RMK	11/30/93 02:41	<	0.100	ug/l	0.10 ug/l	608
Endrin Aldehyde - liquid	RMK	11/30/93 02:41	<	0.100	ug/l	0.10 ug/l	608
Heptachlor - liquid	RMK	11/30/93 02:41	<	0.020	ug/l	0.02 ug/l	608
Heptachlor Epoxide - liquid	RMK	11/30/93 02:41	<	0.020	ug/l	0.02 ug/l	608
PCB-1242 - liquid	RMK	11/30/93 02:41	<	0.500	ug/l	0.50 ug/l	608
PCB-1254 - liquid	RMK	11/30/93 02:41	<	0.500	ug/l	0.50 ug/l	608
PCB-1221 - liquid	RMK	11/30/93 02:41	<	0.500	ug/l	0.50 ug/l	608
PCB-1232 - liquid	RMK	11/30/93 02:41	<	0.500	ug/l	0.50 ug/l	608
PCB-1248 - liquid	RMK	11/30/93 02:41	<	0.500	ug/l	0.50 ug/l	608
PCB-1260 - liquid	RMK	11/30/93 02:41	<	0.500	ug/l	0.50 ug/l	608
PCB-1016 - liquid	RMK	11/30/93 02:41	<	0.500	ug/l	0.50 ug/l	608
Chlordane - liquid	RMK	11/30/93 02:41	<	0.500	ug/l	0.50 ug/l	608.0
Toxaphene - liquid	RMK	11/30/93 02:41	<	2.000	ug/l	2.00 ug/l	608.0

Comments:
Location: MW2-DUP-11-93
This is a recollected sample for Pest/PCB's originally collected on 10/6/93.

Sample Date: 11/16/93 In House # 11-8379-93		Source: SEECOMMENT		Location: FT STEWART			
Pesticide - water extraction	SS	11/22/93 08:00		0.000		0.00	
PCB - water extraction	SS	11/22/93 08:00		0.000		0.00	
Endrin - Liquid	RMK	11/30/93 03:20	<	0.100	ug/l	0.10 ug/l	608
Methoxychlor - Liquid	RMK	11/30/93 03:20	<	0.100	ug/l	0.10 ug/l	608
Aldrin - liquid	RMK	11/30/93 03:20	<	0.020	ug/l	0.02 ug/l	608.
Alpha BHC - liquid	RMK	11/30/93 03:20	<	0.020	ug/l	0.02 ug/l	608.
Beta BHC - liquid	RMK	11/30/93 03:20	<	0.020	ug/l	0.02 ug/l	608.
Delta BHC - liquid	RMK	11/30/93 03:20	<	0.020	ug/l	0.02 ug/l	608.
Gamma BHC - liquid	RMK	11/30/93 03:20	<	0.020	ug/l	0.02 ug/l	608.
4,4-DDT - liquid	RMK	11/30/93 03:20	<	0.100	ug/l	0.10 ug/l	608
4,4-DDE - liquid	RMK	11/30/93 03:20	<	0.020	ug/l	0.02 ug/l	608
4,4-DDD - liquid	RMK	11/30/93 03:20	<	0.100	ug/l	0.10 ug/l	608
Dieldrin - liquid	RMK	11/30/93 03:20	<	0.020	ug/l	0.02 ug/l	608
A-Endosulfan - liquid	RMK	11/30/93 03:20	<	0.020	ug/l	0.02 ug/l	608
B-Endosulfan - liquid	RMK	11/30/93 03:20	<	0.100	ug/l	0.10 ug/l	608
Endosulfan Sulfate - liquid	RMK	11/30/93 03:20	<	0.100	ug/l	0.10 ug/l	608
Endrin Aldehyde - liquid	RMK	11/30/93 03:20	<	0.100	ug/l	0.10 ug/l	608
Heptachlor - liquid	RMK	11/30/93 03:20	<	0.020	ug/l	0.02 ug/l	608
Heptachlor Epoxide - liquid	RMK	11/30/93 03:20	<	0.020	ug/l	0.02 ug/l	608
PCB-1242 - liquid	RMK	11/30/93 03:20	<	0.500	ug/l	0.50 ug/l	608
PCB-1254 - liquid	RMK	11/30/93 03:20	<	0.500	ug/l	0.50 ug/l	608
PCB-1221 - liquid	RMK	11/30/93 03:20	<	0.500	ug/l	0.50 ug/l	608
PCB-1232 - liquid	RMK	11/30/93 03:20	<	0.500	ug/l	0.50 ug/l	608
PCB-1248 - liquid	RMK	11/30/93 03:20	<	0.500	ug/l	0.50 ug/l	608
PCB-1260 - liquid	RMK	11/30/93 03:20	<	0.500	ug/l	0.50 ug/l	608
PCB-1016 - liquid	RMK	11/30/93 03:20	<	0.500	ug/l	0.50 ug/l	608
Chlordane - liquid	RMK	11/30/93 03:20	<	0.500	ug/l	0.50 ug/l	608.0
Toxaphene - liquid	RMK	11/30/93 03:20	<	2.000	ug/l	2.00 ug/l	608.0

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 11/16/93 In House # 11-8379-93	Source: SEECOMMENT	Location: FT STEWART					
- CONTINUED -							
Comments:							
Location: MW-BLK-11-93							
This is a recollected sample for Pest/PCB's originally collected on 10/6/93.							
Sample Date: 11/16/93 In House # 11-8380-93	Source: SW1-11-93	Location: FT STEWART					
Pesticide - water extraction	SS	11/22/93	08:00		0.000	0.00	
PCB - water extraction	SS	11/22/93	08:00		0.000	0.00	
Endrin - Liquid	RMK	11/30/93	03:59	<	0.100 ug/l	0.10 ug/l	608
Methoxychlor - Liquid	RMK	11/30/93	03:59	<	0.100 ug/l	0.10 ug/l	608
Aldrin - liquid	RMK	11/30/93	03:59	<	0.020 ug/l	0.02 ug/l	608.
Alpha BHC - liquid	RMK	11/30/93	03:59	<	0.020 ug/l	0.02 ug/l	608.
Beta BHC - liquid	RMK	11/30/93	03:59	<	0.020 ug/l	0.02 ug/l	608.
Delta BHC - liquid	RMK	11/30/93	03:59	<	0.020 ug/l	0.02 ug/l	608.
Gamma BHC - liquid	RMK	11/30/93	03:59	<	0.020 ug/l	0.02 ug/l	608.
4,4-DDT - liquid	RMK	11/30/93	03:59	<	0.100 ug/l	0.10 ug/l	608
4,4-DDE - liquid	RMK	11/30/93	03:59	<	0.020 ug/l	0.02 ug/l	608
4,4-DDD - liquid	RMK	11/30/93	03:59	<	0.100 ug/l	0.10 ug/l	608
Dieldrin - liquid	RMK	11/30/93	03:59	<	0.020 ug/l	0.02 ug/l	608
A-Endosulfan - liquid	RMK	11/30/93	03:59	<	0.020 ug/l	0.02 ug/l	608
B-Endosulfan - liquid	RMK	11/30/93	03:59	<	0.100 ug/l	0.10 ug/l	608
Endosulfan Sulfate - liquid	RMK	11/30/93	03:59	<	0.100 ug/l	0.10 ug/l	608
Endrin Aldehyde - liquid	RMK	11/30/93	03:59	<	0.100 ug/l	0.10 ug/l	608
Heptachlor - liquid	RMK	11/30/93	03:59	<	0.020 ug/l	0.02 ug/l	608
Heptachlor Epoxide - liquid	RMK	11/30/93	03:59	<	0.020 ug/l	0.02 ug/l	608
PCB-1242 - liquid	RMK	11/30/93	03:59	<	0.500 ug/l	0.50 ug/l	608
PCB-1254 - liquid	RMK	11/30/93	03:59	<	0.500 ug/l	0.50 ug/l	608
PCB-1221 - liquid	RMK	11/30/93	03:59	<	0.500 ug/l	0.50 ug/l	608
PCB-1232 - liquid	RMK	11/30/93	03:59	<	0.500 ug/l	0.50 ug/l	608
PCB-1248 - liquid	RMK	11/30/93	03:59	<	0.500 ug/l	0.50 ug/l	608
PCB-1260 - liquid	RMK	11/30/93	03:59	<	0.500 ug/l	0.50 ug/l	608
PCB-1016 - liquid	RMK	11/30/93	03:59	<	0.500 ug/l	0.50 ug/l	608
Chlordane - liquid	RMK	11/30/93	03:59	<	0.500 ug/l	0.50 ug/l	608
Toxaphene - liquid	RMK	11/30/93	03:59	<	2.000 ug/l	2.00 ug/l	608.0
Comments:							608.0
This is a recollected sample for Pest/PCB's originally collected on 10/6/93.							
Sample Date: 11/16/93 In House # 11-8381-93	Source: SEECOMMENT	Location: FT STEWART					
Pesticide - water extraction	SS	11/22/93	08:00		0.000	0.00	
PCB - water extraction	SS	11/22/93	08:00		0.000	0.00	
Endrin - Liquid	RMK	11/30/93	04:38	<	0.100 ug/l	0.10 ug/l	608
Methoxychlor - Liquid	RMK	11/30/93	04:38	<	0.100 ug/l	0.10 ug/l	608
Aldrin - liquid	RMK	11/30/93	04:38	<	0.020 ug/l	0.02 ug/l	608.
Alpha BHC - liquid	RMK	11/30/93	04:38	<	0.020 ug/l	0.02 ug/l	608.
Beta BHC - liquid	RMK	11/30/93	04:38	<	0.020 ug/l	0.02 ug/l	608.
Delta BHC - liquid	RMK	11/30/93	04:38	<	0.020 ug/l	0.02 ug/l	608.
Gamma BHC - liquid	RMK	11/30/93	04:38	<	0.020 ug/l	0.02 ug/l	608.
4,4-DDT - liquid	RMK	11/30/93	04:38	<	0.100 ug/l	0.10 ug/l	608
4,4-DDE - liquid	RMK	11/30/93	04:38	<	0.020 ug/l	0.02 ug/l	608
4,4-DDD - liquid	RMK	11/30/93	04:38	<	0.100 ug/l	0.10 ug/l	608
Dieldrin - liquid	RMK	11/30/93	04:38	<	0.020 ug/l	0.02 ug/l	608
A-Endosulfan - liquid	RMK	11/30/93	04:38	<	0.020 ug/l	0.02 ug/l	608
B-Endosulfan - liquid	RMK	11/30/93	04:38	<	0.100 ug/l	0.10 ug/l	608
Endosulfan Sulfate - liquid	RMK	11/30/93	04:38	<	0.100 ug/l	0.10 ug/l	608
Endrin Aldehyde - liquid	RMK	11/30/93	04:38	<	0.100 ug/l	0.10 ug/l	608
Heptachlor - liquid	RMK	11/30/93	04:38	<	0.020 ug/l	0.02 ug/l	608
Heptachlor Epoxide - liquid	RMK	11/30/93	04:38	<	0.020 ug/l	0.02 ug/l	608
PCB-1242 - liquid	RMK	11/30/93	04:38	<	0.500 ug/l	0.50 ug/l	608
PCB-1254 - liquid	RMK	11/30/93	04:38	<	0.500 ug/l	0.50 ug/l	608
PCB-1221 - liquid	RMK	11/30/93	04:38	<	0.500 ug/l	0.50 ug/l	608
PCB-1232 - liquid	RMK	11/30/93	04:38	<	0.500 ug/l	0.50 ug/l	608
PCB-1248 - liquid	RMK	11/30/93	04:38	<	0.500 ug/l	0.50 ug/l	608
PCB-1260 - liquid	RMK	11/30/93	04:38	<	0.500 ug/l	0.50 ug/l	608

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 11/16/93 In House # 11-8381-93		Source: SEECOMMENT - CONTINUED -		Location: FT STEWART			
PCB-1016 - liquid	RMK	11/30/93 04:38	<	0.500 ug/l		0.50 ug/l	608
Chlordane - liquid	RMK	11/30/93 04:38	<	0.500 ug/l		0.50 ug/l	608.0
Toxaphene - liquid	RMK	11/30/93 04:38	<	2.000 ug/l		2.00 ug/l	608.0
Comments:							
Location: SW1-DUP-11-93							
This is a recollected sample for Pest/PCB's originally collected on 10/6/93.							
Sample Date: 11/16/93 In House # 11-8382-93		Source: SEECOMMENT		Location: FT STEWART			
Pesticide - water extraction	SS	11/22/93 08:00		0.000		0.00	
PCB - water extraction	SS	11/22/93 08:00		0.000		0.00	
Endrin - Liquid	RMK	11/30/93 05:17	<	0.100 ug/l		0.10 ug/l	608
Methoxychlor - Liquid	RMK	11/30/93 05:17	<	0.100 ug/l		0.10 ug/l	608
Aldrin - liquid	RMK	11/30/93 05:17	<	0.020 ug/l		0.02 ug/l	608.
Alpha BHC - liquid	RMK	11/30/93 05:17	<	0.020 ug/l		0.02 ug/l	608.
Beta BHC - liquid	RMK	11/30/93 05:17	<	0.020 ug/l		0.02 ug/l	608.
Delta BHC - liquid	RMK	11/30/93 05:17	<	0.020 ug/l		0.02 ug/l	608.
Gamma BHC - liquid	RMK	11/30/93 05:17	<	0.020 ug/l		0.02 ug/l	608.
4,4-DDT - liquid	RMK	11/30/93 05:17	<	0.100 ug/l		0.10 ug/l	608
4,4-DDE - liquid	RMK	11/30/93 05:17	<	0.020 ug/l		0.02 ug/l	608
4,4-DDD - liquid	RMK	11/30/93 05:17	<	0.100 ug/l		0.10 ug/l	608
Dieldrin - liquid	RMK	11/30/93 05:17	<	0.020 ug/l		0.02 ug/l	608
A-Endosulfan - liquid	RMK	11/30/93 05:17	<	0.020 ug/l		0.02 ug/l	608
B-Endosulfan - liquid	RMK	11/30/93 05:17	<	0.100 ug/l		0.10 ug/l	608
Endosulfan Sulfate - liquid	RMK	11/30/93 05:17	<	0.100 ug/l		0.10 ug/l	608
Endrin Aldehyde - liquid	RMK	11/30/93 05:17	<	0.100 ug/l		0.10 ug/l	608
Heptachlor - liquid	RMK	11/30/93 05:17	<	0.020 ug/l		0.02 ug/l	608
Heptachlor Epoxide - liquid	RMK	11/30/93 05:17	<	0.020 ug/l		0.02 ug/l	608
PCB-1242 - liquid	RMK	11/30/93 05:17	<	0.500 ug/l		0.50 ug/l	608
PCB-1254 - liquid	RMK	11/30/93 05:17	<	0.500 ug/l		0.50 ug/l	608
PCB-1221 - liquid	RMK	11/30/93 05:17	<	0.500 ug/l		0.50 ug/l	608
PCB-1232 - liquid	RMK	11/30/93 05:17	<	0.500 ug/l		0.50 ug/l	608
PCB-1248 - liquid	RMK	11/30/93 05:17	<	0.500 ug/l		0.50 ug/l	608
PCB-1260 - liquid	RMK	11/30/93 05:17	<	0.500 ug/l		0.50 ug/l	608
PCB-1016 - liquid	RMK	11/30/93 05:17	<	0.500 ug/l		0.50 ug/l	608
Chlordane - liquid	RMK	11/30/93 05:17	<	0.500 ug/l		0.50 ug/l	608.0
Toxaphene - liquid	RMK	11/30/93 05:17	<	2.000 ug/l		2.00 ug/l	608.0
Comments:							
Location: SW-BLK-11-93							
This is a recollected sample for Pest/PCB's originally collected on 10/6/93.							
Sample Date: 11/16/93 In House # 11-8383-93		Source: SW2-11-93		Location: FT STEWART			
Pesticide - water extraction	SS	11/22/93 08:00		0.000		0.00	
PCB - water extraction	SS	11/22/93 08:00		0.000		0.00	
Endrin - Liquid	RMK	11/30/93 05:56	<	0.100 ug/l		0.10 ug/l	608
Methoxychlor - Liquid	RMK	11/30/93 05:56	<	0.100 ug/l		0.10 ug/l	608
Aldrin - liquid	RMK	11/30/93 05:56	<	0.020 ug/l		0.02 ug/l	608.
Alpha BHC - liquid	RMK	11/30/93 05:56	<	0.020 ug/l		0.02 ug/l	608.
Beta BHC - liquid	RMK	11/30/93 05:56	<	0.020 ug/l		0.02 ug/l	608.
Delta BHC - liquid	RMK	11/30/93 05:56	<	0.020 ug/l		0.02 ug/l	608.
Gamma BHC - liquid	RMK	11/30/93 05:56	<	0.020 ug/l		0.02 ug/l	608.
4,4-DDT - liquid	RMK	11/30/93 05:56	<	0.100 ug/l		0.10 ug/l	608
4,4-DDE - liquid	RMK	11/30/93 05:56	<	0.020 ug/l		0.02 ug/l	608
4,4-DDD - liquid	RMK	11/30/93 05:56	<	0.100 ug/l		0.10 ug/l	608
Dieldrin - liquid	RMK	11/30/93 05:56	<	0.020 ug/l		0.02 ug/l	608
A-Endosulfan - liquid	RMK	11/30/93 05:56	<	0.020 ug/l		0.02 ug/l	608
B-Endosulfan - liquid	RMK	11/30/93 05:56	<	0.100 ug/l		0.10 ug/l	608
Endosulfan Sulfate - liquid	RMK	11/30/93 05:56	<	0.100 ug/l		0.10 ug/l	608
Endrin Aldehyde - liquid	RMK	11/30/93 05:56	<	0.100 ug/l		0.10 ug/l	608
Heptachlor - liquid	RMK	11/30/93 05:56	<	0.020 ug/l		0.02 ug/l	608
Heptachlor Epoxide - liquid	RMK	11/30/93 05:56	<	0.020 ug/l		0.02 ug/l	608
PCB-1242 - liquid	RMK	11/30/93 05:56	<	0.500 ug/l		0.50 ug/l	608

Parameter	Analyst	Analysis Date -- Time		Results	Units	Lowest Detectable Level	Method Number
Sample Date: 11/16/93 In House # 11-8383-93		Source: SW2-11-93		Location: FT STEWART			
		- CONTINUED -					
PCB-1254 - liquid	RMK	11/30/93 05:56	<	0.500	ug/l	0.50 ug/l	608
PCB-1221 - liquid	RMK	11/30/93 05:56	<	0.500	ug/l	0.50 ug/l	608
PCB-1232 - liquid	RMK	11/30/93 05:56	<	0.500	ug/l	0.50 ug/l	608
PCB-1248 - liquid	RMK	11/30/93 05:56	<	0.500	ug/l	0.50 ug/l	608
PCB-1260 - liquid	RMK	11/30/93 05:56	<	0.500	ug/l	0.50 ug/l	608
PCB-1016 - liquid	RMK	11/30/93 05:56	<	0.500	ug/l	0.50 ug/l	608
Chlordane - liquid	RMK	11/30/93 05:56	<	0.500	ug/l	0.50 ug/l	608.0
Toxaphene - liquid	RMK	11/30/93 05:56	<	2.000	ug/l	2.00 ug/l	608.0

Comments:
This is a recollected sample for Pest/PCB's originally collected on 10/6/93.

Laboratory ID # 40111

Very truly yours,

James H. Carr, Jr.
Chemist

FT. STEWART Number Key
JOB NUMBER FST-002

Carr Lab No.	FT STEWART ID
10-6929-93	MW1-10-93
10-6930-93	MW2-10-93
10-6931-93	MW3-10-93
10-6932-93	MW3DUP-10-93
10-6933-93	MWBLANK-10-93
10-6934-93	MW4-10-93
10-6935-93	SW1-10-93
10-6936-93	SW1DUP-10-93
10-6937-93	SWBLANK-10-93
10-6938-93	SW2-10-93
10-6939-93	TRIP BLANK
10-6940-93	TRIP BLANK
11-8374-93	MW1-11-93
11-8375-93	MW4-11-93
11-8376-93	MW3-11-93
11-8377-93	MW2-11-93
11-8378-93	MW2DUP-11-93
11-8379-93	MWBLANK-11-93
11-8380-93	SW1-11-93
11-8381-93	SW1DUP-11-93
11-8382-93	SWBLANK-11-93
11-8383-93	SW2-11-93

LEGEND

QC SAmple Number: The identifying number on a sample or known which makes unique identification of each sample possible.

Val. 1, Val. 2: Concentrations of duplicate samples, presented for precision information. * indicates a spiked duplicate sample if this information is not presented elsewhere.

RPD: Relative Percent Difference:

$$RPD = \frac{abs(D_1 - D_2)}{(D_1 + D_2)/2} * 100$$

Spike Conc.: The concentraiton of spike material added to the sample to produce the spiked sample.

True Value: The target concentraiton for the spiked sample:

TV = Sample Conc. - Spike Conc.

Observed Value: The concentraiotn observed in the spiked sample upon analysis.

Percent Recovery: A measure of the concentraiton of the sppiked sample relative to the spiked concentration:

$$\% \text{ Recovery} = \frac{\text{Conc. spiked sample} - \text{Conc. unspiked sample}}{\text{spike concentration}}$$

QUALITY CONTROL FOR LEAD ANALYSIS

SAMPLES NUMBERED: 10-6929-93 through 11-6938-93 analyzed 10/22/93;

Date	QC Sample Number	Val. 1 (ug/l)	Val. 2 (ug/l)	RPD	Spike Conc.	True Value	Observed Value	Percent Recovery
10/22/93	WP28-2					30.0	34.7	116
10/22/93	DIG.STD.					50.0	51.3	103
10/22/93	6924*	13.3	13.2	0.8	5.0	18.2	18.2	100
10/22/93	6923	<5.0	<5.0	0	5.0	5.0	6.4	128
10/22/93	6924	<5.0	<5.0	0	50.0	50.0	51.0	102
10/22/93	CHK.STD.	26.6	26.7	0.3		25.0	26.6	106

* Indicates a spiked duplicate sample.

QUALITY CONTROL FOR ARSENIC ANALYSIS

SAMPLES NUMBERED: 11-6929-93 through 11-6938-93 analyzed 10/22/93;

Date	QC Sample Number	Val. 1 (ug/l)	Val. 2 (ug/l)	RPD	Spike Conc.	True Value	Observed Value	Percent Recovery
10/22/93	WP28-2					86.0	98.3	114
10/22/93	DIG.STD.					50.0	48.5	97
10/22/93	6923	<5.0	<5.0	0	5.0	5.0	5.9	118
10/22/93	6938	3.4	4.2	21.0	5.0	8.4	8.9	110
10/22/93	CHK.STD.	49.7	52.7	5.9		50.0	49.7	99

QUALITY CONTROL FOR SELENIUM ANALYSIS

SAMPLES NUMBERED: 11-6929-93 through 11-6938-93 analyzed 10/22/93.

Date	QC Sample Number	Val. 1 (ug/l)	Val. 2 (ug/l)	RPD	Spike Conc.	True Value	Observed Value	Percent Recovery
10/22/93	WP28-2					11.0	12.2	111
10/22/93	DIG.STD.					50.0	50.8	102
10/22/93	6923	<5.0	<5.0	0	5.0	5.0	6.0	120
10/22/93	6938	<5.0	<5.0	0	5.0	5.0	5.5	110
10/22/93	CHK.STD.	51.4	45.6	12.0		50.0	45.6	91

QUALITY CONTROL FOR ICP ANALYSIS

SAMPLES NUMBERED: 10-6929-93 through 10-6938-93 analyzed 10/25/93;
SAMPLES NUMBERED: 10-6929-93 through 10-6938-93 analyzed for Ag 11/01/93;

Date	Elem.	QC Sample Number	Val. 1 (mg/l)	Val. 2 (mg/l)	RPD	Spike Conc.	True Value	Obs. Value	Percent Recovery
10/25/93	Ba	ICP-07					1.00	1.07	107
10/25/93	Cr	ICP-19					1.00	1.01	101
10/25/93	Cd	ICP-19					1.00	1.03	103
10/25/93	Ba	6938	0.060	0.060	0	0.10	0.160	0.160	100
10/25/93	Cr	6938	<.05	<.05	0	0.10	0.100	0.106	106
10/25/93	Cd	6938	<.01	<.01	0	0.10	0.10	0.097	97
10/25/93	Ba	CHK.STD.	0.097	0.097	0		0.100	0.097	97
10/25/93	Cr	CHK.STD.	0.099	0.103	4.0		0.100	0.099	99
10/25/93	Cd	CHK.STD.	0.10	0.097	3.0		0.100	0.100	100
11/01/93	Ag	ICP-07					1.00	0.91	91
11/01/93	Ag	6938	<.05	<.05	0	0.05	0.050	0.050	100
11/01/93	Ag	CHK.STD.	0.092	0.089	3.3		0.100	0.092	92

QUALITY CONTROL FOR MERCURY ANALYSIS

SAMPLES NUMBERED: 10-6929-93 through 10-6938-93 analyzed 10/19/93;

Date	QC Sample Number	Val. 1 (ug/l)	Val. 2 (ug/l)	RPD	Spike Conc.	True Value	Observed Value	Percent Recovery
10/19/93	EPA KNOWN					2.00	1.82	91
10/19/93	6655	<.2	<.2	0	1.0	1.00	1.12	102
10/19/93	6923	<.2	<.2	0	1.0	1.15	1.20	105
10/19/93	CHK.STD.	1.08	1.08	0		1.00	1.08	108

QUALITY CONTROL FOR VOLATILES

SAMPLES NUMBERED: 10-6929-93 through 10-6940-93 analyzed 10/19/93;

SPIKE QC SAMPLE NUMBER: 10692393 SPIKED DUPLICATE

Analyte	Val. 1 (ug/l)	Val. 2 (ug/l)	RPD	Spike Conc.	True Value	Observed Value	Percent Recovery
1,1 Dichloroethene	41.6	45.9	9.8	50	50	48.9	98
Trichloroethene	40.1	49.3	20.6	50	50	49.3	99
Benzene	46.1	54.5	16.7	50	50	54.5	109
Toluene	41.3	51.6	22.2	50	50	51.6	103
Chlorobenzene	40.4	48.9	19.0	50	50	48.9	98

SPIKE QC SAMPLE NUMBER: 10693693 SPIKED DUPLICATE

Analyte	Val. 1 (ug/l)	Val. 2 (ug/l)	RPD	Spike Conc.	True Value	Observed Value	Percent Recovery
1,1 Dichloroethene	43.8	53.5	20.0	50	50	53.5	107
Trichloroethene	40.5	50.9	22.8	50	50	50.9	102
Benzene	49.0	60.9	21.6	50	50	49.0	98
Toluene	43.9	51.7	16.3	50	50	51.7	103
Chlorobenzene	44.4	48.9	9.6	50	50	48.9	98

BLANK DATA FOR VOLATILES

All analytes on all dates <5 ug/L.

SURROGATE RECOVERIES FOR VOLATILES, PERCENT RECOVERY

Target concentration for volatile surrogates = 50 ug/L.

Sample Date	Sample Number	1,2 dichloro-ethane d-4	Toluene d-8	Bromofloro benzene
10/19/93	BLANK	96	88	80
10/19/93	10-6923-93	108	87	80
10/19/93	10-6923SPK	95	81	71
10/19/93	10-6923SPKDUP	97	91	78
10/19/93	10-6929-93	126	96	90
10/19/93	10-6930-93	106	90	78
10/19/93	10-6931-93	117	94	85
10/19/93	10-6932-93	100	85	77
10/19/93	BLANK	118	101	92
10/19/93	10-6936-93	110	89	79
10/19/93	10-6936SPK	102	85	72
10/19/93	10-6936SPKDUP	116	85	73
10/19/93	10-6933-93	111	92	84
10/19/93	10-6934-93	97	77	69
10/19/93	10-6935-93	120	95	86
10/19/93	10-6937-93	105	83	71
10/19/93	10-6938-93	100	77	70
10/19/93	10-6939-93	124	94	84
10/19/93	10-6940-93	111	84	73

QUALITY CONTROL FOR PESTICIDES

SAMPLES NUMBERED: 11-8374-93 through 11-8383-93 analyzed 11/30/93;

SPIKE RECOVERY DATA FOR 11/30/93

SPIKE QC SAMPLE NUMBER: SPK112093

Analyte	Val. 1 (ug/l)	Val. 2 (ug/l)	% RPD	Spike Conc.	True Value	Observed Value	Percent Recovery
Gamma-BHC	0.081	0.081	0	0.08	0.08	0.081	101
Heptachlor	0.097	0.100	3.0	0.08	0.08	0.097	121
Aldrin	0.086	0.086	0	0.08	0.08	0.086	108
Dieldrin	0.071	0.071	0	0.08	0.08	0.071	89
Endrin	0.063	0.066	4.7	0.08	0.08	0.066	83
4,4-DDT	0.040	0.042	4.9	0.08	0.16	0.042	53

CL-74

BLANK DATA FOR PESTICIDES

All analytes less than 0.02 ug/L on all dates.

SURROGATE RECOVERIES FOR PESTICIDES

Sample Date	Sample Number	Theoretical Conc. (ug/l)	Observed Conc.(ug/l)	Percent Recovery
11/30/93	BLANK	1.0	0.60	60
11/30/93	11-8374-93	1.0	0.50	50
11/30/93	11-8375-93	1.0	0.26	26
11/30/93	11-8376-93	1.0	0.44	44
11/30/93	11-8377-93	1.0	0.33	33
11/30/93	11-8378-93	1.0	0.50	50
11/30/93	11-8379-93	1.0	0.48	48
11/30/93	11-8380-93	1.0	0.42	42
11/30/93	11-8381-93	1.0	0.27	27
11/30/93	11-8382-93	1.0	0.49	49
11/30/93	11-8383-93	1.0	0.21	21
11/30/93	112093BS	1.0	0.52	52
11/30/93	112093BSD	1.0	0.53	53

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CARR
LABORATORIES

CHAIN OF CUSTODY RECORD

Client CESAS

Contact Toni Nicholson

Address PO Box 889, Sav. Ga 31402

Collected By Judson Smith

Project No. FST-002

Phone No. 912-652-5312

Fax No. 912-652-5311

Client P.O.# ______

MT (Matrix Type)
(L)=Liquid
S=Soil
O=Oil
X=Other

AP (Analytical Program)
W=Wastewater
(G)=Groundwater
D=Drinking Water
S=Solid/Haz. Waste
N=Nonregulated

Carr's Lab No.	Sample Source	Sample Location	Date/Time	Well	Grab	Composite	MT	AP	Number of Containers	Preserved Y or N	Analyses Requested (pH ACCEPTABLE)
FST-002-MW1-10-93	Ft Stewart	FST-002	10/6/93/12:00	X			L		4	Y	VOC 8240, RCRA TOTAL METALS, PEST/PCB 8080 10-6929-93
FST-002-MW2-10-93	Ft Stewart	FST-002	10/6/93/15:20	X			L		4	Y	" " " 6930
FST-002-MW3-10-93	Ft Stewart	FST-002	10/6/93/13:30	X			L		4	Y	" " " 6931
FST-002-MW3-Dup-10-93	Ft Stewart	FST-002	10/6/93/13:30	X			L		4	Y	" " " 6932
FST-002-MW-BLK-10-93	Ft Stewart	FST-002	10/6/93/13:30	X			L		4	Y	" " " 6933
FST-002-MW4-10-93	Ft Stewart	FST-002	10/6/93/12:40	X			L		4	Y	" " " 6934
FST-002-SW-1-10-93	Ft Stewart	FST-002	10/6/93/16:10	X			L		4	Y	" " " 6935
FST-002-SW1-Dup-10-93	Ft Stewart	FST-002	10/6/93/16:10	X			L		4	Y	" " " 6936
FST-002-SW-BLK-10-93	Ft Stewart	FST-002	10/6/93/16:10	X			L		4	Y	" " " 6937
FST-002-SW2-10-93	Ft Stewart	FST-002	10/6/93/16:35	X			L		4	Y	" " " 6938
TRIP BLK MW	Ft Stewart	FST-002	10/6/93/	Y			L		2	Y	VOC 8240 6939

	Relinquished By	Received By	Date	Time
1.	[signature]	Henry Barton	10/8/93	08:07
2.	Henry Barton	[signature]	10.8.93	1815
3.				
Received In Lab By		[signature]	10 8 93	1815

JAMES H. CARR & ASSOCIATES, INC.
Office and Laboratories
P.O. Box 90209
Columbia, South Carolina 29290
(803) 776-7789 Fax: 783-2192

No temp vial - ice visible

CARR LABORATORIES

CHAIN OF CUSTODY RECORD

Client CESAS — Project No. FST-002

Contact TONI NICHOLSON — Phone No. 912-652-5312

Address PO Box 889, SAV. GA 31402 — Fax No. 912-652-5311

Collected By JUDSON SMITH — Client P.O.# ____

MT (Matrix Type)	AP (Analytical Program)
(L)=Liquid	W=Wastewater
S=Soil	(G)=Groundwater
O=Oil	D=Drinking Water
X=Other	S=Solid/Haz. Waste
	N=Nonregulated

Carr's Lab No.	Sample Source	Sample Location	Date/Time	Well	Grab	Composite	MT	AP	Number of Containers	Preserved Y or N	Analyses Requested
TRIP BLK SW	FT STEWART	FST-002	10/6/93				L		2	Y	VOC 8240 10-1940-93

Relinquished By	Received By	Date	Time
1. [signature]	Henry Barton	10 18 93	08:07
2. Henry Barton	[signature]	10-8-93	1815
3.			
Received In Lab By	[signature]	10-8-93	1815

JAMES H. CARR & ASSOCIATES, INC.
Office and Laboratories
P.O. Box 90209
Columbia, South Carolina 29290
(803) 776-7789 Fax: 783-2192

No temp vial - ice viable

U-78

CARR LABORATORIES

CHAIN OF CUSTODY RECORD

Client: JESAS — Project No.: FST-002

Contact: Toni Nicholson — Phone No.: 912-652-5312

Address: P O Box 889 Savannah, Ga. 31402 — Fax No.: 912-652-5311

Collected By: Judson Smith — Client P.O.#: _____

MT (Matrix Type)	AP (Analytical Program)
L=Liquid	W=Wastewater
S=Soil	G=Groundwater
O=Oil	D=Drinking Water
X=Other	S=Solid/Haz. Waste
	N=Nonregulated

Carr's Lab No.	Sample Source	Sample Location	Date/Time	Well	Grab	Composite	MT	AP	Number of Containers	Preserved Y or N	Analyses Requested
FST-002-MW1-11-93	FST-002	Ft Stewart	11/16/93 / 11:05	X			L		1	N	PEST/PCB 11-8374-93
FST-002-MW4-11-93	"	"	"/16/93 / 11:14	X			L		1	N	" 8375
FST-002-MW3-11-93	"	"	"/16/93 / 12:52	X			L		1	N	" 8376
FST-002-MW2-11-93	"	"	"/16/93 / 15:30	X			L		1	N	" 8377
FST-002-MW2-Dup-11-93	"	"	"/16/93 / 15:30	X			L		1	N	" 8378
FST-002-MW-BLK-11-93	"	"	"/16/93 / 15:30	X			L		1	N	" 8379
FST-002-SW1-11-93	"	"	"/16/93 / 14:10	X			L		1	N	" 8380
FST-002-SW1-Dup-11-93	"	"	"/16/93 / 14:10	X			L		1	N	" 8381
FST-002-SW-BLK-11-93	"	"	"/16/93 / 14:10	X			L		1	N	" 8382
FST-002-SW2-11-93	"	"	"/16/93 / 14:50	X			L		1	N	" 8383
											temp of vial = 2.1°C - ice visible

Relinquished By	Received By	Date	Time
1. [signature]	Henry Baxton	11/18/93	1553
2. Henry Baxton	[signature]	11/18/93	1935
3.			
Received In Lab By	[signature]	11-18-93	1935

JAMES H. CARR & ASSOCIATES, INC.
Office and Laboratories
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Columbia, South Carolina 29290
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U-79

EXHIBIT D.1

CAMP OLIVER LANDFILL, FST-002

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S3-43808
Rev. #1, 11.05.93
Received: 03 JUL 93

Ms. Kathy Thalman
Geraghty & Miller, Inc.
14497 North Dale Mabry Hwy, Suite 115
Tampa, FL 33618-2047

CC: Mr. Mike Price

Project: TF764.03/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43808-1	FST002-SL1-12	07-01-93
43808-2	FST002-SL4-8	07-01-93
43808-3	FST002-SL94-8	07-01-93

PARAMETER	43808-1	43808-2	43808-3
Arsenic (7060)			
Arsenic (7060), mg/kg dw	2.0	1.8	2.2
Date Analyzed	07.09.93	07.09.93	07.09.93
Barium (6010)			
Barium (6010), mg/kg dw	1.2	4.2	5.8
Date Analyzed	07.09.93	07.09.93	07.09.93
Cadmium (6010)			
Cadmium (6010), mg/kg dw	<0.57	<0.65	<0.64
Date Analyzed	07.09.93	07.09.93	07.09.93
Chromium (6010)			
Chromium (6010), mg/kg dw	9.5	7.9	14
Date Analyzed	07.09.93	07.09.93	07.09.93
Lead (7421)			
Lead (7421), mg/kg dw	1.4	3.1	2.6
Date Analyzed	07.16.93	07.16.93	07.16.93
Selenium (7740)			
Selenium (7740), mg/kg dw	<1.1	<1.3	<1.3
Date Analyzed	07.09.93	07.09.93	07.09.93
Silver (6010)			
Silver (6010), mg/kg dw	<1.1	<1.3	<1.3
Date Analyzed	07.09.93	07.09.93	07.09.93
Mercury			
Mercury (7471), mg/kg dw	<0.011	<0.013	<0.013
Date Analyzed	07.09.93	07.09.93	07.09.93

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43808-1	FST002-SL1-12	07-01-93
43808-2	FST002-SL4-8	07-01-93
43808-3	FST002-SL94-8	07-01-93

PARAMETER	43808-1	43808-2	43808-3
pH in Soil (9045)			
pH (9045), units	4.3	4.2	4.2
Date Analyzed	07.06.93	07.06.93	07.06.93
Specific Conductance (120.1)			
Specific Conductance, umhos/cm	5.7	4.2	3.6
Date Analyzed	07.09.93	07.09.93	07.09.93

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REPORT OF RESULTS

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43808-1	FST002-SL1-12	07-01-93
43808-2	FST002-SL4-8	07-01-93
43808-3	FST002-SL94-8	07-01-93

PARAMETER	43808-1	43808-2	43808-3
Volatiles by GC/MS (8240)			
Chloromethane, ug/kg dw	<11	<13	<13
Bromomethane, ug/kg dw	<11	<13	<13
Vinyl Chloride, ug/kg dw	<11	<13	<13
Chloroethane, ug/kg dw	<11	<13	<13
Methylene Chloride, ug/kg dw	<5.7	<6.5	<6.4
Acetone, ug/kg dw	<57	<65	<64
Carbon Disulfide, ug/kg dw	<5.7	<6.5	<6.4
1,1-Dichloroethene, ug/kg dw	<5.7	<6.5	<6.4
1,1-Dichloroethane, ug/kg dw	<5.7	<6.5	<6.4
Trans-1,2-Dichloroethylene, ug/kg dw	<5.7	<6.5	<6.4
Cis-1,2-Dichloroethene, ug/kg dw	<5.7	<6.5	<6.4
Chloroform, ug/kg dw	<5.7	<6.5	<6.4
1,2-Dichloroethane, ug/kg dw	<5.7	<6.5	<6.4
2-Butanone (MEK), ug/kg dw	<57	<65	<64
1,1,1-Trichloroethane, ug/kg dw	<5.7	<6.5	<6.4
Carbon Tetrachloride, ug/kg dw	<5.7	<6.5	<6.4
Vinyl Acetate, ug/kg dw	<11	<13	<13
Bromodichloromethane, ug/kg dw	<5.7	<6.5	<6.4
1,1,2,2-Tetrachloroethane, ug/kg dw	<5.7	<6.5	<6.4
1,2-Dichloropropane, ug/kg dw	<5.7	<6.5	<6.4
Trans-1,3-Dichloropropene, ug/kg dw	<5.7	<6.5	<6.4

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43808-1	FST002-SL1-12	07-01-93
43808-2	FST002-SL4-8	07-01-93
43808-3	FST002-SL94-8	07-01-93

PARAMETER	43808-1	43808-2	43808-3
Trichloroethene, ug/kg dw	<5.7	<6.5	<6.4
Dibromochloromethane, ug/kg dw	<5.7	<6.5	<6.4
1,1,2-Trichloroethane, ug/kg dw	<5.7	<6.5	<6.4
Benzene, ug/kg dw	<5.7	<6.5	<6.4
Cis-1,3-Dichloropropene, ug/kg dw	<5.7	<6.5	<6.4
2-Chloroethylvinyl Ether, ug/kg dw	<57	<65	<64
Bromoform, ug/kg dw	<5.7	<6.5	<6.4
2-Hexanone, ug/kg dw	<57	<65	<64
4-Methyl-2-pentanone (MIBK), ug/kg dw	<57	<65	<64
Tetrachloroethene, ug/kg dw	<5.7	<6.5	<6.4
Toluene, ug/kg dw	<5.7	<6.5	<6.4
Chlorobenzene, ug/kg dw	<5.7	<6.5	<6.4
Ethylbenzene, ug/kg dw	<5.7	<6.5	<6.4
Styrene, ug/kg dw	<5.7	<6.5	<6.4
Xylenes, ug/kg dw	<5.7	<6.5	<6.4
Surrogate - Toluene-d8	88 %	102 %	108 %
Surrogate - 4-Bromofluorobenzene	93 %	109 %	112 %
Surrogate - 1,2-Dichloroethane-d4	106 %	105 %	102 %
Date Analyzed	07.07.93	07.07.93	07.07.93
Percent Solids, %	88	77	78

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Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
43808-4	Detection Limits - Soil
43808-5	Method Blank Result
43808-6	Lab Control Standard (LCS) Result
43808-7	LCS Expected Value
43808-8	LCS % Recovery

PARAMETER	43808-4	43808-5	43808-6	43808-7	43808-8
Arsenic (7060)					
Arsenic (7060), mg/kg dw	1.0	<1.0	5.60	4.80	117 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Barium (6010)					
Barium (6010), mg/kg dw	1.0	<1.0	95.3	98.2	97 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	0.50	<0.50	79.4	92.4	86 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	1.0	<1.0	88.5	96.7	92 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Lead (7421)					
Lead (7421), mg/kg dw	0.50	<0.50	5.31	5.00	106 %
Date Analyzed	---	07.15.93	07.15.93	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	1.0	<1.0	5.48	4.94	111 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Silver (6010)					
Silver (6010), mg/kg dw	1.0	<1.0	82.3	94.0	88 %
Date Analyzed	---	07.09.93	07.09.93	---	---

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
43808-4	Detection Limits - Soil
43808-5	Method Blank Result
43808-6	Lab Control Standard (LCS) Result
43808-7	LCS Expected Value
43808-8	LCS % Recovery

PARAMETER	43808-4	43808-5	43808-6	43808-7	43808-8
Mercury					
Mercury (7471), mg/kg dw	0.010	<0.010	1.33	1.40	95 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	1.0	<1.0	1451	1436	101 %
Date Analyzed	---	07.09.93	07.09.93	---	---

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
43808-4	Detection Limits - Soil
43808-5	Method Blank Result
43808-6	Lab Control Standard (LCS) Result
43808-7	LCS Expected Value
43808-8	LCS % Recovery

PARAMETER	43808-4	43808-5	43808-6	43808-7	43808-8
Volatiles by GC/MS (8240)					
Chloromethane, ug/kg dw	10	<10	---	---	---
Bromomethane, ug/kg dw	10	<10	---	---	---
Vinyl Chloride, ug/kg dw	10	<10	---	---	---
Chloroethane, ug/kg dw	10	<10	---	---	---
Methylene Chloride, ug/kg dw	5.0	<5.0	---	---	---
Acetone, ug/kg dw	50	<50	---	---	---
Carbon Disulfide, ug/kg dw	5.0	<5.0	---	---	---
1,1-Dichloroethene, ug/kg dw	5.0	<5.0	56.5	50	113 %
1,1-Dichloroethane, ug/kg dw	5.0	<5.0	---	---	---
Trans-1,2-Dichloroethylene, ug/kg dw	5.0	<5.0	---	---	---
Cis-1,2-Dichloroethene, ug/kg dw	5.0	<5.0	---	---	---
Chloroform, ug/kg dw	5.0	<5.0	---	---	---
1,2-Dichloroethane, ug/kg dw	5.0	<5.0	---	---	---
2-Butanone (MEK), ug/kg dw	50	<50	---	---	---
1,1,1-Trichloroethane, ug/kg dw	5.0	<5.0	---	---	---
Carbon Tetrachloride, ug/kg dw	5.0	<5.0	---	---	---
Vinyl Acetate, ug/kg dw	10	<10	---	---	---
Bromodichloromethane, ug/kg dw	5.0	<5.0	---	---	---

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
43808-4	Detection Limits - Soil
43808-5	Method Blank Result
43808-6	Lab Control Standard (LCS) Result
43808-7	LCS Expected Value
43808-8	LCS % Recovery

PARAMETER	43808-4	43808-5	43808-6	43808-7	43808-8
1,1,2,2-Tetrachloroethane, ug/kg dw	5.0	<5.0	---	---	---
1,2-Dichloropropane, ug/kg dw	5.0	<5.0	---	---	---
Trans-1,3-Dichloropropene, ug/kg dw	5.0	<5.0	---	---	---
Trichloroethene, ug/kg dw	5.0	<5.0	53.6	50	107 %
Dibromochloromethane, ug/kg dw	5.0	<5.0	---	---	---
1,1,2-Trichloroethane, ug/kg dw	5.0	<5.0	---	---	---
Benzene, ug/kg dw	5.0	<5.0	51.2	50	102 %
Cis-1,3-Dichloropropene, ug/kg dw	5.0	<5.0	---	---	---
2-Chloroethylvinyl Ether, ug/kg dw	50	<50	---	---	---
Bromoform, ug/kg dw	5.0	<5.0	---	---	---
2-Hexanone, ug/kg dw	50	<50	---	---	---
4-Methyl-2-pentanone (MIBK), ug/kg dw	50	<50	---	---	---
Tetrachloroethene, ug/kg dw	5.0	<5.0	---	---	---
Toluene, ug/kg dw	5.0	<5.0	55.3	50	111 %
Chlorobenzene, ug/kg dw	5.0	<5.0	54.9	50	110 %
Ethylbenzene, ug/kg dw	5.0	<5.0	---	---	---
Styrene, ug/kg dw	5.0	<5.0	---	---	---
Xylenes, ug/kg dw	5.0	<5.0	---	---	---
Surrogate - Toluene-d8	---	92 %	100 %	---	---
Surrogate - 4-Bromofluorobenzene	---	96 %	108 %	---	---
Surrogate - 1,2-Dichloroethane-d4	---	98 %	101 %	---	---
Date Analyzed	---	07.06.93	07.06.93	---	---

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
43808-4	Detection Limits - Soil
43808-5	Method Blank Result
43808-6	Lab Control Standard (LCS) Result
43808-7	LCS Expected Value
43808-8	LCS % Recovery

PARAMETER	43808-4	43808-5	43808-6	43808-7	43808-8
pH in Soil (9045)					
pH (9045), units	---	---	8.9	9.0	100 %
Date Analyzed	---	---	07.06.93	---	---

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Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
43808-9	LCS % Recovery Limit
43808-10	Matrix Spike (MS) Result/Duplicate
43808-11	MS Expected Value
43808-12	MS % Recovery/Duplicate
43808-13	MS % Recovery Limit

PARAMETER	43808-9	43808-10	43808-11	43808-12	43808-13
Arsenic (7060)					
Arsenic (7060), mg/kg dw	70-130 %	2.51/3.41	5.66	44/60 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Barium (6010)					
Barium (6010), mg/kg dw	70-130 %	216/214	227	95/94 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	70-130 %	5.07/4.51	5.67	89/80 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	70-130 %	22.5/21.0	22.7	99/93 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Lead (7421)					
Lead (7421), mg/kg dw	70-130 %	6.46/2.82	8.24	78/34 %	75-125 %
Date Analyzed	---	07.16.93	---	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	70-130 %	1.39/1.90	5.70	24/33 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Silver (6010)					
Silver (6010), mg/kg dw	70-130 %	4.95/4.56	5.67	87/80 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---

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REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
43808-9	LCS % Recovery Limit
43808-10	Matrix Spike (MS) Result/Duplicate
43808-11	MS Expected Value
43808-12	MS % Recovery/Duplicate
43808-13	MS % Recovery Limit

PARAMETER	43808-9	43808-10	43808-11	43808-12	43808-13
Mercury					
Mercury (7471), mg/kg dw	70-130 %	.057/.057	0.0567	101/101 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	90-110 %	---	---	---	---
Volatiles by GC/MS (8240)					
1,1-Dichloroethene, ug/kg dw	36-161 %	45.6/44	53.8	85/82 %	36-161 %
Trichloroethene, ug/kg dw	43-140 %	62/62.5	53.8	115/116 %	43-140 %
Benzene, ug/kg dw	48-150 %	68.5/65.1	53.8	127/121 %	48-150 %
Toluene, ug/kg dw	51-141 %	63.3/64.5	53.8	118/120 %	51-141 %
Chlorobenzene, ug/kg dw	54-138 %	67.1/69.9	53.8	125/130 %	54-138 %
Surrogate - Toluene-d8	---	100/101 %	---	---	---
Surrogate - 4-Bromofluorobenzene	---	90/88 %	---	---	---
Surrogate - 1,2-Dichloroethane-d4	---	102/101 %	---	---	---
Date Analyzed	---	07.06.93	---	---	---
pH in Soil (9045)					
pH (9045), units	90-110 %	---	---	---	---

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Project: TF764.03/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43808-14	MS % RPD (Limit)				
PARAMETER		43808-14			
Arsenic (7060)					
Arsenic (7060)		31(<30) %			
Barium (6010)					
Barium (6010)		1.1(<30) %			
Cadmium (6010)					
Cadmium (6010)		11(<30) %			
Chromium (6010)					
Chromium (6010)		6.3(<30) %			
Lead (7421)					
Lead (7421)		79(<30) %			
Selenium (7740)					
Selenium (7740)		32(<30) %			
Silver (6010)					
Silver (6010)		8.4(<30) %			
Mercury					
Mercury (7471)		0(<30) %			
Volatiles by GC/MS (8240)					
1,1-Dichloroethene		4.0(<50) %			
Trichloroethene		0.86(<27)%			
Benzene		5.0(<27) %			
Toluene		1.7(<27) %			
Chlorobenzene		3.9(<33) %			

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5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S3-43808
Rev. #1, 11.05.93
Received: 03 JUL 93

Ms. Kathy Thalman
Geraghty & Miller, Inc.
14497 North Dale Mabry Hwy, Suite 115
Tampa, FL 33618-2047

CC: Mr. Mike Price

Project: TF764.03/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43808-15	FST004F-IDWSL	06-30-93

PARAMETER	43808-15
pH in Soil (9045)	
pH (9045), units	4.0
Date Analyzed	07.06.93
Percent Solids, %	81

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Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43808-16	FST002-IDWSL	07-01-93

PARAMETER	43808-16
pH in Soil (9045)	
pH (9045), mg/kg	4.3
Date Analyzed	07.06.93
Metals in TCLP Extract (6010)	
Arsenic (TCLP), mg/l	<0.20
Barium (TCLP), mg/l	<1.0
Cadmium (TCLP), mg/l	<0.010
Chromium (TCLP), mg/l	<0.050
Lead (TCLP), mg/l	<0.20
Selenium (TCLP), mg/l	<0.50
Silver (TCLP), mg/l	<0.010
TCLP (1311) Sec. 7.2 Extraction Date	07.06.93
Date Analyzed	07.09.93
Mercury (7470)	
Mercury (TCLP - 7470), mg/l	<0.020
TCLP (1311) Sec. 7.2 Extraction Date	07.06.93
Date Analyzed	07.09.93

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CC: Mr. Mike Price

Project: TF764.03/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43808-16	FST002-IDWSL	07-01-93

PARAMETER	43808-16
Volatiles in ZHE TCLP Extract (8240)	
Benzene (TCLP), mg/l	<0.020
Carbon tetrachloride (TCLP), mg/l	<0.020
Chlorobenzene (TCLP), mg/l	<0.020
Chloroform (TCLP), mg/l	<0.020
1,2-Dichloroethane (TCLP), mg/l	<0.020
1,1-Dichloroethylene (TCLP), mg/l	<0.020
Methyl ethyl ketone (TCLP), mg/l	<0.20
Tetrachloroethylene (TCLP), mg/l	<0.020
Trichloroethylene (TCLP), mg/l	<0.020
Vinyl chloride (TCLP), mg/l	<0.040
Surrogate - Toluene-d8	104 %
Surrogate - 4-Bromofluorobenzene	112 %
Surrogate - 1,2-Dichloroethane-d4	100 %
TCLP (1311) Sec. 7.2 Extraction Date	07.07.93
Date Analyzed	07.10.93
Percent Solids, %	89

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CC: Mr. Mike Price

Project: TF764.03/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
43808-17	Extract Fluid Method Blank

PARAMETER	43808-17
Metals in TCLP Extract (6010)	
Arsenic (TCLP), mg/l	<0.20
Barium (TCLP), mg/l	<1.0
Cadmium (TCLP), mg/l	<0.010
Chromium (TCLP), mg/l	<0.050
Lead (TCLP), mg/l	<0.20
Selenium (TCLP), mg/l	<0.50
Silver (TCLP), mg/l	<0.010
TCLP (1311) Sec. 7.2 Extraction Date	07.06.93
Date Analyzed	07.09.93
Mercury (7470)	
Mercury (TCLP - 7470), mg/l	<0.020
TCLP (1311) Sec. 7.2 Extraction Date	07.06.93
Date Analyzed	07.09.93

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CC: Mr. Mike Price

Project: TF764.03/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES
43808-17	Extract Fluid Method Blank

PARAMETER	43808-17
Volatiles in ZHE TCLP Extract (8240)	
Benzene (TCLP), mg/l	<0.020
Carbon tetrachloride (TCLP), mg/l	<0.020
Chlorobenzene (TCLP), mg/l	<0.020
Chloroform (TCLP), mg/l	<0.020
1,2-Dichloroethane (TCLP), mg/l	<0.020
1,1-Dichloroethylene (TCLP), mg/l	<0.020
Methyl ethyl ketone (TCLP), mg/l	<0.20
Tetrachloroethylene (TCLP), mg/l	<0.020
Trichloroethylene (TCLP), mg/l	<0.020
Vinyl chloride (TCLP), mg/l	<0.040
Surrogate - Toluene-d8	96 %
Surrogate - 4-Bromofluorobenzene	91 %
Surrogate - 1,2-Dichloroethane-d4	100 %
TCLP (1311) Sec. 7.2 Extraction Date	07.07.93
Date Analyzed	07.13.93

Methods: EPA SW-846

Janette D. Long

Janette D. Long

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343808

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum	1001.1			1001.1					
Antimony	999.0			999.0					
Arsenic									
Barium	999.9	1029.00	102.9	999.9	1042.00	104.2			
Beryllium	987.0			987.0					
Cadmium	996.0	1010.00	101.4	996.0	1017.00	102.1			
Calcium	1005.0			1005.0					
Chromium	998.0	1036.00	103.8	998.0	1043.00	104.5			
Cobalt	1001.0			1001.0					
Copper	1018.0			1018.0					
Iron	999.0			999.0					
Lead									
Magnesium	1000.0			1000.0					
Manganese	1004.0			1004.0					
Mercury	1.7	1.61	94.7	1.7	1.68	98.8			
Nickel	1000.0			1000.0					
Potassium	10016.1			10016.1					
Selenium									
Silver	1000.0	1046.00	104.6	1000.0	1053.00	105.2			
Sodium	999.9			999.0					
Thallium									
Vanadium	993.0			993.0					
Zinc	1007.0			1007.0					
Cyanide									

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343808

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									
Antimony									
Arsenic	49.9	50.53	101.3	49.9	51.75	103.7	52.72	105.7	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	52.39	104.8	50.0	49.81	99.6	52.52	105.0	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	50.3	49.65	98.7	50.3	50.98	101.4	54.96	109.3	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343808

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									
Antimony									
Arsenic				49.9	47.78	95.8	51.88	104.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	50.90	101.8			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.14	97.8	53.00	105.4	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343808

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	51.3	102.60	50.0	49.37	98.7	51.42	102.8	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343808

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	52.26	104.5	49.80	99.6	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343808

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	50.15	100.3	51.40	102.8	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343808

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	52.61	105.2			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the Phase I investigation (analytical results did not indicate a release had occurred, analytical results indicated concentrations were below the GAEPD guidelines and/or the site was never used), no further action is recommended at the following sites:

- SWMU4G(FST-004G) Burn Pit
- SWMU24A(FST-024A) New Radiator Shop
- SWMU27(FST-027) DOL Maintenance Motor Pool
- SWMU28(FST-028) 724th Battery Shop
- SWMU30(FST-030) Recirculating Wash Impoundment "Bird Bath"
- SWMU33(FST-033) DEH Pesticide Warehouse

Continued monitoring is recommended at SWMU20(FST-020) Wright Army Airfield Sewage Disposal Beds (Land Spray Application and Lagoon) in accordance with the NPDES permit.

Based on the Phase I results of the soil and ground-water analytical data and the exposure pathways analyses, a Phase II investigation is recommended at the following sites:

- SWMU1(FST-001) South Central Landfill
- SWMU2(FST-002) Camp Oliver Landfill
- SWMU3(FST-003) TAC-X Landfill
- SWMU4(FST-004) Burn Pits A through F
- SWMU9(FST-009) Inactive EOD Area
- SWMU10(FST-010) Inactive EOD Area
- SWMU11(FST-011) Inactive EOD Area
- SWMU12(FST-012) Active EOD Area
- SWMU14(FST-014) Old Fire Training Area
- SWMU17(FST-017) DRMO Hazardous Waste Storage Area
- SWMU18(FST-018) Industrial Wastewater Treatment Plant
- SWMU19(FST-019) Old Sludge Drying Beds

- SWMU24A(FST-024A) Old Radiator Shop
- SWMU24B(FST-024B) Paint Booth
- SWMU25(FST-025) Waste Oil Tanks (All 15 sampled tanks and the tanks that failed the tank tightness test)
- SWMU26(FST-026) 724th Tanker Purging Station
- SWMU27(FST-027) Motor Pools (All motor pools with oil/water separators)
- SWMU29(FST-029) Evans Army Heliport POL Storage Facility
- SWMU31(FST-031) DEH Asphalt Tanks
- SWMU32(FST-032) Supply Diesel Tank
- SWMU34(FST-034) DEH Equipment Wash Rack

RUST E&I recommends that a Phase II RFI Work Plan be prepared for the previously noted SWMUs at Fort Stewart. The Phase II RFI Work Plan will document procedures to be utilized for RCRA investigations at each of the SWMUs. Prior to initiation of Phase II field activities, the Phase II RFI Work Plan must meet GAEPD approval. The Phase II field investigations will include monitoring well installation, soil sampling and soil permeability testing, ground-water sampling, horizontal and vertical extent of contamination, ground-water flow rate calculations, map preparation, data quality objectives for risk assessment needs and any requirements that the GAEPD recommends.

Upon completion of Phase II field activities, a Phase II RFI Report will be submitted to the GAEPD that summarizes the results of all work completed. The results of the Phase II investigations will be evaluated along with the results of the Phase I investigations to confirm if Corrective Measure Studies (CMS) are warranted.